Barbara Resnick · Lisa P. Gwyther
Karen A. Roberto *Editors*

Resilience in Aging

Concepts, Research, and Outcomes

Second Edition

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Preface

Like every book, this book has a story behind the making. The first edition was written after I was contacted by our publisher, Janice Stern who encouraged me to write something on resilience similar to work that Springer had published on children. She contacted me around the time I was living and breathing resilience as I was recovering from microfracture surgery of my knee and was having to deal with being nonweight bearing on my left lower extremity for 2 months. That and my own research in the area of motivation and resilience of older adults made me seize this opportunity. Simultaneously, the Gerontological Society of America (GSA) was planning the 61st annual scientific meeting with the theme set at "Resilience in an Aging Society: Risks and Opportunities". As the Health Section Chair for the GSA that year (2008), I was part of the conference planning committee and had the opportunity to learn about the many sessions highlighting and addressing resilience in older adults. Fascinated with the wide array of presentations focused on different areas of resilience, I gathered the names of individuals to contact post presentation to invite them to turn their presentations into chapters for us to have and to hold. In addition, I asked the 2008 GSA President, Lisa Gwyther and the 2008 Behavioral Science Section Chair, Karen Roberto to join me as co-authors of the book. Together we divided and conquered and share with you more than you could ever want to know about resilience in older adults, and what we believe is the true key to successful aging. I connected with Janice Stern to write the second edition of this book at a time that I was even more focused on and living with resilience. I was recovering from radiation, chemotherapy, and surgery for esophageal cancer and had learned, yet again, what it meant to choose resilience and be resilient. Approximately half of the book includes revisions of prior chapters and about half is entirely new chapters building off the many areas of resilience and the many ways in which resilience impacts older adults and all of us as we age. Learn from these chapters and share these findings with older adults and their caregivers that you work with.

Baltimore, USA — Barbara Resnick
Durham, USA — Lisa P. Gwyther
Blacksburg, USA — Karen A. Roberto

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Editors and Contributors

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Karen A. Roberto is a University Distinguished Professor, Director of the Institute for Society, Culture and Environment, and Senior Fellow at the Center for Gerontology at Virginia Tech. She also holds secondary appointments in the departments of internal medicine and psychiatry and behavioral medicine at the Virginia Tech Carilion School of Medicine. Her research agenda focuses on health and social support in late life and includes multiple studies of the daily lives of older women with chronic health conditions, family relationships and caregiving, and elder abuse. She has published over 200 scholarly articles and book chapters, is editor/author of nine books, and is a fellow of the American Psychological Association, the Gerontological Society of America, and the National Council on Family Relations.

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Definition of Resilience

**Rebecca S. Allen, Hillary R. Dorman, Helmi Henkin,
Keisha D. Carden and Daniel Potts**

Abstract Since 2011, resilience research focusing on older adults has burgeoned. In this literature, resilience is conceptualized both as an individual difference characteristic or trait and as a dynamic coping process within the ever-changing physical and social environment. In order to maintain the process of resilience across the adult lifespan, individuals may continually reexamine and, potentially, refresh their identity through the use of positive coping practices in the face of adversity *and* normative challenges associated with aging. Choices may be made implicitly or explicitly to focus attention on positive aspects of the self in comparison with others or one's previous functioning. In this chapter, our definition of resilience includes the processes of being mindful and prioritizing behaviors, thoughts, and feelings that facilitate contentment within one's specific developmental, physical, emotional, and spiritual context. This chapter updates the literature review from the prior edition. Current ambiguities and methodological limitations of research regarding resilience in adult development also are described. The chapter ends with an overview of specific interventions wherein the strength and power of the resilience process are harnessed to promote behavior change. Directions for future research are considered.

Keywords Theory · Adaptation · Acceptance · Meaning · Interventions
Art therapy · Music therapy

The aging process is defined by both gains and losses. Today, older adults (i.e., individuals aged 65 and older) make up 15% of the U.S. population (Federal Interagency on Aging-Related Statistics, 2016). This aging demographic is expected to double by the year 2060, representing a more racially and ethnically diverse group than current cohorts (Ortman, Velkoff, & Hogan, 2014). Increasing diversity among older adults has driven interest in intersectionality (Ghavami, Katsiaficas, & Rogers, 2016), and through this lens, a better understanding of

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resilience across the lifespan and how it manifests has arisen. The current chapter in this second edition discusses new research developments and changes in the literature since our prior chapter (Allen, Haley, Harris, Fowler, & Pruthi, 2011), resulting in an expanded view of late life resilience. The goal of this opening chapter is to familiarize the reader with state-of-science resilience definitions and applications, current methodological issues and debates, and specific interventions that harness the power of resilience in coping to facilitate behavior change. Other chapters throughout this book provide overviews of the various *domains* of resilience, including psychological (see Chap. 5), physiological (see Chap. 6), creative (see Chap. 7), spiritual (see Chap. 10), and motivational (see Chap. 12).

The Definition of Resilience Within Older Adulthood

There remains no universally accepted definition for the complex construct of resilience, and seminal early reviews of the construct focused on children maintaining effective coping strategies in the face of adversity (Luthar, Cicchetti, & Becker, 2000). Windle's (2011) review takes a lifespan perspective and defines resilience as comprised of three essential components: (1) the presence of adversity/risk, (2) positive adaptation or avoidance, and (3) protective factors or resources to facilitate effective adaptation in reaction to adversity. This reinforces conceptualization of resilience as a dynamic coping process as well as a potential, more static, trait. The current authors and others would argue, however, within a lifespan context resilience and adversity should be considered on a spectrum of severity, ranging from coping with normative challenges of aging to significant traumatic events. The definition of resilience should include individual protective characteristics or traits, coping processes, consideration of environmental and social context, and how these mechanisms interact. One reason for this is that, despite the high prevalence of comorbid illnesses among older adults and concomitant late life stressors, many individuals aged 65 or older consider themselves healthy. Older adults face challenges of comorbid chronic health conditions, physical and cognitive decline, and a potential loss of roles and social support. With these age-related stressors, resilience does not necessitate an "exceptionally positive outcome," but rather emphasizes effective adaptation, adjustment, and acceptance (Windle, 2011). Therefore, in this chapter, resilience encompasses the processes of being mindful and prioritizing behaviors, thoughts, and feelings that facilitate contentment within one's specific developmental, physical, emotional, and spiritual context.

Older adults report more physical burdens compared to their younger counterparts (CDC, 2013) yet perceive themselves to be in good health and to be highly satisfied with their lives (Whitley, Popham, & Benzeval, 2016). Older adults express many forms of resilience in late life including lower rates of mental distress and lower levels of worry in comparison with younger cohorts (CDC, 2013; Nuevo, Loebach Wetherell, Montorio, Ruiz, & Cabrera, 2009). Romo et al. (2012) found that within a diverse sample of community-dwelling, older adults with disabilities, physical and cognitive functioning as well as acceptance, adaptation, and attitude (i.e., "living in a new reality") were essential to coping with the aging process. Many psychosocial constructs reflect protective coping processes in late life, including forging a sense of purpose and meaning, life engagement, pursuing wisdom, maintaining social support, supporting a sense of control and efficacy, and utilizing one's religion and spirituality (Aldwin & Igarashi, 2015). A brief review of relevant developmental theory will further elucidate why considerations of resilience in older adulthood may include adaptations to adverse situations that may not be acute or severe but rather represent normative challenges associated with aging.

Theoretical Underpinnings of Resilience in Older Adults

Examining resilience as a coping process necessitates considerations of how individuals effectively regulate negative as well as positive emotions. If one is to consider that resilience may be manifest in relation to everyday adversity, it is necessary to understand how individuals adapt to the aging process. As Pearlin and Skaff (1996) note, successful adaptation to late life involves experiencing mastery within domains over which one can exert control and yielding mastery within domains where control is more difficult.

Selection, Optimization, and Compensation (SOC)

Baltes and Baltes' (1990) selection, optimization, and compensation meta-model highlights the process of modifying and adapting one's behavior across the lifespan. *Selection* represents the action of prioritizing and committing to one's goals. This first step allows goals to become more attainable and sustainable, particularly given one's available internal and external resources (Jopp & Smitt, 2006). *Optimization* signifies engagement in goal-directed behavior, facilitating the maximization of gains and continued growth. Optimization, therefore, is closely aligned with the concept of resilience as it may occur in everyday functioning with difficulties that do not rise to the level of traumatic adversity. Finally, *compensation* reflects the maintenance of functioning against normative loss and decline associated with aging. Thus, in late life, this process becomes particularly important as one's physical resources begin to deplete in the face of multimorbidity and losses of physical reserve capacity, social roles, and even social support. The process of selective optimization with compensation encourages the reframing and acceptance of new and more achievable goals, and consequently promotes late life functioning and resilience (Freund, 2008).

Socioemotional Selectivity Theory (SST) and Strength and Vulnerability Integration (SAVI)

Drawing from the SOC, lifespan developmental theories of motivation SST; (Carstensen, Isaacowitz, & Charles, 1999) and emotion (SAVI, Charles, 2010) lend credence to the idea that resilience processes change across time. These theories posit that a foreshortened perspective on time left to live shifts an individual's motivation toward regulating emotions and engaging in meaningful activities (Carstensen, Fung, & Charles, 2003).

The SAVI model of emotion (Charles, 2010) proposes that older adults exhibit enhanced attentional strategies and are more successful in the application of behaviors that regulate emotional experiences (Charles, 2010). Such enhanced abilities are evident in phenomena such as the positivity effect, which is the age-related tendency to more frequently attend to positive, relative to negative, stimuli (Carstensen & Mikels, 2005). Older adults are more mindful of the present and the positive past versus expressing concern for the future, and overall, present with better emotional well-being (Lee, Gatz, Pedersen, & Prescott, 2016). Older adults' increased emotion regulation and pursuit of emotionally rich goals transcend into higher optimism, the successful execution of emotion-based coping strategies, effective problem solving, and fundamental social competence (Charles, 2010; English & Carstensen, 2014). This entails adaptation and the ability to recognize strategies that optimize control by either acting to change one's environment or using acceptance and other secondary control strategies to adapt to situations that cannot be changed (Folkman, 1997, 2008; Heckhausen & Schulz, 1998; Drewelies, Wagner, Tesch-Römer, Heckhausen, & Gerstorf, 2017).

Adaptation and Psychological Acceptance

The ability to adapt and accept age-related changes is intrinsically related to late life resilience. Adapting to these changes first relies on acceptance that certain changes are inevitable and cannot be reversed (e.g., death of a loved one). Psychological acceptance (PA) reflects a willingness to experience one's emotions and thoughts, as opposed to engaging in experiential avoidance (Hays, Strosahl, & Wilson, 1999). As one ages, PA refers to the ability to recognize and experience age-related decline, as well as potential related distress (Butler & Ciarrochi, 2007). Butler and Ciarrochi (2007) found that PA was associated with better health and professional productivity, despite objective decreases in both as within the context of multimorbidity. Psychological acceptance encourages adjustment, problem solving, and a commitment to valued goals.

Resilience and the Pursuit of Meaningful Goals

Throughout each of the theories discussed above, the pursuit of and commitment to rich, meaningful, and attainable goals becomes a theme. Older adults' emotional well-being and acceptance of late life changes can help facilitate and recognize the pursuit of revised goals in addition to commitment to lifelong values that should be maintained and nurtured. Engaging in positive goal-directed behavior and establishing strong coping mechanisms can further encourage positive adaptation to offset the adversity of unavoidable yet not traumatic loss and decline seen in late life. The protective factors, positive outcomes, and resilience processes discussed in these theories, however, are highly contingent on the internal and external resources available (Lang, Rieckmann, & Baltes, 2002). Much of the research on late life resilience since the first edition of this book and our prior chapter (Allen et al., 2011) focuses on resilient coping as an adaptation to changing environmental circumstances.

Growth of Resilience Research

In comparison with the construct of successful aging (see Chap. 2), resilience may apply to all older adults and thus represents a more inclusive paradigm (Aldwin & Igarashi, 2015; Hicks & Conner, 2014; MacLeod, Musich, Hawkins, Alsgaard, & Wicker, 2016). Aldwin and Igarashi (2015) specifically contrasted resilience with the concept of successful aging (Kim & Park, 2017; Rowe & Kahn, 1997). Whereas the concept of successful aging results in less than 12% of the population of older adults meeting strict application of its definitional guidelines, optimal aging allows for different baseline physical health and various ways of aging well, depending in part on choices individuals make. Aldwin, Igarashi, Gilmer, and Levenson (2017) expand upon this idea and assert that resilience has more to do with how one appraises and copes with age-related change, even within the context of illness or disability, as the coping process has more implications for well-being (see also Hicks & Conner, 2014). Thus, the concepts of resilience and optimal aging posit minimization of negative outcomes and maximization of positive physical and psychological health outcomes in late life. Aldwin and colleagues suggest that interventions such as reminiscence, life review, wisdom enhancements, and mindfulness-based approaches may facilitate resilience in late life.

MacLeod, Musich, Hawkins, Alsgaard, and Wicker (2016) conducted a literature review examining the impact of resilience among older adults in order to guide the development of interventions for older adults that boost resilience. In addition to identifying surveys with excellent psychometric properties for measuring resilience, these authors report that women are more resilient than men and that high resilience leads to better quality of life and happiness, better mental health and well-being, and lower risk of mortality. In addition to recommending more resilience-based interventions for use in late life, these authors recommend evaluations of existing programs and posit that senior centers may be appropriate settings for such interventions.

In their qualitative meta-synthesis, Bolton, Praetorius, and Smith-Osborne (2016) identified 70 themes of resilience traits or resilience processes. Specifically, maintaining external connections and an optimistic outlook as well as perpetuating the belief that life has meaning (or having faith within a religious/spiritual context) were found to be integral to resilience. These authors noted that resilience is developed over time, as life experience in dealing with previous hardship and resolving challenges were associated with increased resilience. With regard to traits or individual characteristics, maintaining self-care, altruism and independence also were associated with resilience.

Despite these significant gains in the science of resilience, its definition, and its application, there remains controversy over conceptualizations of resilience in late life. Specifically, emphasis on resilient coping processes versus resilient traits remains an issue of some contention among researchers. These issues are considered next.

Current Controversies Regarding Resilience

An empirical example of resilience as process may be found in work conducted by Montpetit, Bergeman, Deboeck, Tiberio, and Boker (2010). These authors explored the daily process of using resilient coping strategies among 42 participants aged 65–92 using a 56-day daily diary with the expectation of one questionnaire completed per day. Their sample included 83% women with 54% of participants reporting living alone and 37% reporting being married. Using multilevel modeling statistical procedures, these authors found that, not surprisingly, better social support was related to greater use of resilient coping strategies. Moreover, higher resilience was related to better stress recovery and stress resistance. The use of ecological sampling procedures represents a methodological advance in recent research. This method allowed the examination of daily changes in resilient coping, supporting the conceptualization of resilience as a dynamic process.

In contrast, Hu, Zhang, and Wang (2015) conducted a meta-analysis of *trait* resilience and mental health in order to provide structure and allow a meta-analysis of a literature in which research on resilience in relation to mental health is not conducted in a uniform way and no uniform definition of resilience is preferred. Studies in their analyses included data from 68,720 participants. They found that 68% of studies involved resilience and negative mental health outcomes, 32% involved resilience and positive mental health outcomes, with correlations showing, not surprisingly, that resilience was associated with fewer negative and more positive mental health outcomes. Moreover, they reported that resilience increased with age, women report greater resilience than men and the association between resilience and mental health was stronger among women than men, and increased exposure to adversity improved resilience. These authors concluded that trait resilience was the best way to measure the construct at this time. Interestingly, resilience measures may lack content validity for men or not capture situations in which men experience resilience. Future research should include cognitive interviewing to better explore ways in which men experience and manifest resilience.

Interventions to Strengthen Resilience

Interventions such as reminiscence, life review, wisdom enhancements, and mindfulness-based approaches may facilitate resilience in late life (Aldwin et al., 2017). Two specific interventions combining creativity and meaningful activity engagement with reminiscence and mindfulness will be described in detail. These interventions are chosen because artistic creativity reinforces neuronal connections, enhances a sense of well-being, improves memory, and promotes emotional resilience (Cohen, 2009).

Artistic self-expression is thought to contribute to maintaining or reconstructing a positive identity (Stuckey & Nobel, 2010) and enhance self-worth and dignity (Hannemann, 2006). Hence, artistic creativity supports healthy and fruitful living across the lifespan. Stemming from developmental theories such as SST (Carstensen et al., 1999, 2003) and SAVI (Charles, 2010) positing that limitations in future time perspective motivate shifts in emotional goals, interventions incorporating artistic creativity represent a modality in which individuality and cultural sensitivity and cultural expression may thrive. Intervention work with community-dwelling palliative care dyads (Allen, Hilgeman, Ege, Shuster, & Burgio, 2008; Allen, 2009; Allen et al., 2014, 2016) applies SST and SAVI to conceptualize why individuals and self-defined family systems are motivated to engage in meaning-making in the service of emotion regulation near the end of life. Neurologist Oliver Sacks describes the “undiminished possibility of reintegration by art, communion, and touching the human spirit.” (Potts, Miller, Prickett, Cevasco, & Duncan, 2014). Octogenarian sculptor Edna Eckert was quoted as saying that “creative people are often long-lived because we are always re-inventing life; what we did yesterday, we create a new tomorrow. Inherent in this process is hope.” (Weinberg & Wilder, 2001). Thus, there is ample theoretical and empirical support for the notion that resilient coping processes may be maintained in the face of unresolved or unresolvable outcomes, including both traumatic adversity and normative changes associated with aging.

Focusing on the physical needs of the frail elderly, healthcare providers may inadvertently overlook emotional needs. Art therapy is one way to respectfully, efficiently, and comprehensively address these needs in a culturally competent manner (Johnson & Sullivan-Marx, 2006). Art therapy is an adjunct that can be used to support coping skills when an older person faces loss of independence, loss of choices, or loss of health (Johnson & Sullivan-Marx, 2006). Two distinct but complimentary fields, referred to by Sonke as arts therapies and arts in health care, respectively, connect artistic creativity to health. In the former, trained and credentialed therapists work within a defined clinical relationship to clients and students. The latter term refers to artists who work as artists, not practitioners or therapists. Both promote the arts as health-enhancing (Sonke, 2011). The field of art therapy arose in the 1930s (Pratt, 2004). With origins in both art and psychotherapy (Chancellor et al., 2014), art therapy is a mental health profession in which clients, facilitated by an art therapist, use art and the creative process to explore emotional conflicts, foster self-awareness, manage behavior and addictions, develop social skills and increase self-esteem. The goal is to improve or restore a client's functioning and his or her sense of personal well-being (American Art Therapy Association Website http://www.arttherapy.org). Art therapy promotes social connection, the experience of control and the opportunity to both express and manage emotions. It offers hope by facilitating nonverbal communication and providing opportunities to create meaning through life review. Resilient coping may arise explicitly or implicitly among individuals with diminished cognitive capacity via the opening of creative possibilities for adaptive change through creative discovery (Johnson & Sullivan-Marx, 2006).

Art therapy is most often carried out in small groups, promoting social interaction and combating isolation among elders. The opportunity to support other group members can promote resilient coping by helping clients identify and use their own strengths. Working together on a group project can link people, giving a sense of ownership and belonging, and is a reminder that one can still accomplish new things despite the physical and cognitive effects associated with aging (Johnson & Sullivan-Marx, 2006). Self-expression within art therapy group sessions provides a means by which to overcome a sense of apathy and hopelessness; rather than retreating inward (Gall & Jordan, 2015).

Other aspects of art therapy may promote resilience. Art therapy directives engage the senses; sensory present moments have the potential to compete with negativity because attention is focused on present experience rather than past or future thoughts, which may be negative (Hass-Cohen & Findlay, 2015). Additionally, opportunities to experience an ongoing empathetic, compassionate, and safe relationship with an art therapist may be healing (Hass-Cohen & Findlay, 2015). Such empathetic interpersonal exchanges can form a framework for processing traumatic memories that may be expressed in art making. Art therapy may provide safe ways to express, process, and begin to make sense of traumatic experiences, providing the opportunity to safely reexamine negative experiences and create positive and potentially healing art. Thus, art therapy may provide culturally sensitive opportunities to control, tolerate, and safely experience dysregulated emotional states, to reflect explicitly or implicitly on their nature, and to practice emotional regulation (Hass-Cohen & Findlay, 2015). Further research is needed to elucidate the effects of art therapy on resilience among older adults, including the most effective directives, and duration of and number of sessions. In accordance with the recommendations of other researchers, these programs may be offered in senior activity centers or adult day service facilities. Currently, Dr. Daniel Potts' *Bringing Art to Life program*, an intergenerational art therapy program matching older adults with dementia in adult day services with college students primarily pursuing allied health professions and enrolled in an honor's course is being evaluated (http://www.cognitivedynamics.org/2017/07/bringing-art-to-life-research-presented-at-iagg-2017/).

A second promising creative activities intervention that may harness resilient coping processes is music therapy. The intuition that music may facilitate physical and emotional well-being is not necessarily a new intervention. In all known civilizations, music and rhythm were a part of the cultural climate, filling a unique role in healing rituals, spiritual rites, and expressions of the essence of human nature (Potts et al., 2014). Music is the most accessible and most researched medium of art and healing. In particular, music has been noted to be soothing and to have anxiety-attenuating effects (Ashida, 2000; Chanda & Levitin, 2013; Hirsch & Meckes, 2000; Stuckey & Nobel, 2010). A strong connection between music and states of mind to promote maximum functioning has been a continuing theme in human development. Only within the past 60–75 years has an accountable professional discipline been developed that uses music in therapeutic ways, that being music therapy (Potts et al., 2014).

In the United States, the creation of the National Association for Music Therapy and the Certification Board of Music Therapists led to the standardization and emergence of accredited music therapy programs in the early 1950s. Music therapy is now nationally disseminated across a variety of settings including hospitals, youth centers, schools, and prisons (Landis-Shack, Heinz, & Bonn-Miller, 2017). Music therapists, credentialed professionals who have completed approved music therapy programs, use evidence-based music interventions to accomplish individualized goals within a therapeutic relationship (American Music Therapy Association https://www.musictherapy.org/).

There is a long and rich tradition of using music to cultivate resilience and facilitate healing in the wake of violence and oppression. Landis-Shack and colleagues identify music therapy as a resilience-enhancing intervention, as it can help trauma-exposed individuals harness their ability to recover elements of normality in their life following great adversity (Landis-Shack et al., 2017). Resilience is related to posttraumatic growth and is cultivated through processes that reduce stress and fear, increase self-confidence, and foster social support. These mechanisms are addressed by music therapy (Landis-Shack et al., 2017).

Recent research has shown that music promotes neurally mediated emotional responses, such that listening to music activates brain structures involved in reward, pleasure, and emotional processing (e.g., insula, ventral medial prefrontal cortex, ventral striatum, amygdala, hippocampus) (Landis-Shack et al., 2017). This effect is like that seen in mindfulness, art therapy, and other interventions believed to promote resilience. Music-associated neural activity helps to restore effective functioning in the immune system partly via the actions of the amygdala and hypothalamus (Stuckey & Nobel, 2010), reduces cortisol levels and subjective reports of stress (Chanda & Levitin, 2013), and activates changes in the mesolimbic dopaminergic system, an area of the brain that mediates the experience of pleasure, reward, and arousal (Landis-Shack et al., 2017; Wise, 2004). Additionally, music increases the release of endorphins, boosting positive feelings while reducing fear, self-awareness, and sadness, improving one's overall emotional state (Chanda & Levitin, 2013).

Music therapy can be extremely structured and widely varied across a range of instruments, mediums, and methods of expression (Landis-Shack et al., 2017). Moreover, it has been shown to have beneficial effects in a wide variety of conditions and disease states, such as posttraumatic stress disorder (Landis-Shack et al., 2017), Alzheimer's disease and other forms of dementia (Ashida, 2000; Potts et al., 2014), persons with depression and/or anxiety disorders, addiction, stroke, aphasia, cancer, etc., and is effective in both children and adults (Bradt et al., 2016; Hirsch & Meckes, 2000; Potts et al., 2014; Stuckey & Noble, 2010). Hirsch and Meckes note five benefits of using music therapy with cancer patients that have been reported in the literature: increases in hospital patients' sense of control, promotion of wellness and the healthy aspects of patients' lives, reductions in pain and increases in immunity, decreases in anxiety, and reductions in psychological and physical symptoms. A Cochrane review of 17 studies of music therapy in persons living with dementia found that musical interventions, whether delivered individually or to groups and with both active and receptive musical elements, appeared to lessen the symptoms of depression in music therapy clients (Bradt et al., 2016). The use of small group music therapy interventions, particularly those structured to engage reminiscence, has proved effective in reducing symptoms of depression and anxiety, and this effect persisted for a considerable period after the interventions had ended (Ashida, 2000).

Music therapy and other resilience-enhancing interventions address many of the same symptoms and utilize similar mechanisms for recovery, suggesting treatment links that might further support the efficacy of music therapy (Southwick, Pietrzack, Tsai, & Krystal, 2015). Music is deeply connected to human emotional processing and might serve as an avenue for music therapy clients to access their feelings (Landis-Shack et al., 2017). Music may address emotion dysregulation associated with intrusive memories that leave individuals who have experienced trauma feeling triggered and distressed. The therapeutic use of music can shape how an individual emotionally experiences and interprets a moment or event. For instance, music can help ground someone in the present moment when faced with an intrusive or distressing thought (Landis-Shack et al., 2017). Through group music making and group music therapy, individuals must coordinate so the music is cohesive, fostering connectivity, and work collaboratively with others (Landis-Shack et al., 2017). Studies have also shown that engagement with music is correlated with increased self-esteem and the reduction of feelings of worthlessness (Landis-Shack et al., 2017). The pleasure shared by participants in the healing process through a music therapy program can help to restore emotional balance (Stuckey & Noble, 2010). Owing to its many well-documented effects, wide applicability throughout the lifespan and across many disease states and conditions, music therapy is a useful intervention to promote resilience.

Conclusions and Directions for Future Research

In late life, the definition of resilience should consider resilience as both a trait and a process that includes being mindful and prioritizing behaviors, thoughts, and feelings that facilitate contentment within one's specific developmental, physical, emotional, and spiritual context. This chapter reviews lifespan developmental theories that underpin the concept of resilience, updates the review of the literature published in the prior edition, describes ongoing methodological issues regarding resilience in adult development, and considers art and music therapy as specific examples of interventions that may harness the power of resilience to produce therapeutic change. Three considerations for future research may enhance our current knowledge of resilience and its application among older adults.

First, research still has not examined the relation between resilience and generativity (Erikson, 1950; Erikson & Erikson, 1997; McAdams, 2001; McAdams & Pals, 2006). Research on the resilience process may show differential engagement in generative acts (Allen et al., 2011). What is it that motivates some older adults to seek opportunities to be generative and to share the wisdom of a lifetime with those closest to them whereas others may ruminate on traumatic events or current day challenges and experience negative physical and emotional health outcomes? Might there be ways to enhance resilient coping, as with art or music therapy coupled with reminiscence, that encourage mindfulness in the present moment while processing discomfort in creative and meaningful ways?

A second focus of research needs to be diversity in resilience. Specifically, methods need to be used that capture intersectionality (Ghavami et al., 2016). Intersectional models of social disadvantage (e.g., Cole, 2009; King, 1988) suggest that social categories combine to shape the experiences and life outcomes of individuals across the lifespan and across domains of functioning. For example, an African American 65-year-old man who self-identifies as LGBTQ may have experienced very different adversities than a non-Hispanic white 80-year-old, rural-dwelling, heterosexual woman. Resilience may manifest differently within overlapping racial/ethnic and cultural contexts and require different measurement strategies (Becker & Newsom, 2005). Becker and Newsome posit that the resilient philosophy of African Americans emanates from the struggle towards freedom and the current impact of racism within the United States, including a historical distrust of the medical and research communities secondary to the Tuskegee Syphilis Study (Corbie-Smith, Thomas, & George, 2002; Freimuth, Quinn, Thomas, Cole, Zook, & Duncan, 2001). Acknowledging and valuing one's thorough and integrated uniqueness may be a therapeutically effective component in healing that promotes resilience.

Chochinov et al. (2013) proposed a model of therapeutic effectiveness that may be beneficial to healthcare providers in conceptualizing clinical competencies. This model was derived from focus groups comprised of 78 experienced psychosocial oncology clinicians throughout Canada. Three interrelated therapeutic skill domains emerged: personal growth and self-care (domain A), therapeutic approaches (domain B), and creation of a safe space (domain C). Potentially the most exciting and useful aspects of Chochinov's therapeutic effectiveness model, however, are the intersections of these three primary domains: domain AB labeled *therapeutic humility*, domain BC or *therapeutic pacing*, and domain AC called *therapeutic presence*. The skills encompassed in therapeutic humility (e.g., honoring the client as expert, modeling healthy processing of emotion, tolerating clinical ambiguity, exploring difficult topics) and therapeutic presence (e.g., being fully present and mindful of boundaries; being genuine, authentic, compassionate, nonjudgmental, and emotionally resilient) may be most effective in fostering resilience and resilient coping at the intersections of social disadvantage.

Finally, a third focus of future research needs to be examination of resilience among the oldest old (those aged 85 and older) (Hicks & Conner, 2014). Secondary data exploration of centenarian studies represents one avenue of exploration and holds rich promise to enhance our understanding of resilience (Willcox, Willcox, & Poon, 2010). Methodologically, another useful area for future research would be the use of daily diary or experience sampling methods to examine patterns of variability in resilience and resilient coping among the oldest old.

In conclusion, continuing longitudinal examination of resilience through quantitative, qualitative, and experience sampling methodologies and promoting the use of measures and theories with an intersectional lens will enhance our understanding of this construct. In order to promote behavior change, knowledge of developmental and therapeutic effectiveness models should be used to facilitate the design of observational and intervention research in this area.

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Successful Aging and Resilience: Applications for Public Health, Health Care, and Policy

Matthew Lee Smith, Caroline D. Bergeron, Carly E. McCord, Angela K. Hochhalter and Marcia G. Ory

Abstract Last weekend, Albert celebrated his 78th birthday with his children, grandchildren, and a few of his closest friends. Two of his granddaughters presented a moving tribute to Albert and his lifelong friend Patricia, who was also in attendance. Patricia was beloved by Albert's grandchildren; they were planning a big party for Patricia's 80th birthday next year. The tribute of photos and videos set to Albert and Patricia's favorite songs showed the striking differences in the challenges and successes Albert and Patricia had experienced over their years as friends.

Keywords Successful aging · Active for life · Physical activity
Resilience · Technology

> Last weekend, Albert celebrated his 78th birthday with his children, grandchildren, and a few of his closest friends. Two of his granddaughters presented a moving tribute to Albert and his lifelong friend Patricia, who was also in attendance. Patricia was beloved by Albert's grandchildren; they were planning a big party for Patricia's 80th birthday next year. The tribute of photos and videos set to Albert and Patricia's favorite songs showed the striking differences in the challenges and successes Albert and Patricia had experienced over their years as friends.
>
> Albert was born in a poor farming community. His father raised Albert and his younger brother on a farm after the death of Albert's mother. Together, the three raised the crops that sustained the family. A few photos and some pencil drawings Albert created as a young boy showed the ups and downs of farm life from year to year; from bumper crops to years of drought. The boys attended school when they could. Albert finished the 11th grade, then

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> enlisted in the Army. His enlistment photo showed a young boy who was proud to serve his country and excited to find a more consistent way of life.
>
> Patricia was raised in a small farming community near Albert's farm and was in school with Albert for the years he attended. Patricia's mother had inherited a large fortune from her parents, and her father was a writer for several newspapers across the state. The family enjoyed living in the rural area, and traveled extensively when Patricia and her siblings were on break from school.
>
> In the summer after their 11th grade, Albert and Patricia took a road trip in Patricia's new car. It was a chance to show Albert part of the country before he reported for duty. One day, a horrible car accident on a country road hundreds of miles from home changed the teenagers' lives forever. Albert nearly lost his left leg, but after months in various hospitals far from home, he found himself back on the farm. He was forever thankful to Patricia's family for the visits and support while he was recovering in the hospitals. It was during his long hospital stays that he met his wife, a young nurse. However, the photos of his early 20s and throughout his life showed his continuous need for walking aids—a cane, walker, and now a wheelchair. He was discharged from the Army because of the injury even before he began serving. He always told his grandchildren "this bad leg is the best thing that ever happened to me because it brought me your beautiful Grandmother!"
>
> Patricia was also injured severely in the accident. She remembers almost nothing of her six months in the hospital. Her family brought in specialists from around the country, and she was able to recover fully from her injuries. However, she never forgave herself for the car accident that damaged her friend's leg. She saw the accident as her burden to carry, despite Albert's efforts to console her.
>
> Now ages 78 and almost 80, Albert and Patricia were living full but very different lives. Both had married young. Albert lost his family's farm after several years of drought and had to find new work. Patricia followed in her father's footsteps as a newspaper writer. She lost her job due to cutbacks at the paper a few years after Albert lost his job. She decided to spend her time volunteering at a local charity rather than moving away for a new job. Both friends lost their spouses about 10 years ago. Albert relied heavily on Patricia's support and the kindness of his family to help him grieve. He found new hobbies to occupy his time after his wife's death and was especially enjoying the feeling of accomplishment and new friendships. Patricia saw her husband's death as punishment for the accident she felt she had caused so many years ago. Since his death she has been more solitary.
>
> Recently Albert and Patricia were dealing with declining health. Albert saw this as an opportunity to teach Patricia the things he had learned throughout his life about dealing with illness and changing abilities. They were becoming closer than ever—attending chronic disease self-management workshops and cooking healthy meals together. Patricia's daughter was thrilled to see how recent videos showed her mother smiling and enjoying life. Secretly, the party attendees wondered whether the most recent photos showed a budding romance between Albert and Patricia. They were both greeting their newest health challenges as opportunities for a new take on life, and there certainly seemed to be a lot of dancing lately!

The stories of Albert and Patricia are examples of typical older adults in the United States who have met the challenges of their lives in a variety of ways using their personal and social resources. Older adults like Albert and Patricia are now living longer, yet there remains great debate whether extended life expectancies translate into more quality years (Pew Research Center, 2013; Underwood, Bartlett, Partridge, Lucke, & Hall, 2009; Wareham, 2016). In addition, the aging population has become more diverse in terms of race, ethnicity, culture, identity, disability, and socioeconomic status (Mather, Jacobsen, & Pollard, 2015; U.S. Census Bureau, 2014). This has resulted in a plethora of studies to understand better aging processes and the experiences of older adults in a rapidly aging society. Among the factors contributing to the diversity in aging trajectories are patterns of responses to challenges experienced throughout the lifespan. In this chapter, we will use the experiences of our fictitious characters to explore the concepts of successful aging and resilience. First, we describe successful aging and the contribution of resilience to the process of successful aging. Second, we discuss steps that can be taken by individuals, organizations, and communities to enhance older adults' resilience, and ultimately promote healthy and successful aging for all.

Successful Aging

Successful aging is a concept, an approach, a model, an experience, and an outcome (Katz & Calasanti, 2014). It first emerged when Rowe and Kahn (1987) portrayed *normal* aging as a continuum that spanned from "usual" to "successful." The differences in performance between younger adults and older adults without pathological conditions fell along this continuum. The researchers found that older adults as a group did not perform as well as younger adults as a group; however, within the older adult group, one shows little or no performance difference when compared to younger adults. Performance that was similar to that of the younger group was then considered evidence of successful aging.

Rowe and Kahn's (1987) classic study set the stage for multidisciplinary explorations of what it means to age successfully. A few years later, Baltes and Baltes (1990) suggested that successful aging requires some type of adaption to meet life's challenges. They introduced the Selection, Optimization and Compensation (SOC) Framework, which posits that adaptation to challenges in older age involves systematic reallocation of resources to pursue new goals, maintain functioning, and regain functioning (Baltes & Smith, 2003; Heckhausen, Dixon, & Baltes, 1989; Martin et al., 2014). When SOC processes are not effective or efficient, they can be maladaptive. However, when the result of adaptation, including the SOC processes, leaves one ideally positioned to reach his or her goals, we call that *successful aging* (Baltes & Carstensen, 1996).

In 2003, Inui described successful aging as a "dynamic equilibrium," and argued that the study of successful aging should integrate a multidisciplinary biopsychological approach (Kahana, Kahana, & Lee, 2014; Inui, 2003). The dynamic equilibrium he described involved capacity in multiple domains to function well as the circumstances of one's life changed. Functioning well meant performing in domains on which an individual places high value. Despite certain trait-like determinants of one's capacity to adapt, he emphasized the role of the individual in defining what is meant by being successful. Functioning well in a domain to which a person assigns little value is not the goal; rather, one who is aging successfully is adapting in ways that promote optimal functioning in domains he or she values most. Domains of functioning may be physiological, psychological, or sociological; ailing health and limited physical function do not preclude successful aging (Young, Frick, & Phelan, 2009).

Countless other models of successful aging are now in use, most of which include the following themes (Fowler, Gasiorek, & Giles, 2015; Inui & Frankel, 1991; Martinson & Berridge, 2014; von Faber et al., 2001; Young, Frick, & Phelan, 2009).

1. Successful aging happens across the lifespan
2. Successful aging occurs in response to challenges
3. Successful aging is defined uniquely for each individual to the degree that individual goals and preferences differ
4. The capacity for successful aging is partially under one's control (e.g., through learning) and partially predetermined (e.g., genetic predisposition)
5. Successful aging incorporates many domains, including but not limited to health, social, biological, and psychological domains.

In Fig. 1, we offer a hypothetical schematic of an individual's performance in three key domains over time. The purpose is to illustrate that domain-specific performance varies over time and can be categorized in some cases as successful, as usual, or as less than successful or "deficient" in others. How might this hypothetical model apply to our fictitious characters Patricia and Albert? How would we represent what Patricia's performance might look like following her husband's death? She had always fared well physically. Psychologically she was devastated by the car accident with Albert, and also by her husbands' death, although her late life volunteering brought some life satisfaction. Patricia was always somewhat socially isolated and pulled away from others following her husband's death, although meeting Albert again in later life brought a renewed companionship. In contrast, we see that Albert starts off higher goes through some declines, but still stays at a relatively high level on social and psychological domains, despite his physical limitations and disabilities.

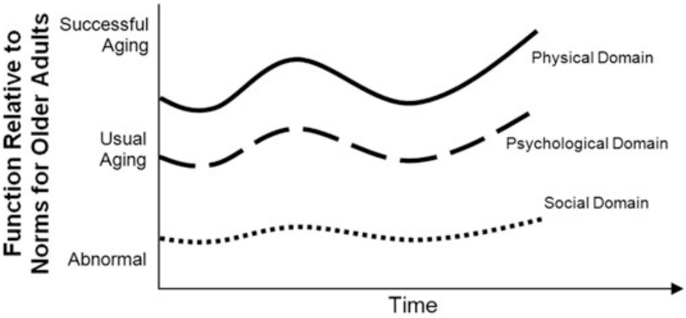

Fig. 1 An individual's performance in physical, psychological and social domains varies in the degree to which successful aging is achieved over time

For the most part, both theoretical and objective descriptions of successful aging match older adults' self-reported perceptions of the concept, as it is represented in the literature (Decancq & Michiels, 2017; Kok, Aartsen, Deeg, & Huisman, 2017; Lee, Kahana, & Kahana, 2017; Tkatch et al., 2017). Older adults define successful aging as an ongoing multidimensional process that is distinct from chronological age (Reichstadt, Depp, Palinkas, Folsom, & Jeste, 2007). They report that successful aging requires having a positive attitude, coping with change, accepting limitations that cannot be overcome, being secure and stable long term (e.g., social support through valued relationships, knowing one would be taken care of in declining health), practicing spiritual beliefs and receiving spiritual blessing, and proactively staying engaged both socially and cognitively (Laditka et al., 2009; Lee et al., 2017; Reichstadt et al., 2007). Older adults also place high value on maintaining basic physical functioning, being free of major life-threatening disease, and feeling independent (Laditka et al., 2009; von Faber et al., 2001).

However, older adults with long-term physical impairments also report aging successfully despite their physical disability, inviting a revised definition of successful aging (Molton & Yorkston, 2017). Similarly, although staying cognitively alert and having a good memory is among the most highly valued successes among older adults (Laditka et al., 2009; Sharkey, Sharf, & St. John, 2009), older adults living with a cognitive impairment such as dementia may still experience successful or "meaningful" aging (Harris, 2008; Williamson & Paslawski, 2016). It is believed that an individual's level of resilience, defined as one's ability to adapt well in the face of significant life stressors (American Psychological Association, 2017), may be what enables an older person to thrive and age successfully (Williamson & Paslawski, 2016).

Successful Aging and Resilience

Resilience is a long, ongoing process developed across the life course through previous experience of hardship, such as the death of a loved one, the loss of a job, and a serious illness (American Psychological Association, 2017; Bolton, Praetorius, & Smith-Osborne, 2016). Emotional distress is common in the lives of those who have developed resilience (American Psychological Association, 2017). While both nature and nurture play a role in most psychological constructs (Coll, Bearer, & Lerner, 2014), resilience is increasingly being viewed as a personal resource that can be learned and developed regardless of one's physical, cognitive, social, and cultural background (American Psychological Association, 2017; Harris, 2008).

A number of internal and external protective factors or resources are associated with the emergence of resilience in the face of challenges. Some internal characteristics include self-esteem, self-efficacy, hope, tolerance, sense of humor, spirituality, sense of purpose, and self-acceptance (Bolton et al., 2016; Windsor, Hunter, & Browne-Yung, 2015). Better health and well-being, which incorporates some of the internal factors listed above, is also associated with greater resilience (Centre for Policy on Ageing, 2014). External protective factors associated with higher levels of resilience include social engagement, social support from within and outside one's family (e.g., through encouragement and reassurance), as well as economic resources (American Psychological Association, 2017; Bolton et al., 2016; Centre for Policy on Ageing, 2014). These predictors or prerequisite conditions (the exact role and necessity has not been fully defined) appear throughout studies of resilience across all ages and are potential targets of intervention when aiming to promote successful aging.

Resilience can also occur over time, with positive adaptation revealed after a period of what initially appears to be maladaptive. Resilience can also fade over time, with negative consequences of trauma emerging only with advancing age after years of successful coping (King, King, Vickers, Davison, & Spiro, 2007).

Figure 2 sets the stage for how we think about the possibility for resilience in the face of given challenges over the course of the lifespan. Challenges faced at different points—Albert's and Patricia's car accident, for example—are labeled at the bottom of the figure. Each challenge impacts domains of functioning to different degrees, represented in the bar graphs. For example, a car accident with associated injury in adolescence may heavily challenge an individual's physical domain when compared to the loss of employment or spouse in mid-life or older adulthood.

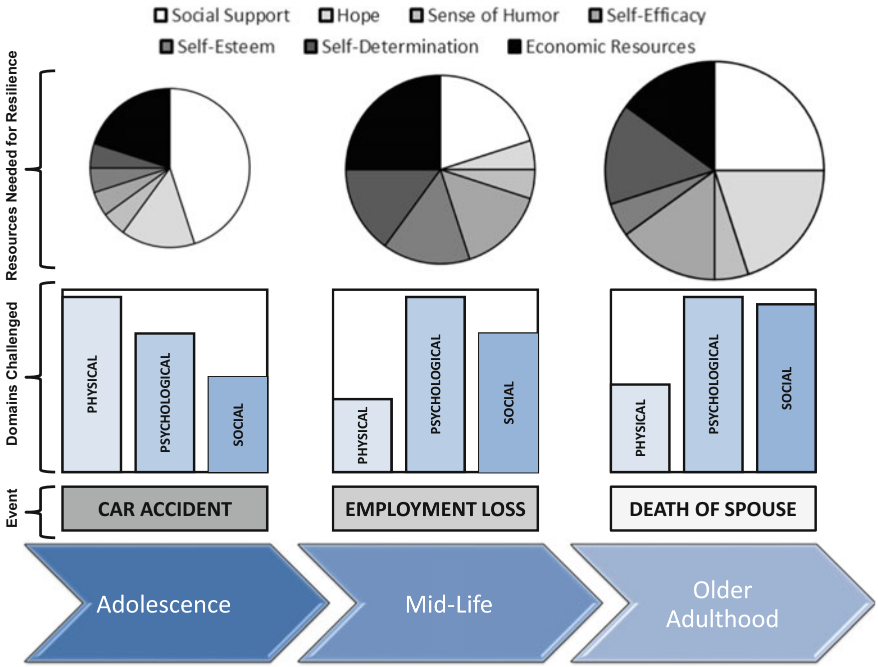

Fig. 2 Resilience is possible when one can draw on the appropriate internal and external resources to meet the demands of a given challenge

Conversely, psychological and social domains may be heavily and disproportionately challenged with the death of a spouse in older adulthood. Individuals possess or have access to a wide range of resources with which to meet a challenge. Examples of internal and external resources are represented in pie graphs at the top of the figure. Here we have represented a growing reserve of resources over the lifespan. Absolute "amount" of resources and types of resources available do not grow linearly across the lifespan—individuals experience differing resources at different times.

For example, we know that Albert had fewer financial resources than Patricia to draw on at the time of their car accident, but Albert may have had more self-efficacy for overcoming challenges and other resources than Patricia had developed at that time. When these two individuals faced job loss, the loss of their spouses, and now new illnesses, the composition of their available resources also likely differed. When available resources are sufficient to meet the demands of a new challenge, there is the possibility for resilience.

Resilience is associated with both the success of overcoming a specific challenge as well as post-adversity growth (Chang & Yarnal, 2017; Earvolino-Ramirez, 2007; Hayman, Kerse, & Consedine, 2017; Park & Fenster, 2004). In other words, through resilience, one not only adapts but also becomes better off, healthier, or grows after the event. Individuals like Albert who experienced hardship across the life course may therefore be more resilient in later life because they learned and grew from those personal experiences.

One particularly adaptive response to adversity is post-traumatic growth following major life events in older adulthood such as a fall, heart attack, cancer, abuse, or natural disaster (Garnefski, Kraaij, Schroevers, & Somsen, 2008; Thornton & Perez, 2006). In their study of falls among older women, Bergeron, Friedman, Messias, Spencer, and Miller (2016) found that aging women would make specific decisions after experiencing a fall, an event they characterized as unexpected and sudden, leaving them feeling "stupid" and "helpless" (Bergeron et al., 2016). Some of these decisions included getting back to normal by deliberately engaging once again in their regular routines as soon as possible after the fall or seeking and obtaining assistance and spiritual support, all of which are reflective of internal and external protective factors inherent to resilience. Making these post-fall decisions also helped them be more proactive, for example, by implementing safety measures to prevent future falls, which illustrates some type of post-stress growth (Bergeron et al., 2016).

A similar example occurred among older adults during and after Hurricane Katrina. Greene (2007) shared the narrative of three older individuals who walked through miles of water "passing dead bodies along the way" (p. 61), but who, thanks to their faith and family and community support through collective meals and shared supplies and information, were able to adapt and survive. Personal growth in such circumstances included an increased acknowledgement of others' needs in times of trouble as well as a greater sense of appreciation for life (Greene, 2007).

Improvement in the face of challenge is particularly relevant to successful aging as defined by Rowe and Kahn (1987) because it explains how one might move beyond usual aging toward the extreme of the aging continuum, which they defined as "successful." Patricia, in our example, seems to be meeting the onset of new chronic illnesses with resilience and success; she is learning new things and enjoying new activities with her life-long friend. High levels of resilience may also be associated with other positive outcomes such as lower depression and longevity (Bergeron & Smith, In press; MacLeod, Musich, Hawkins, Alsgaard, & Wicker, 2016).

Lens Metaphor: Successful Aging Through Resilience

Figure 1 depicted how functioning varies across domains during usual day-to-day experiences. Figure 2 illustrated the differences in domains challenged based on adverse life events and possible resources needed for resilience. Figure 3 shows a schematic of what we call the "lens" through which challenges are experienced. We think of each person's unique resources and perspective on life as a lens through which challenges "pass". The predictors and prerequisite conditions for resilience occur to varying degrees in each person's unique lens, which is framed with one's past history and within a particular social and environmental context (e.g., economic resources, supportive physical environments).

Repeated exposure to adversity can have a particularly strong effect on one's lens, yet still provide opportunity for resilience especially when supportive environments deflect personal adversity. The majority of African Americans frequently

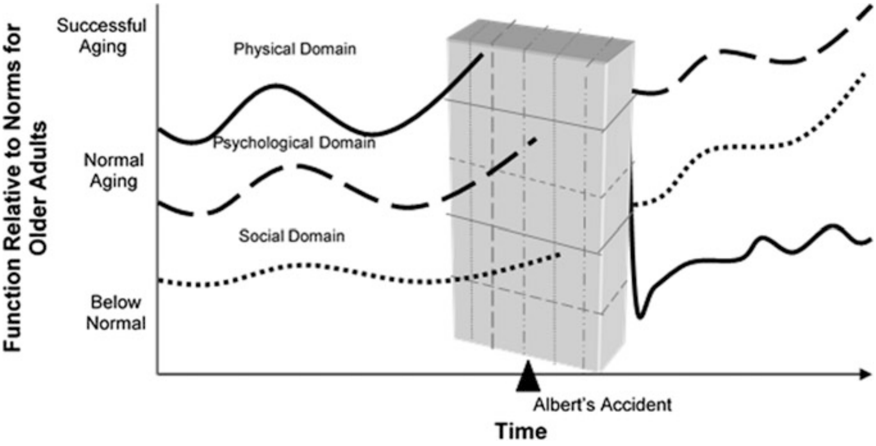

Fig. 3 Resilience is demonstrated when performance in one or more domains improves following adaptation to a challenge such as a major illness. The degree of adaptation achieved depends on the characteristics of the "lens" through which the challenge is experienced

experience episodes of racism and social and economic disparities throughout the life course. The "John Henryism" hypothesis suggests that African Americans who respond to these psychosocial stressors with continuous and persistent high effort may be driving up their prevalence of hypertension or other stress-related physical health problems (James, 1994). On the other hand, DeNisco (2011) found that the higher the resilience among African American women between 33 and 85 years old living with diabetes, the lower their blood sugar (HbA1c) levels were, suggesting that resilience may influence the physical domain. Similarly, Becker and Newsom (2005) reported that African Americans' determination, tenacity, perseverance, and spirituality may be contributing to their successes in the face of chronic illnesses.

Regarding the lenses of Albert and Patricia, the event of the car accident passed through their individual lenses and produced very different results. Albert's family did not have the financial resources to travel to see him or bring in specialists to direct his treatment. The result was lasting damage to his leg, but a positive experience in what was gained during the challenge. Perhaps the ups and downs of his childhood helped prepare him for this particular challenge in young adulthood. Patricia, on the other hand, had the advantage of support from her family and specialists to guide her care. Physically she recovered well, but she was plagued by the guilt of the situation for years. Patricia may have been resilient in the physical domain, but psychologically, she was less resilient to the car accident. Individuals may be aging successfully in some domains but not in others.

In Fig. 3, we introduce the concept of one's unique lens at a time when a major challenge—in this case, a major debilitating even like Albert's leg injury after the car accident—presents itself. After experiencing that event through a unique lens, functioning in various domains may or may not change. Improvements from before to after the event represent resilience in response to personal loss. Figure 3 shows an improvement in the social domain, perhaps due to reconnecting with friends and family during a time of great need. This gain would only be possible if the lens through which one experienced an injury like Albert's enabled reconnection with others in new ways. Unlike functioning in the social domain, Fig. 3 depicts a dramatic decline in physical domain functioning following the event relative to the physical functioning before the event. This sharp decline may or may not have been preventable; in this case, the initial result is maladaptive.

Possibilities for Promoting Resilience and Successful Aging Among Older Adults

Building resilience is a personal journey that varies based on individual reactions and experiences to traumatic and adverse events throughout the life course (American Psychological Association, 2017). If an older person does not have high levels of resilience to cope effectively with the challenges associated with aging (e.g., illness, the death of a loved one) and therefore age successfully, it may be possible to enhance his or her resilience by addressing the internal and external factors that are associated with resilience. Enhancing factors such as health, self-acceptance, self-esteem, spirituality, social interactions, and economic resources have the potential to help older adults better control their health and situation after a stressful event. In this section of this chapter, we provide suggestions of evidence-based healthcare and public health interventions to foster resilience among older adults. We also discuss how communities can play a role in promoting resilience and successful aging in later life.

Healthcare and public health interventions. There are several opportunities to promote resilience and successful aging in healthcare settings even in the absence of specific health problems. The *patient-centered medical home* is a model of care that has been endorsed by a number of leading medical professional organizations (Agency for Healthcare Research and Quality, 2017; Patient-Centered Primary Care Collaborative, 2012). Among the principles of care that make this model particularly appropriate for promoting successful aging are establishing a long-term patient–physician relationship, focusing on the whole patient rather than a specific health condition, and actively involving the patient and his or her goals. There is evidence that medical homes contribute to improved health behaviors, healthcare quality, patient satisfaction, and health outcomes (Patient-Centered Primary Care Collaborative, 2012).

Medical practitioners such as primary care providers can foster resilience to usual age-related deficits during routine healthcare encounters by promoting healthy lifestyles (Windsor et al., 2015) such as encouraging patients to intentionally incorporate glucose monitoring into existing routines to promote self-efficacy, or promoting the use of organizational tools for medication adherence.

Other types of health professionals such as psychologists can also help older adults by screening for mental health issues such as depression (Bergeron & Smith, In press), conducting one-on-one strength perspective counseling to assess and put into practice one's spirituality and resilience to readjust during hardship (Langer, 2004), or by engaging their older patient in mindfulness meditation training to improve their ability to cope and enhance their well-being (Davidson & McEwen, 2012).

Technology can be used to make daily tasks easier, increase independence, and improve physical and emotional health (President's Council of Advisors on Science and Technology, 2016), which all contribute to building resilience. For example, personal emergency response systems can be used to alert someone, such as a family member, if an older adult has fallen (AARP, 2010). However, because the effectiveness of these systems are limited by their *reactive* nature and often the button is not being worn or is not pressed at the time of the fall, this technology has been improved through the use of accelerometers to detect falls.

More and more *proactive* technologies are being released to help people stay safe as they age in place (Adler & Mehta, 2014; Ory, Smith, & Dahlke, 2016; President's Council of Advisors on Science and Technology, 2016). For example, motion sensors installed in homes, carpets, and beds can create individualized trends based on a person's typical day-to-day activities or set with trigger points to identify potential problematic situations. This type of system may detect a fall and alert a caregiver via text message when an individual gets up from bed and does not return after thirty minutes. It may also detect a urinary tract infection due to an increase in the number of trips to the bathroom. Other biomarker technologies can alert older adults and their caregivers of meaningful deviations in weight, blood sugar, and heart rate, to name a few, and result in earlier intervention. Technology also increases opportunities for social support through social media, video and phone contact, and even connect individuals to medical staff and behavioral health services from a distance (McCord et al., 2011).

A variety of health promotion interventions are also available to promote successful aging in the context of challenges posed by what Rowe and Kahn (1987) might have labeled "usual aging." For example, the Active for Life® initiative disseminated two evidence-based physical activity programs for older adults into community settings for the promotion of older adult health (Wilcox et al., 2008). Initiatives like Active for Life® rely on behavioral processes to increase physical activity through goal setting, problem solving, and feedback. Texercise Select is an example of a multimodal lifestyle enhancement program that includes educational sessions, interactive discussions, and opportunities to engage in structured physical activity (Ory et al., 2015). It has been shown to enhance psychosocial mediators often associated with resilience such as perceived efficacy and social support for engaging in healthy behaviors (Wilcox et al., 2006).

The *A Matter of Balance* program (Healy, 2008; Smith, Ory, Belza, & Altpeter, 2012; Tennstedt, 1998) is an example of a fall prevention intervention that is widely disseminated and extensively evaluated. Falls are a challenge that is associated with a downward spiral of health and well-being. Fear of falling often facilitates behaviors that actually increase the likelihood of falling (e.g., reductions in physical activity, depressive symptomatology, limitations in daily activities). The evidence-based *A Matter of* Balance activity program is intended to diminish the fear of falling and increase physical activity by targeting attitudes and behaviors associated with a predisposition for falls. Participation in the program leads to improved self-efficacy for preventing and managing falls, decreased disruption of daily activities, and improvements in measures of mental health (Ory et al., 2009). Each of these factors is associated with greater likelihood of avoiding future falls or improved managements of the consequences of injurious falls.

Chronic disease self-management programs (like those our characters Albert and Patricia attended) and family caregiver interventions are designed for longer term challenges in older adulthood (Ory et al., 2013b). Interventions that provide skills training and ongoing peer or professional support for individuals facing illnesses (e.g., diabetes or heart disease) and those facing the stressors involved in caring for a loved one bring about measurable improvements in health behaviors, health-related outcomes, and healthcare utilization (Ory et al., 2013a). In addition to teaching what one needs to know to meet daily challenges, education and skills training boost motivation and self-efficacy for carrying out recommended tasks (Bazargani, Besharat, Ehsan, Nejatian, & Hosseini, 2011; Bodenheimer, Lorig, Holman, & Grumabach, 2006; Chodosh et al., 2005; Lorig & Holman, 2003). As a whole, family caregiver interventions can improve general well-being, depression, and caregiving burden (Cassie & Sanders, 2008; Marziali & Garcia, 2011).

Other programs that help to address the various predictors of resilience include the Retired and Senior Volunteer Program (RSVP) program, which promotes engagement of older adults in all sorts of community activities (Corporation for National & Community Service, n.d.), and TimeSlips which provides hope and improves well-being of people living with dementia through creative engagement (McFadden & Basting, 2010; TimeSlips, n.d.). Further, the 9-week *Resilient Aging* program was recently created to promote growth of resilient attitudes and behaviors among older adults by targeting self-efficacy and older adults' wellness domains, including the physical, social, and emotional domains (Fullen & Gorby, 2016). Given the growth of the aging population, emphasis on successful aging, and better understanding of factors associated with resilience, it is likely that additional evidence-based programs will be needed in the future to promote resilience and successful aging.

The role of communities. Communities can play an important role in helping their residents be resilient and healthy. 8 80 City is an international project where cities are encouraged to work for everyone from 8 to 80 years old (8 80 Cities, 2017). Currently, in 6 continents, 37 countries, and more than 250 communities, 8 80 brings citizens together to improve mobility and public spaces such as parks and streets to improve the quality of life of its residents (8 80 Cities, 2017). 8 80 also increases a community's engagement and cohesiveness (8 80 Cities, 2017), which positively contributes to the resilience process (Windsor et al., 2015).

Very similar to this initiative is the World Health Organization's Age-Friendly Cities (AFC) Program (World Health Organization, 2017b). In the AFC program, 500 communities are making improvements on eight domains—community and health care, transportation, housing, social participation, outdoor spaces and buildings, respect and social inclusion, civic participation and employment, and communication and information—to be more inclusive of older adults (World Health Organization, 2017a). Most of these domains can help older adults enhance their resilience in older adulthood. For example, as resilience is associated with social interactions, having free or discounted bus passes through changes in the transportation domain or preventing age discrimination in the workplace can enable older adults to work and volunteer in later years, which may increase their sense of purpose, self-esteem, socialization, and ultimately promote resilience (Centre for Policy on Ageing, 2014).

Local, state, and national policies and efforts are also needed to provide greater economic stability for older adults, which can help them better manage traumatic, expensive events. Although social security payments for retired workers in the United States are inadequate at only $1,369 per month (Social Security Administration, 2017), programs and tools exist to provide hope for economically insecure older adults (National Council on Aging, 2017b). For example, the Senior Community Service Employment Program has helped 65,000 low-income older Americans receive paid employment (National Council on Aging, 2017c). The free

EconomicCheckUp® tool also exists to help older adults assess their own economic situation and learn about different options, such as eligibility for financial assistance programs, to achieve greater economic security (National Council on Aging, 2017a).

Conclusion

Resilience is an extraordinary and positive response to a challenge or stressor. When looking through the right lens, rather than merely "getting through" a hard time, the resilient response is one that adapts to the challenge where functioning in one or more domain is better after adapting than before the challenge occurred. When the growth produced by resilience leaves one functioning better than expected in a domain that he or she deems important, resilience can produce successful aging. As we have seen in the example of Albert and Patricia, it is possible to facilitate adaptive responses by working to enhance older adult's internal and external resources. Improving these various factors through the recommended behavioral, technological, and community responses can help older adults get through hardship and age successfully.

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Resilience and Personality Disorders in Older Age

Erlene Rosowsky and Aileen Peters

Abstract The chapter begins with an overview of what is meant by "personality disorder" and how it is diagnosed according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). This is followed by a discussion of the aging of personality disorders including a description of what can be expected to change and perhaps more relevantly what can be expected to remain the same throughout the course of sentient life. The next section discusses the functions of resilience and challenges to resilience for those with personality disorders. This leads to the final section on implications for treatment. This entire volume is dedicated to understanding what is meant by the concept of resilience and how it applies to old age. This chapter focuses on that group of older adults who have struggled with life all their life and who are especially poorly equipped to meet the challenges of aging. They are in many ways the antithesis of resilient individuals. They are addressed in the clinical literature as having a personality disorder.

Keywords Older adult personality disorder · Resilience · Elderly coping

What Do We Mean by "Personality Disorder?"

Personality defines us as individuals. It encompasses the ways we typically think, feel, and behave. It enables us to identify those whom we know and to reasonably predict how they might be expected to behave under given circumstances. There is comfort in this predictability. Conversely, it is disquieting when someone presents in a way that is markedly different from his or her usual way of being. We count on a level of constancy of presented or manifested self in relationships with others, especially in intimate relationships. The reciprocal of manifest self is internal

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self-constancy. This refers to the individual's customary inner experiences of thought, affectivity, and impulse regulation, which then give rise to behavior. A major press throughout life is to "feel like me." This press or drive commands behavior, even if this is not useful or adaptive.

In the main, personality is impressively stable (Costa & McCrae, 1988) but not immutable. Some people do evidence significant change in some personality domains over time (Valliant, 2002; Small, Hertzog, Hultsch, & Dixon, 2003). For all, over the life course, the personality is required to interface with different challenges and expectations so that even stability embraces degrees of freedom, or flexibility, to remain recognizably "stable." There is thus requisite change in constancy. The personality is ever involved in the complex process of adaptation. This incorporates the processes of assimilation and accommodation (Kegan, 1982). Assimilation refers to what the individual brings into his evolving self from the experience, and accommodation refers to what he brings to the experience from his present self. Both functions are in the service of "being the same." These processes depend upon intrapsychic flexibility, the ability to regulate emotions, a repertoire of responses, and access to external resources, including those of others with whom one is in a relationship. These requirements are precisely those that are most challenging to individuals with personality disorders, who, de facto, are rigid (versus flexible); have problems with affect regulation; are limited to a narrow repertoire of affective, cognitive, and behavioral responses; and have a history marked by complex and dysfunctional relationships (Segal, Hook, & Coolidge, 2001).

The DSM-5 requires that the clinical presentation includes several key elements for a diagnosis of personality disorder: A pattern of inner experience and behavior that deviates significantly from what is expected within the individual's culture; that the pattern is inflexible and pervasive; that the pattern is stable over time; that the onset is in adolescence or by early adulthood; and that the pattern leads to the experience of significant distress or to impairment in important areas of functioning. The DSM-5 presents ten specific disorders included in Axis II and these are each dependent upon specific diagnostic criteria. The ten personality disorders are organized into three clusters based upon common themes. Cluster A, "odd and eccentric," includes the paranoid, schizoid, and schizotypal personality disorders. Cluster B, "dramatic, emotional, and erratic," includes the antisocial, borderline, histrionic, and narcissistic personality disorders. Cluster C, "anxious and fearful," includes the avoidant, dependent, and obsessive–compulsive personality disorders. The longstanding belief has been that specific personality disorders within each cluster share not only common themes and etiology but also that the clusters are significantly distinct from one another, thus establishing valid and reliable diagnostic boundaries.

Personality disorders differ from other DSM diagnoses in that everyone has personality traits; they are descriptors that vary from person to person. Because of this, there appear to be fundamental conceptual problems in how we choose to understand, and thus clinically identify, personality disorders. There are expected and accepted variations of personality traits that differentiate us, that make us who we are. A person can be diagnosed with most mental health illnesses as an "on/off," "has it or doesn't have it" way, but not Personality Disorders. Everyone has a personality, but not every personality is disordered or extreme. The DSM approach to diagnosing Personality Disorders is based on the categorical, on/off model, wherein the individual either does or does not meet criteria for the diagnosis of a personality disorder. This is in contrast to a dimensional approach, which affords the diagnostician with a continuum view of criteria. Under the categorical view, there is a "high degree of overlap or co-occurrence of personality disorders with each other, a lack of relative importance of various symptoms, and (vastly) dissimilar clinical presentations for patients diagnosed with the same disorder." (Hoermann, Zupanick, & Dombeck, 2013). It is not a single personality characteristic that defines a personality disorder, but rather the cluster (pattern) of the personality characteristics.

Considered thought about personality disorders has fueled passion and controversy. "No other area in the study of psychopathology is fraught with more controversy than the personality disorders" (Millon and Davis 1996, 485 (cited in Magnavita, 2004)). Personality disorder experts in the main are not satisfied with the current DSM categorical classification system. Empirical studies strongly support a dimensional as opposed to a categorical perspective. In response, the DSM-5 Work Group for Personality and Personality Disorders was tasked with exploring a dimensional versus the existing categorical approach to diagnosing Personality Disorders (Oldham, 2015). The Work Group proposed several iterations of a new, dimensional system. The final version was unanimously approved. However, The APA Board of Trustees then voted to sustain the DSM-IV diagnostic system for personality disorders, virtually unchanged, in the main section of DSM-5 and to include the proposed new model as an "alternative DSM-5 model for personality disorders" in Section III of DSM-5, the section referred to as "Emerging measures and models" (Oldham, 2015).

This emerging/alternative model includes two dimensions: Criterion A: Elements of Personality Functioning; and Criterion B: Pathological Personality Traits. Criterion A identifies four elements of personal functioning that are categorized as either Self or Interpersonal levels of functioning. Self-elements include personal *Identity* and *Self-direction*. *Identity* elements address awareness of self as a unique being, separate from others, with stable self-esteem and accurate self-appraisal, and an ability to regulate a range of emotions. *Self-direction* elements address realistic self-expectations and achievable short-term and life goals, the ability to reflect on oneself and experience, and self-control in standard behavior. *Interpersonal* elements include traits encompassed by *Empathy* and *Intimacy*. *Empathy* includes the ability to understand another person's experience, tolerate different perspectives, and recognize one's behavioral impact on others. *Intimacy* elements reflect the ability to form and maintain close personal connections with others, a desire for and the ability to maintain closeness, and mutual regard evidenced in relationships. Under the dimensional, model, one needs to experience moderate or greater impairment in two or more of Elements of Personality Functioning to meet criteria. Five overarching Pathological Personality Traits—negative affectivity, detachment, antagonism, disinhibition, and psychoticism, comprise Criterion B. These trait domains are further divided into 25 "trait facets" which are specific to each diagnosis. Examples of trait facets include hostility, impulsivity, anxiousness, anhedonia, emotional lability, rigid perfectionism, restricted affectivity, and hostility. Criteria C and D address the pervasiveness and stability of the impairments. Are they encountered in multiple domains and contexts? Are they predictably observable or present? Finally, Criteria E and F address alternative explanations such as another disorder, developmental stage, medical condition, or substance abuse. This dimensional approach provides clinicians to view personality traits on a continuum that is less bound by definition and more mindful of the complexity of personality in the greater social context (DSM-5, 2013; Hoermann et al., 2013).

However, even this dimensional perspective does not precisely get at what is a personality disorder. Extreme traits do not per se define the disorder (Wakefield, 2008); but what does define it is how these traits interfere with impaired social or goal-focused functioning or provoke the experience of distress. The functional relevance of the disorder depends on the roles of adjudicator and referents, and how these relate to the core concept of dysfunction. In addition to the personality traits, cognitive structures and processes need also to be considered. There is no clear discontinuity between normal and abnormal personality traits. Neither are personality traits per se adaptive or maladaptive. If the traits are judged to be adaptive, they define a personality style. If they are maladaptive, they define a personality disorder. Much of the distinction reflects what is being asked of the personality, the cultural norms and expectations, where it is being asked to address this, and who is evaluating whether the response/behavior is adaptive or maladaptive. This speaks in part to tolerance and acceptability of individual differences. Svrakic, Lecic-Toseviski, and Divac-Janovic (2008) make a compelling case for the term "personality disorder" to be changed to "disorders of adaptation," which describes what they actually are and offers a potential benefit of destigmatizing the diagnosis.

Regardless of the model used, a key concept appears to be the presentation of a maladaptive or inappropriate "pattern." The personality traits taken together comprise the pattern or trait template. While each trait can be viewed as lying along a continuum depicting dimensions of normal, putatively owned by all, it is the pattern and how it is applied which becomes identified as pathology. There are other systems of classification, for example, "structural classification" based on a psychodynamic formulation of personality organization, "prototypal classification" (combining the categorical and dimensional classifications), and "relational classification" (including interpersonal and systemic models) (Magnavita, 2004).

That the classification system affects the assessment of personality disorders is self-evident. Following this logic, assessment identifies cases, providing what we know of the incidence and prevalence of personality disorders. Depending on the symptom threshold, the prevalence of Personality Disorders in the general population ranges from 9.1 to 21.5% creating the possibility of a 'balloon' of geriatric patients with PDs as the baby boomer bubble passes through. (Quirk et al., 2016) the possibility of a "balloon" of geriatric patients with PDs as the baby boomer bubble passes through. A 2015 study by Reynolds et al. analyzed a large US adult sample to examine the prevalence of psychiatric disorders across the lifespan. They found that men had higher rates of personality disorders when compared to women. They also found the prevalence of

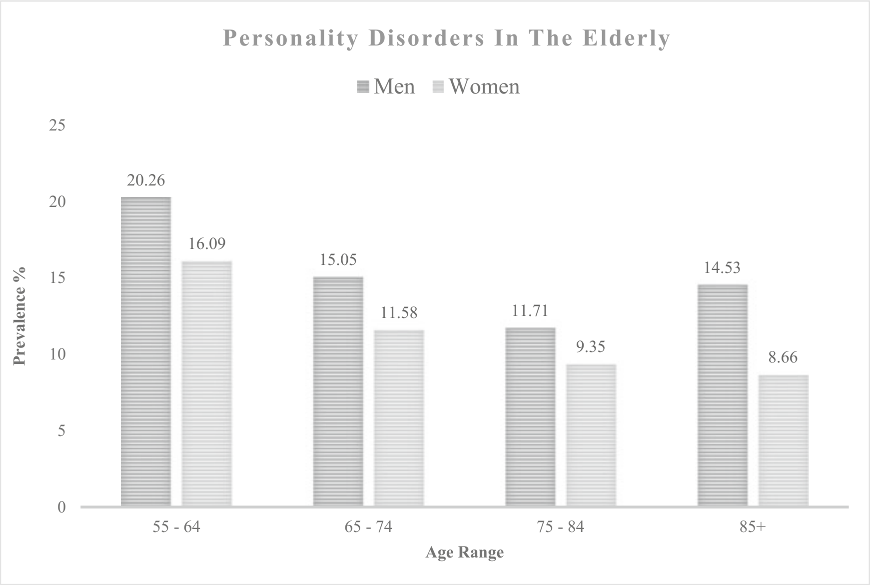


Fig. 3.1 Personality disorders in the elderly

personality disorders decreased with increasing age. Based on the Reynolds study, the prevalence of personality disorders in the elderly ranges from 8.66 to 20.26%, with an average of 16.79% for men and 12.68% for women over the age of 55. Van Alphen et al. (2014) report "PDs among older adults in the population ranges from 3 to 15%."

Figure 3.1, Based on Table 3.2, Prevalence of psychiatric disorders by gender among adults aged 55 and older (Reynolds, Pietrzak, El-Gabalawy, Mackenzie, & Sareen, 2015).

The broad ranges clearly reflect the challenges to case identification. It is apparent that the current diagnostic criteria in the DSM and ICD do not adequately capture the ways that personality disorders present in old age or reflect how this "shows up" in response to the challenges facing older adults and within the venues in which they are diagnosed (Rosowsky & Gurian, 1992).

Personality Disorders in Older Age

It is beyond the scope of this chapter to discuss the genesis of personality disorders. This is a complex topic including psychological, biological, and sociological contributions, including a very strong influence of genetic effects, perhaps more than for almost any Axis I disorder (Torgersen et al., 2000; Lautenschlager & Förstl, 2007). Often, there has been the experience of trauma in childhood (Goodman et al., 2003; Shea et al., 2000) that can cause or worsen psychological vulnerabilities of the victim. There are those who are more vulnerable and those who are more protected. Those who are more privileged have advantages that accrue over the life course which color the aging process and support resilience, enabling thriving in later life (Collins & Smyer, 2005; Schooler & Caplan, 2009). Conversely, those who have struggled throughout life often continue to struggle.

What is the effect of aging on personality disorders? By definition, personality disorders cannot appear de novo in old age, although some anecdotal evidence exists. When it appears that they do, this generally implicates that another process, for example, organic brain disease, is behind the appearance of dramatic changes in personality functioning. An alternative explanation is that we have not taken an adequate, long enough or deep enough, clinical history, as it is the history that will reveal a pattern. Bernice Neugarten, a matriarch in the field of personality and aging, wrote "As individuals age they become increasingly like themselves…the personality structure stands more clearly revealed in an old than in a younger person" (Neugarten, 1964, 198). She was referring to "ordered" personalities, but might this hold true for "disordered" personalities as well?

Are personality disorders more "clearly revealed?" Do they become worse in old age? Do they get better? Or, in terms of degree of pathology or PDism, do they remain fairly constant? Recent research indicates that personality disorders change over the life course. In their study of personality disorder features over the lifetime, Gutiérrez et al. (2012) found that "with the passage of time, major changes occur." This occurs in the general population as well. Gutierrez et al. confirmed their results that Cluster B symptoms were more likely to subside, while Clusters A and C features saw "less dramatic declines" with "social fears, rigidity, rareness, or detachment remain roughly stable or increase slightly." The authors note "age-related reductions actually range from 7.4 to 65.2%." (Gutiérrez et al., 2012). The following table summarizes the common changing features Gutiérrez et al. found across older adults with personality disorders.

The themes of the disorders, or at least the personality disorder clusters, also appear to be robust. For those in Cluster A, the central themes are "distant and a-relational." For these types of individuals, there is a paucity of relationships in their social field which is perceived by them as being ego-syntonic. They do not yearn for connection, which distinguishes them from the avoidant personality disordered individual in Cluster C. For those in Cluster B, the themes are "erratic and chaotic." They dearly need others, indeed often have trouble tolerating being alone, but their history is marked by stormy relationships, especially intimate relationships. Cluster C themes are "dependent and needy" requiring excessive help in making decisions, reassurance, and direction. While their history may be relational, these relationships are typically difficult due to their overdependence on and clingy neediness of others. Overall, while stability trumps change, it appears that the more "mature" personality disorders (the ones in Cluster A and obsessive–compulsive personality disorder in Cluster C) remain the most stable. The "immature" personality disorders, in contrast, do appear to moderate somewhat by mid-adulthood, consistent with a "maturation hypothesis" (Tyrer, 1998).

The DSM does not adequately reflect the ways clinicians identify personality disorders, especially in older adults. The DSM system was derived mostly from observations of younger adults. What is needed to make a formal diagnosis depends on a strong clinical interview, the establishment of a detailed history, including reports from multiple informants who knew the person at different stages of their life (to help identify a pattern), as well as a dimensional assessment of personality and a measure of functional impairment. As yet, we do not have a valid instrument to adequately capture the geriatric presentation of personality pathology. We also do not have a clear gold standard for making the diagnosis of personality disorder in old age. In addition, there is resistance by clinicians to assign a diagnosis of personality disorder (Hillman, Stricker, & Zweig, 1997). Even so, these individuals remain clinically recognizable.

It is not unusual for the major manifestations of personality disorder to become relatively quiescent in midlife, only to reemerge in older age, exacerbated by the many stage-related challenges or by comorbid medical illnesses (Segal et al., 2001). To complicate the diagnostic picture, there is impressive comorbidity for personality disorders with Axis I disorders at all ages. Zweig and Agronin (2006) present comorbidity as one of several major challenges to making the diagnosis of personality disorder in old age. For example, Cluster C personality disorders are notably associated with depression in old age (Schneider, Zemansky, Berden, & Sloane, 1992). In a 2013 study on the differences between younger and older adults with Borderline Personality Disorder, Morgan et al. found that chronic emptiness was more common in older adults, and "may help to explain the high rate of comorbid depression in older adults with BPD features." Other challenges include differentiating it from personality change due to a medical condition or reaction to medications, or from an underlying organic process, or from regressive behaviors developed in reaction to changes in the environment, or to physical illnesses that have become chronic.

Personality Disorder features also influence suicidality. Morgan, Chelminski, Young, Dalrymple, and Zimmerman (2013) conjectured that with a 10% suicide completion rate (Black, Blum, Pfohl, & Hale, 2004), Borderline PD patients being studied as elders may be representative of a "less severe or more resilient patient." In Personality, Suicidal Ideation, and Reasons for Living among Older Adults, Segal et al. (2012) reported that older adults in the United States had a suicide death rate of 14.8 per 100,000 compared to the general population suicide death rate of 10.9 per 100,000. Segal et al. (2015) found that "PD features were associated strongly and positively with suicidal ideation and explained a significant proportion of the variance in suicidal ideation." The study found that PD features were more related to suicidal ideation and more *un*related to reasons for living, reinforcing the pathology of PD changing features listed in the Gutierrez table. In Personality disorder raits, risk factors, and suicide ideation among older adults, Jahn, Poindexter, and Cukrowicz (2015) found that "perceived burdensomeness, thwarted belongingness, and depressive symptoms are likely important risk factors for suicide ideation among older adults." These are also some of the same enduring/unaffected characteristics indicated in Fig. 3.2. Being aware of changing personality disorder features over the life course has implications for clinicians at both diagnostic and treatment levels. A lack of awareness of the more subtle diagnostic features that mellow or wane with advancing age may result in underdiagnosed or undertreated patients. It is important to structure treatment for elders with PDs to reflect those symptoms that remain resistant to aging and those that change with the passage of time.

DECLINE	IMPROVE	UNAFFECTED
Declining Behaviors Anti-social behaviors Risky behaviors	***Improving Behaviors*** More prudent More normative More responsible	***Unaffected Behaviors*** Self-blaming Hyper morality Hypercriticism Perfectionism
Negative Affects Decrease Pessimism Emptiness Guilt Feelings of inadequacy	***Positive Affects Increase*** Greater mood stability Self-Esteem Sense of Identity	***Unaffected Affects*** Unhappiness Anhedonia Helplessness Odd beliefs/perceptions
Reduced Negative Relationship Characteristics Turbulence Neediness Envy Jealousy Resentment Jealousy Rage Suspicion	***More Realistic Achievement Orientation*** Renounce unrealistic ambitions Complain less Assume more responsibility Initiate projects Make decisions	***Unaffected Relationship Characteristics*** Detachment Argumentativeness Abandonment fear

Fig. 3.2 Changing features—aging and personality disorders. Adapted from: Personality Disorder Features Through the Life Course, Gutiérrez et al. (2012)

Personality Disorders: Enduring Characteristics

There persists, unfortunately, reluctance on the part of clinicians to want to work with older adults, this despite the increasing need and established efficacy of treatment (Smyer, Zarit, & Qualls, 1990; Joska & Fisher, 2005; Rosowsky, 2005). Adding to this general reluctance, those individuals with personality disorders are notorious for being especially difficult to work with, live with, and be with. In Groves' classic article, "Taking care of the hateful patient" (Groves, 1978), he describes several types of patients whom physicians dread seeing. These stereotypes include "dependent clingers," "entitled demanders," "manipulative help-rejecters," and "self-destructive deniers." It is an easy reach to apply DSM personality disorder diagnoses to these types.

There are certain features of personality disorders that appear to remain essentially the same throughout sentient life. "Upon assessing the quantitative aspects of a condition (like the number of diagnostic criteria), one should not overlook its qualitative aspects. Some studies report that functional impairment persists even when full criteria for a personality disorder are no longer met. Interpersonal impairment often continues throughout the lifespan." (Hategan et al., 2018; Paris, 2003) indicated that follow-up studies with patients indicated that "the best outcomes do not consist of untroubled lives, but a way around troubles." The ever-present symptoms are what allow us to continue to recognize the disorders even where the more prototypical presentations may be altered. The issues confronted by people with personality disorders, fear of abandonment or fusion, labile emotions or affective dyscontrol, and a tendency to idealize or devalue, remain relevant and at the heart of personality disorders at any age. What is of special significance is the effect these “disordered personalities” has on others. This is one of the central and most robust features of personality disorders throughout life. Their powerful and generally negative effect on others with whom they are in close relationship is pathognomonic of the psychopathology (Segal et al., 2001). Finally, Morgan et al. (2013) also found that older adults were hospitalized more often, reported poorer social functioning, and were more likely to be divorced. It is easy to hypothesize that these characteristics are more reflective of age as a number than a state of being.

Other robust features are the core vulnerabilities of those with personality disorders. These include fear of fusion or abandonment, labile or inappropriate affect or affective dis-control (Kessler & Staudinger, 2009), and a tendency to idealize or devalue others in relation to the self. Affective control is generally greater in old age (Magai & Passman, 1997); there appears to be a natural limiting of arousal in the service of energy conservation and reflecting survivorship of life. Those with personality disorders, however, continue to struggle with affect modulation. The elderly individual with a personality disorder remains highly vulnerable and reactive to stress and distress (Glaser, Van Os, Mengehers, & Myin-Germeys, 2007). Their core vulnerabilities provide a diathesis to distress and are responded to by reliance on a repertoire of primitive defenses, such as denial, projection, reaction formation, and acting out. This is in contrast to the utilization of more mature defenses in the repertoire of resilient individuals (Simeon et al., 2007).

Individuals with personality disorders infrequently employ the loftiest defenses, for example, humor and altruism. Additionally (and a real challenge to psychotherapy), they have great difficulty with self-reflection, the ability to look back at their own behaviors and see a pattern (Yates, Egeland, & Sroufe, 2003). To be self-reflective and take one’s self as object leaves the individual with a personality disorder open to becoming flooded with anxiety. It may be safer not to look back and see a pattern. Rather, for them, each unique event leads to new distress for which they assume little direct responsibility. This is especially difficult in old age as we recognize a universal tendency to reminisce in the service of self-continuity (and perhaps the development of wisdom). For those in Cluster B, who often suffer from a lifelong identify disturbance, this process of reminiscence (frequently encouraged in therapy) often serves to increase their despair. In a 2015 publication, Personality Disorders in Older Adults: Emerging Research Issues (2015), Van Alphen et al. surmise that recent longitudinal studies that found a decline in Cluster B PDs over time (age) could be a result of “a shift towards depressive, somatic, and passive-aggressive behaviors with aging.”

Their cognitions are also often distorted and are not immune from being affected by the synergistic effects of age-related cognitive changes. Analysis of these distorted cognitions is likely to reveal that they serve, albeit in a maladaptive way, either during periods of instability or following them, the individual’s attempt to achieve a new balance in order to regain psychological equilibrium. The biopsychosocial aspects of age increase an elder’s vulnerability, place great demands on their capacity to adapt to changing life circumstances, and thereby impact their resilience (Van Alphen et al., 2015). Older age presents the individual with the inherent volatility or uncertainness found in later life. The healthy, resilient individual is able to put his energies into growing from experiences, subtly changing, as he copes with, endures, and survives (self-intact) the stress (or press for change). The individual with a personality disorder (i.e., the non-resilient individual), in contrast, will put his energies into resisting change, doing whatever it takes to avoid being changed by experience. As a clinician, I get concerned when an older adult announces to me at age 80, let's say, "I am exactly the same person I was at age thirty." I have to wonder what he has been doing the last 50 years! To support self-continuity, the press to "feel like me" is lifelong and exerts a powerful resistance to change, even where change is adaptive and healthy, and not to change is maladaptive and leads to distress.

Concept of Maladaptiveness

Evolutionary psychologists invite us to consider that traits or trait patterns presenting as maladaptive may have been, at some point in time, cultivated for being adaptive. In consideration of "evolutionary stable strategies" (Segal et al., 2001, 211), these traits can be understood to have enabled individuals to elevate their position in the status hierarchy and thus their reproductive status. These same principles considered at the macro level can also be considered at the micro level. For example, the excessively emotional pattern often displayed by Cluster B individuals can serve to access resources that would protect, or even elevate, their status in a given hierarchy. Consider, for example, the elderly Cluster C individual receiving rehabilitation services at home who keeps meticulous records of every therapy session does the program precisely as ordered and exactly at the preferred time and interval. In another context, say a rehabilitation facility, his insistence on this degree of precision would likely lower his status.

Of essential consideration is that the notion of maladaptiveness, or adaptiveness, is not an independent construct solely dependent on the individual. Whether a core trait or trait pattern is adaptive or maladaptive depends on factors outside the individual, including referents and adjudicators. Svrakic et al. (2008) in suggesting that the clinical category "disorders of adaptation" replace "personality disorders" notes that the "disorder" is not wholly subscribable to the individual, but rather the context, or environment, plays a role in the expressed behavior being adaptive or not. In addition, there is the need of "someone" to identify and label (adjudicate) the behavior as adaptive or maladaptive, and this is cohort, stage, and context informed as well as what the individual presents. This concept has been described as a model of "goodness of fit" between the "personality" and tasks (what is being asked of it), and contexts (where) [see a full discussion in Segal et al. (2001)]. Following this concept, core personality traits that were once adaptive now, in old age, may be maladaptive or, conversely, that were once maladaptive may now be adaptive.

While well-being and happiness have been shown to be quite stable in old age (Collins & Smyer, 2005), and most adults, quite wonderfully, adapt well to the challenges of late life, those with personality disorders do not. Commonly occurring stressors, for example, include the need to rely on strangers for care (whether this be temporary or permanent), to relocate to a new environment (whether this be "elected" or "mandated"), to experience the loss of social supports (whether by death, relocation, or lack of access), and loss of power and control. The experience of stress, whether actual or perceived, reflects to a significant degree how the stressor is perceived and appraised as to how well the individual anticipate he can cope with it (Rossi, Bisconti, & Bergeman, 2007). Specific personality disorders can be expected to have more trouble with some stressors than with others. For example, "reliance on strangers for care" is especially onerous to the individual with schizoid, paranoid, schizotypal, or avoidant personality disorder. The key is that the particular challenge, or accrual of challenges, overwhelms their ability to cope, exceeding the resources, internal and external, that they can bring to bear.

Table 3.1 presents several challenges often faced by older adults and how certain core personality traits and trait patterns can be expected to be adaptive or maladaptive (Table 3.2).

Extraversion: A moderate degree of extraversion in old age appears to be optimal. Too much and the usual aloneness that accompanies old age is experienced as loneliness, as stressful, and often intolerable. Too little and the requisite ability to relate to others is compromised. The talents of many in Cluster B in terms of extraversion can be used adaptively to engage others to help; a charming, colorful interactional style can be used as a highly adaptive coping style. Introversion marks the opposite end of the trait continuum.

Dependence: While dependence is often less valued during the industrious midlife years, it appears to increase in value, and is often actually quite adaptive, in old age. Autonomy, dependency, and reciprocity all relate to resilience, especially in older age. What is most adaptive is that the individual be able to tolerate a reasonable

Table 3.1 Frequent challenges in old age and adaptive/maladaptive core personality traits

Challenge/demand	Adaptive trait(s)	Maladaptive trait(s)
Relocation to new environment	Openness, conscientiousness	Extraversion/introversion
Required changes in self-care	Conscientiousness	Dramatic/histrionic
Reliance on strangers for care	Dramatic/histrionic extraversion	Dependent, a-relational, (Cluster A), avoidant
Lessening of control/ power	Dependent	Narcissistic
More time spent alone	Introversion, conscientiousness	Extraversion, narcissistic, borderline, histrionic
Loss of support	Cluster A	Clusters B and C

Table 3.2 Key characteristics of resilience

Mental	Social	Physical
Adaptive coping styles	Community involvement	ADL independence
Gratitude	Contact with family and friends	High mobility
Happiness	Sense of purpose	Physical health
Lack of cognitive failure	Self-rated successful aging	Self-rated successful aging
Mental health	Social support and connectedness	Physical activity
Optimism/hopefulness	Social support seeker	
Positive emotions	Strong, positive relationships	
Emotional regulation		

Source from MacLeod et al. (2016)

degree of dependence, where appropriate, and to be able to reciprocate, thus converting the dependent relationship into one of mutual interdependence.

Some individuals with personality disorder (notably Cluster A) cannot relate to others and engage them to help. Some (notably Cluster C) are overly dependent and prone to regress in terms of functional ability when they become even more dependent on others (this is not unusual to observe following admission to a nursing home). Some individuals with Cluster B personality disorders, most notably borderline personality disorder, have extreme difficulty tolerating the closeness that comes with needing others and depending on them, often rejecting the person and pushing them too far away, only to be dissatisfied with that option too.

Narcissism: Healthy narcissism is critical to maintaining a sense of self-continuity, especially when, as in old age so much conspires to challenge this. However, extreme narcissistic traits and the manifest behaviors are off-putting and come to deny the care and caring of others. It is not the healthy narcissism, which, in the service of shoring up the battered ego, is problematic. Rather it is that the person goes about securing the necessary nutrients to shore up the self in a way that is practically guaranteed to have the opposite effect. In contrast, the resilient individual would be able to shift approaches in order to secure what he needs from another individual or from systems of care. The individual with a personality disorder continues to do the same maladaptive song and dance, only doing it louder and stronger when it does not have the desired effect.

Conscientiousness: This refers to achievement or goal direction and organization. It is manifested through self-discipline, self-control, and perseverance versus laissez-faire behavior and impulsivity. In the extreme, this pattern describes the classic workaholic. In moderation (or a bit more), it is often highly adaptive. (Consider trying to get through graduate school without being high in conscientiousness.) However, also consider what might happen when an older highly conscientious individual comes to need to rely on others who may not be as conscientious? How does she secure the requisite level of care to meet her own conscientiousness needs? The way this is done, and the result of this, comes to define whether her efforts are adaptive or maladaptive.

Openness: This refers to the individual's receptiveness to new ideas, experiences, and approaches. This receptivity is applied to creating ways to address challenges in novel but appropriate ways (aka adaptive). The individual with a personality disorder embraces a very narrow repertoire of responses, cognitively, affectively, and behaviorally; stereotypically a "Johnny-one-note." If the response "fits" in terms of the challenge and context of the challenge, it is adaptive, if not then it is maladaptive. The old adage "a little goes a long way" can be applied to personality traits. It is the extreme traits (Svrakic et al., 2008) or inappropriately applied traits that come to define what is maladaptive.

Resilience: Features and Challenges

This volume is devoted to a review of what we know about resilience in old age and what questions are raised. Many academicians have addressed, in work theoretically and empirically based, the concept of resilience in old age (Bergeman & Wallace, 1999; Staudinger & Fleeson, 1996; Windle, Markland, & Woods, 2008; Jeste et al., 2013). There have emerged significant, creative, and well-considered differences of course, but there does appear an apparent consensus as well and that is this: the resilient older adult is able to tolerate the vicissitudes of aging, defray the overhead of growing old, better than others, from whom these extract far greater cost. Those with personality disorders pay the most dearly.

Functional impairment varies across the ten Personality Disorders and from person to person. Some patients are nearly incapacitated by relatively mild symptoms while others successfully function despite moderate to severe symptoms. This variable interaction of psychiatric symptom severity and functionality "reflects an axis of risk/resilience that is partly distinct from risk for the psychiatric disorder itself." (McGrath et al., 2013). Resilience can moderate the tension between symptom severity and the level of realized disability. We recognize that there are biological, psychological, and social contributions to resilience whether these are considered as a style of adaptation (Yates et al., 2003), explanatory processes, competencies or outcomes, and that resilience is often defined by how it is operationalized (Svrakic et al., 2008; Leipold & Werner, 2009). The concept of psychological resilience suggests that resilience directly reflects a pattern of personality traits, which are mainly stable (Asendorpf & van Aken, 1999; Weed, Keough, & Borkowski, 2006; Windle et al., 2008). Most define resilience as the ability to bounce back and recover after a major stress or negative life event (Tugade, Fredrickson, & Barrett, 2004; Windle et al., 2008; Smith et al., 2008; Rossi et al., 2007). The aspects within a whole construction of resilience, assessed by measures developed to do so, include many "items" relating to personality traits (Smith et al., 2008; Bartone, Ursano, Wright, & Ingraham, 1989). Often considered, for example, are self-efficacy, self-esteem, self-confidence, self-discipline, self-control, and self-acceptance (Rutter, 1987; Masten, 1999; Ryff & Singer, 1996). A common substrate or core appears to be a gestalt incorporating personal competence, self-esteem, and interpersonal control (Windle et al., 2008); in older age, resilient individuals have access to psychological resources, which allow and enable these. As we have discussed, those with a personality disorder are among the least resilient, the least hardy, the least able to handle the challenges of aging.

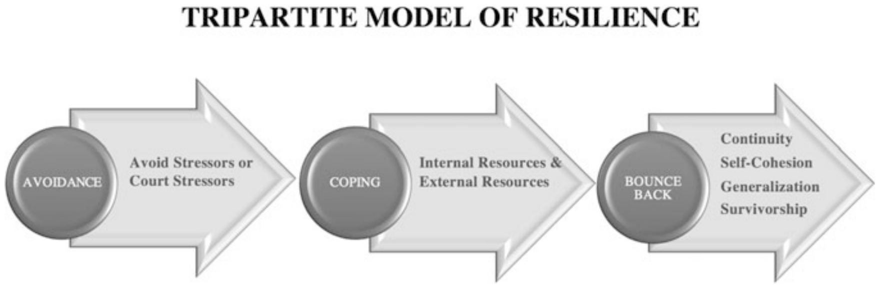
Resilience in older adults may be different than in younger adults, and not only because of differences in what is being asked of the individual. Lamond et al. (2008) studied predictors of resilience in older women using the Connor–Davidson Resilience Scale (CD-RISC) and reported somewhat different findings than those previously reported for younger adults using this scale. For both populations, the CD-RISC scores were positively correlated with task-focused coping strategies and negatively with emotion-focused coping. However, with older women, the scores were also associated with tolerance for negative affect and adaptability, the lack of which are hallmarks of personality disorders. Kessler and Staudinger (2009) found that negative arousal decreased from middle age to older age and that older subjects evidenced advantage in perceived affect regulation.

Three Major Functions of Resilience (And How These Relate to Personality Disorders)

Aging is accompanied by many losses: health, financial security, functional abilities, roles, and relationships. Psychologically healthy older adults manage these losses well (Collins & Smyer, 2005). In contrast, older adults with personality disorders do not manage losses well. For example, loss of personal control can be expected to be especially difficult for those in Cluster B who also may have extreme difficulty tolerating negative affect. Those personality disorders marked by chronic anger, hostility, and suspiciousness evidence impaired physical resilience (Smith, 2006) as well as impaired psychological resilience.

Personality has been clearly shown to relate to exposure and reactivity to stressors (Stawski, Sliwinski, Almeida, & Smyth, 2008). As noted, individuals with personality disorders are inherently more vulnerable to stress than are other individuals. As such, their reserves of resources (internal and external) for coping are tapped more frequently and more extensively. In contrast, the resilient individual is able to (1) avoid avoidable stressors, (2) cope with stressors that are not avoidable, and (3) equilibrate or "bounce back" from stressors that have been experienced.

Tripartite Model



Avoidance

The ability to avoid stressors is less frequently discussed as an aspect of resilience in the literature than is coping or re-equilibrating, but it may have special relevance to the individual with a personality disorder. Consider that the core of these disorders is vulnerability of the self. Therefore, all aspects that resilience depends upon will be vulnerable. This essential vulnerability is what is measured by the Neuroticism (N) factor of the Big Five (McCrae & Costa, 1990); a high N is a marker of a vulnerable personality. Consider also that self-efficacy, self-esteem, self-confidence, self-discipline, self-control, self-acceptance, all depend upon a reasonably intact and integrated self. Some types of personality disorder are known for not only avoiding stress where possible, but rather their lives reflect a history of having courted stress and chaos. The borderline personality disorder quickly comes to mind but also consider the individual with avoidant personality disorder. She or he has suffered distress by being a-relational while yearning for relationality, thereby increasing the experience of stress (this is in contrast to the individual in Cluster A for whom the a-relational experience is ego-syntonic). In a discussion of the mechanisms of association between personality and physical health, one of the models proposed by Smith (2006) is the “transactional stress moderation model” which posits that personality influences not only reactions to stresses but also exposure to stresses “through decisions to enter or avoid situations, unintentional evocation of responses from other persons, and intentional impacts on others” (p. 225). Those with personality disorders cannot save themselves nor can they stay away from deep and troubled waters.

Coping

There are also protective resources that serve to mediate between the stressor and what is done to regulate the stress, including both internal and external resources (Pearlin & Skaff, 1995). With age, such protective resources become ever more important (Rossi et al., 2007). One such internal source of mediation is the way in which the individual is prone to appraise stressors (Rossi et al., 2007), whether these are as challenges, hassles, or threats. Non-resilient responses to stressors have been demonstrated to describe more severe stressors than those demonstrating resilient responses (Hildon et al., 2008). The way the individual responds reflects the individual's prior history with coping in general, coping with like events, a felt sense of current vulnerability (which can be impacted by current health status), as well as what resources he believes he can bring to meet the demand. This is consistent with the "interactional stress moderation model" (Smith, 2006), which suggests that personality influences both the appraisal of and coping responses to stressful experiences.

Resources the resilient individual brings to dealing with the challenge rely upon their internal and external resources (Hildon et al., 2008). Some ways of coping are strictly cognitive, for example, constructing a narrative that allows them to revisit and reconstruct previous experiences in ways that can guide and support their ability to deal with current ones. While well-being is generally stable in old age, self-esteem has been shown to be more variable (Collins & Smyer, 2005). A more highly developed cognitive structure can be important in the maintenance of support of self-esteem. In addition, keeping up with one's usual social activities and continuing one's social roles can be useful. Facing challenges, individuals often rely on ongoing relationships, including spiritual relationships; being able to lean on others for guidance and strength during times of adversity and stress. The individual with a personality disorder will likely have an impoverished, chaotic, and conflicted social network, people unavailable or unwilling to be relied upon to help.

Re-equilibration ("Bouncing Back" and "Re-centering")

Recovery from stress involves a self-regulation process which incorporates the abilities to control emotions and to "choose" (volition, motivation, cognition) (Beckmann & Kellmann, 2004) to re-center after the event has been experienced. It also incorporates the (now past) experience in such a way as to reinforce self-continuity and a sense of survivorship. These processes, culminating in the integration of the experience or re-centering, depend in large measure upon the individual's abilities to reflect, observe a pattern, take this pattern as object for evaluation, and acknowledge one's role in it. Being able to do so further defines the resilient individual. This also defines where the individual with a personality disorder is likely to fail. In their consideration of the concept of resilience as a critical aspect of a conceptual bridge between coping and development, Leipold and Werner (2009) suggest that the process of coping, coming through life experiences, contributes to the individual's development even without outward manifestations of change; the individual has arrived at a new centered state.

Clinical Utility: Implications for Treatment

Personality disorders do not in the main "go away" in old age. They continue to affect treatment, albeit while the disorder is often left unaddressed in a treatment plan. This omission is likely to result in significant challenges to the treatment, compromising its efficacy or outright dooming it to failure (Devanand et al., 2000). Those with personality disorders in general have difficulty in creating a therapeutic alliance, are prone to terminate treatment prematurely, and are less compliant with treatment protocols than are those without personality disorder.

In addition, the individual with a personality disorder functions "as if" in accordance with certain rules which contribute to making any treatment in the service of change very difficult. These putative rules operate to direct or govern his thoughts, feelings, and behaviors. One rule is that the personality traits are, even when causing or contributing to his distress, ego-syntonic. To him, whether or not they are maladaptive is not the issue. Rather, the issue is to maintain his center "as is." This is the press for "feel like me-ness," and, even if frankly counterproductive, he will do what needs to be done to get the response he needs (from others, from the system, the environment) in order to restore or reinforce this position. This "rule" is behind a question I've often heard in consultation: "If he knows this makes people so angry at him, why does he continue to do it?" He continues to "do it" because the response he gets confirms his center and, to him, "feels like me." In addition, he has limited flexibility to shift his responses, a limited repertoire of responses to call upon, and limited ability to accommodate and integrate what change that does occur. He is, the elderly individual with a personality disorder, non-resilient.

Another "rule" is that the press for change is externalized, characterized by the perception: "I'm not the problem. The problem is out there." Yet another rule is that what problems, issues, or stressors occur are, each one, unique; there is no pattern to the individual's involvement in them. She feels that what she does is the only right response possible, so is closed to the possibility of change. And finally, personality disorder respects a rule of an illusion of uniqueness. This defines a major distinction between the Axis I and I disorder. Personality disorders are not experienced by the individual as episodic or adventitious, as is the case with other clinical conditions. Rather, they are the individuals, and this includes how they are reacted to. As noted earlier in the chapter, the effect (and thus responses to the effect) they have on others is a central and robust feature of personality disorder throughout life (Segal et al., 2001).

How might this concept of personality disorders behaving "as if" rule-governed guide or inform treatment? Are there ways in which resilience might be trained or enhanced? To begin, the requirements for treatment or intervention would need to respect these rules. In addition, as consistent with any offer of treatment with older adults, what is offered needs to be clearly relevant to what the individual comes to treatment for, to respect the individual's self-resources (time, money, energy), to appear doable, and to predict a positive effort/benefit balance. Treatment involving the older individual with a lifelong personality disorder may in addition have special goals related to the Tripartite Model of Resilience. These include goals related to relief of symptoms, avoidance, coping, and re-centering.

Relief of symptoms: It can be difficult for patients with personality disorders to communicate the level of distress they experience from their symptoms, and even more difficult for clinicians to recognize and acknowledge that distress. This can result in divergent views on the level of distress symptoms cause the patient. Clinicians should, above all, offer treatment that first addresses the relief of symptoms experienced by the patient. While pharmacological treatment is not designed to address the personality disorder itself, it is often a reasonable first line of treatment to address manifest symptoms and relieve distress from frequent comorbid conditions, primarily anxiety and mood disorders but also transient psychosis, agitation, and impulsivity. Psychological treatment, in addition, has the goal of helping the individual accommodate what change is necessary and helping him to adjust to a new reality without (to the extent possible) forcing upon him a new, unrecognizable sense of self. The ideal intervention, of course, would be effortless, seamless, and invisible. Alas!

While it would be cruel (and perhaps unethical) to compel an individual to see the pattern that is his personality has led to his misery, how he has been responsible for this, and how this pattern has caused misery and pain throughout his life, it is a goal of treatment to give the individual tools to reduce "excess misery" in the future. Consider this in terms of the functions of resilience discussed in the Tripartite Model of Resilience.

Avoidance: Can she be led to see "trouble down the road"? Can she be helped to use past experiences to think about/talk about how she could be able to see this? Can she brainstorm ways she might be able to avoid trouble? This approach does not require that she shift her attribution of the source of the trouble, or force ownership of it, but it focuses rather on empowering her ability to have some control over the situation; that trouble often just does not "happen." If she can see it, she might be able to avoid it, even if she attributes the cause to being "out there."

Coping: The vicissitudes of aging are legend; some "troubles" cannot be avoided. A guided review of how he has coped in the past is a good place to begin. The next step could be identifying what has worked and what has not worked. A more refined next step could be identifying what has worked for specific challenges, in specific contexts, etc. A psychoeducational piece can be helpful by setting out a smorgasbord of coping options; identifying which ones have been considered and tried before and which have not. A skill-building piece can follow this nicely. The therapy has now served to expand the repertoire of coping/responding to stressors.

For example, for those with affective dyscontrol, the role play can be used to intensify the affect while simple behavioral techniques for stress reduction can be used to reduce the affect.

Re-centering: This phase or function incorporates a number of aspects including reviewing the experience ("What occurred?"); reviewing the response ("What did you think? Feel? Do?"); and evaluating the response ("What happened?" "Did it work for you? Did you get what you needed or wanted?"). If "yes," then the next phase is to reinforce the response as under her control and as adaptive. If "no," then the next phase is to generate alternative responses, which might have been more adaptive. The goal of the final phase is to help the patient integrate and assimilate the experience, achieving a new center. This defines the processes of "working through" and effecting closure. An ideal outcome would be that the individual comes to trust that, as life continues on, one can change and remain the same.

It is beyond the scope of this chapter to discuss specific psychotherapies, but the use of the therapeutic encounter as a microcosm of the real world of the patient has special relevance for the patient with a personality disorder. The clinician's response to the patient, in psychoanalytic parlance the countertransference, is, as has been noted, a core and robust feature of the disorder. This can be used to understand the patient's experience of the world and the world's experience of the patient. This helps illuminate what is maladaptive. The countertransferential response can be positive or negative. For example, feelings of heightened protectiveness are often in response to someone with a dependent personality disorder. Feelings of intimidation or conversely of omnipotence can be in reaction to the individual with a narcissistic personality disorder. A response of extreme frustration, a feeling of being manipulated, might be in response to the borderline character. The essential point is that the reaction is not just ambient noise in the treatment but rather can be used to understand the phenomenology of the patient and guide the treatment.

There are certain recommendations, which can be made whatever specific psychotherapy is used. The therapy should be focused, directive, active, cooperative, engaging, supportive, and encouraging of self-efficacy and responsibility. The common goals are to address the specific (here and now) problem(s), improve essential interpersonal relations (those relevant to the problem), limit maladaptive responses, expand the response repertoire, and coach the selection of responses to improve the probability of their being adaptive.

The therapist can also focus on improving resilience characteristics. "The key characteristics of high resilience among adults age 65 and older include mental, social, and physical factors." (MacLeod et al., 2016). Although individuals with Personality Disorders lack many of these characteristics, there are opportunities to focus on those traits they possess or can learn.

Mental: The mental characteristics associated with resilience offer both obstacles and opportunities for improvement and can be best addressed within therapy.

Social: The lack of close relationships, social support, social integration, and intact social interactions are hallmarks of the social deficits found in individuals with Personality Disorders. Compounded by losses in old age, elders with PDs typically have limited access to other people they can depend in times of adversity or stress. The social aspects of resilience are the most challenging of the three domains for individuals with PDs. However, the pervasiveness of technology in everyday life offers opportunities for social integration and experiences that were not available 10 or 15 years ago. With access to a smartphone, tablet, or computer, elders with Personality Disorders can interact with people electronically.

Physical: The physical domain is one in which elders with PD can be on nearly equal footing with their peers. As long as they can successfully perform their ADLs, and remain physically healthy, elders with PDs can shine in their sense of physical being and resilience. The mind–body connection has gained a strong foothold in the understanding and treatment of mental illness. Physical activity has the added benefit of reducing depression. “In some studies, exercise was as effective as antidepressants in treating mild-to-moderate depression.” (Southwick & Charney, 2012). Exercise offers individuals with PDs the opportunity to improve their resilience and mental health on their own and offers social interaction and community opportunities.

High coping self-efficacy is highly predictive of resilience and adjustment.” (Southwick & Charney, 2012). Southwick and Charney reflect, “Having confidence in one’s capacity to deal with stress may increase a sense of control.” High coping self-efficacy can be developed through mastery experiences, where the individual takes steps to deal with a stressor, reviews those steps, cogitates adjustments for the next stressor, reviews the outcome, and so on, until a sense of mastery is formed. In their 2015 book, Cognitive Therapy of Personality Disorders, Beck, Davis, and Freeman reference Padesky and Mooney’s four-step model to build resilience, incorporating best-practice CBT into a strengths-based model. According to Southwick and Charney (2012), cognitive reappraisal is strongly associated with resilience.

Conclusion

Why is resilience important in old age? According to Padesky and Mooney (2012), resilience helps people manage life events and navigate obstacles, and acts as a buffer to physical and psychological challenges. Resilience varies from person to person and fluctuates over the lifespan. Some people do not develop resilience; others do not recognize it in themselves. Personal resilience can be worn down by multiple stressors, inadequate coping mechanisms, sheltered lifestyles, social isolation, or personality deficits. Individuals with Personality Disorders may be at greater risk for either not developing strong resilience or for wearing down their resilience from facing continued interpersonal adversity.

There are numerous challenges inherent to growing older, to becoming old. It is the resilient individual who can survive what are often frank assaults on one's integrity and sense of self. The individual with a lifelong personality disorder is less equipped to handle life at any stage, but perhaps especially in old age which is a stage defined by having inexorably run out of time to do it over again. What is adaptive in old age is the ability to achieve a balance between maintaining one's autonomous functional integrity, where reasonably able, and effecting mutual independence with others, where reasonably necessary. It is of course at this juncture of interpersonal relationships where the older adult with a personality disorder can be expected to have the greatest difficulty.

For all of us, our personalities are ego-syntonic and actually define us. For the individual whose way of being in the world has repeatedly caused distress and impaired successful functioning in important life spheres, it is even so ego-syntonic. Adaptive or maladaptive, there is a fierce press to remain our essential selves throughout life. It is hard to change. It becomes even more difficult to change with advanced age. Change takes energy. For those who have historically been change aversive, those whom we recognize as being more rigid than flexible, the need for change, especially multiple changes, in later life can be experienced as intolerable. In addition, for those with a lifelong personality disorder, their relationships with others are often the source and focus of their distress. At a time in life when the ability to secure and tolerate mutual interdependence becomes the coin of the realm, they are impoverished. Their limited access to external resources mirrors their limited internal resources.

Old age is also a time in life marked by uncertainty, both actual and existential. Uncertainty itself is a handmaiden of old age, and for the individual with a personality disorder, uncertainties are experienced as distress and pain.

As we understand personality disorders, we recognize that they reflect biological irregularities, and are shaped by the environment, life experiences, and the process of aging. The particular interaction of innate and external factors conspires to lead to maladaptive manifestations of the personality traits, be they affective, cognitive, or behavioral. These then contribute to impaired functioning and the experience of distress.

Changes with advancing age include biological changes, and the accrual of challenges and losses, including the loss of roles and relationships, which had, earlier, in life, served to contain, mediate, and attenuate the expressions of the psychopathology. The synergistic effect of aging and a personality disorder serves organically to intensify the rigidity of the affects, cognitions, and behaviors even as the lifelong press for self-continuity goes on (Hooker, 2000).

In resilience lies opportunity. As people with PDs mature, observable PD traits often move more towards the continuum norm. For some, experience provides a foothold and roadmap to avoid or prevent stressors and develop dependable internal pathways to help modulate reactions that result in predictable responses. For others, the effects of aging experiences lessen the characterological load. Self-appraisal in either case becomes more reflective and for many, hopeful. Although this self-reporting may be less than accurate, it is within that space of reflective hopefulness that even in older age, change happens. Small improvements and adjustments can make a difference in old age and positively impact the trajectory of later years. A resilient old dog can learn new tricks and be able to use them adaptively. In old age, resilience often means calling in one's chips to shore up overly challenged internal resources. The good news, as the research informs us, is that most older adults, even in advanced old age, are impressively resilient and able to fare remarkably well.

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What Do We Know About Resilience in Older Adults? An Exploration of Some Facts, Factors, and Facets

Phillip G. Clark, Patricia M. Burbank, Geoffrey Greene and Deborah Riebe

Abstract Conceptualizing resilience in older adults presents unique potentials and pitfalls. Facts, factors, and facets that influence or are, in turn, affected by resilience are subjects of ongoing research. The purpose of this chapter is to construct a framework for sorting out the complex, confusing, and sometimes conflicting relationships among these different dimensions. We employ an interdisciplinary approach, highlighting the important contributions that different fields of study make to an understanding of the concept of resilience related to older adults. This chapter is structured around the following key dimensions of resilience: (1) traits and processes, (2) stresses and adversities, (3) life story and narrative, (4) life meaning and spirituality, (5) resilience metaphors, and (6) specific components of the resilience repertoire. It concludes with a discussion of how this deconstruction and interrogation can create a conceptual and practical framework.

Keywords Resilience · Older adults · Traits · Processes · Stresses
Narrative · Meaning · Spirituality · Metaphors · Health · Resources

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Introduction

Research on the concept of resilience and its relevance to aging and older adults has grown substantially in the years since this chapter and book were initially published in 2011. This rapid expansion of interest in the concept of resilience, and its application to older adults in community and clinical settings, is evident in journals across several fields, including both health professions and social science disciplines. This development is an indication of resilience's growing relevance for understanding the health and well-being of older adults, especially as they encounter the stresses and strains that often accompany the aging process. What is also striking is the expansion over the past few years in the number of approaches and perspectives for understanding resilience, revealing the concept's resonance with researchers from many different backgrounds. This growing body of literature literally embodies the many facts, factors, and facets of the concept of resilience, how it might be understood, and, perhaps most importantly, how it can be promoted with older adults.

Indeed, conceptualizing resilience itself presents unique potentials and pitfalls, as is exemplified in the other chapters in this book. Is resilience a personality trait, a developmental process, or both? Is it a single trait, or actually part of a larger constellation of related personal characteristics? Does it remain constant or change over time? Can it be taught? Seeking answers to these questions is both complicated and facilitated by the use of different disciplines and research methodologies to study the concept of resilience. Observers of this requirement for conceptual clarity (Becker & Newsom, 2005) have brought attention to the pressing need to deconstruct the essence of resilience and to "interrogate the social, cultural, and economic dimensions that shape it" (p. 221). An important objective of this chapter is to provide an initial step toward this deconstruction and interrogation.

Additionally, factors that influence or are, in turn, affected by resilience are also subjects for study and research. For example, what is the relationship between resilience and psychological well-being, physical health, social support, and economic resources? Additionally, how is our interpretation of resilience shaped by our understanding of factors both internal and external to the individual, as studied by different research traditions in gerontology (e.g., qualitative vs. quantitative)? It has been said that, "we don't see things as they are; we see things as we are" (Anaïs Nin, as cited in Baldwin, 2016, p. xii–xiv), and so it is with the concept of resilience and its interrelated facets.

The primary purpose of this chapter is to construct an initial framework for sorting out these complex, confusing, and sometimes conflicting relationships, in a way that both broadens and deepens our understanding of the factors associated with resilience and its importance for older adults. In particular, we employ an interdisciplinary approach, highlighting the important contributions that different fields of study make to an understanding of the facts, factors, and facets surrounding this emerging concept. If, as suggested above, "we see things as we are," then differing views and perspectives are needed to assemble a complete and accurate understanding of any multifaceted and multidimensional concept.

This chapter is structured around the following key dimensions of resilience as they have emerged in the literature: (1) trait and process dimensions, (2) stresses and adversities, (3) life story and narrative, (4) life meaning and spirituality, (5) resilience metaphors, and (6) specific components of the resilience repertoire. We end with a discussion of overall conclusions of this deconstruction and interrogation effort to create a conceptual and practical framework.

Trait and Process Dimensions

Resilience is often conceptualized as a combination of, and interaction between, a personal trait and a developmental process (Fletcher & Sarkar, 2013; Ong, Bergeman, & Boker, 2009). Recently, this distinction has grown in importance, with the emphasis shifting toward the latter dimension. In other words, more and more research seems to focus on understanding how resilience is developed and the factors that contribute to its achievement.

As a personality trait, resilience is characterized as "ego resilience" and defined as a set of personal traits that underpin resourcefulness, strength of character, and functional flexibility in responding to external or environmental demands. Individuals with high ego resilience typically have high energy levels, a sense of optimism, curiosity, and an ability to detach and conceptualize problems (Fletcher & Sarkar, 2013). These "protective factors" can affect how an individual responds to stresses and strains, notably in terms of reducing the likelihood of their causing a negative outcome. The concept of "resilience cascade" has been used to suggest that trait resilience can set into motion positive experiences and emotional states that synergistically lead to positive outcomes (Ong et al., 2009).

However, more and more research underscores the important insight that trait or ego resilience is not the same as resilience. The latter concept is conceptualized as based on a dynamic and developmental process, a complex interplay between the experience of adversity and the corresponding response from individuals over time to result in positive adaptation (Fletcher & Sarkar, 2013). Resilience is a capacity built up over time, one that is acquired and strengthened through responding to stresses and strains over the life course. This process-based interpretation suggests a complex interplay between internal and external dimensions of resilience through interaction between the individual and his or her environment. The notion of "accumulated resilience" captures this temporal dimension as a developmental process and underscores its transformational impact on the individual (Manning, 2013).

Research on the related and earlier concept of "stamina" by Colerick (1985) reinforces the importance of understanding an older individual's life history and how adversity has been addressed previously and incorporated into current experience. In this research, stamina is characterized by five different dimensions, based on the analysis of extensive interview data: (1) capacity for growth, (2) personal insight, (3) life perspective, (4) likelihood of functional breakdown, and (5) general competence. Both good physical health over the entire life history and greater levels of educational attainment were related to higher stamina. These findings are significant, because they emphasize the need for a life course perspective on resilience and suggest the possibility of a resilience "trajectory" in old age based on previous experiences of coping with challenges in one's life (Ong et al., 2009).

Stresses and Adversities

It is important at the outset to consider the types of stresses and adversities likely to be encountered as one grows older and faces the increased risk of the losses and challenges associated with advancing age. Perhaps not unexpectedly, the research on resilience seems to emphasize the responses by older adults to life events more than the specific, in-depth description of the dimensions of these events themselves. This may not be surprising, given the fact that research on stress has suggested that it is not so much the event itself that may be stressful, as the meaning or significance of the event to the individual and the larger context in which it occurs (Hardy, Concato, & Gill, 2002; Masuda & Holmes, 1978).

Ryff, Singer, Love, and Essex (1998) have suggested that resilience in later life should be focused on the potential of older adults to maintain their mental health in the face of threat or risk. Some gerontological research has specifically been directed toward determining the types of adversities that can be expected with increasing age and that therefore may serve as the basis for stressors. For example, Hildon, Smith, Netuveli, and Blane (2008) suggest that "adversity [centers] on limited circumstances and opportunities brought about by physical, mental, or social losses" (p. 737), which are most often related to the death or illness of a loved one, one's own poor health, or circumstances in retirement. They also propose a temporal dimension to understanding adversity, and recommend capturing changes in these domains over multiple years and based on deteriorating health, increased stress, and worsening life circumstances. Some research suggests that resilience may be more prevalent among the old-old than among young-old adults (Mehta et al., 2008; Seplaki, Goldman, Weinstein, & Lin, 2006), reflecting this life course perspective.

In this research, in particular, health issues play a central role. For example, Netuveli, Blane, Hildon, Montgomery, and Wiggins (2006) and Netuveli, Wiggins, Montgomery, Hildon, and Blane (2005) have reported that poor or declining health reduces the quality of life of older adults, particularly when it results in physical impairment or functional limitation. Hildon, Montgomery, Blane, Wiggins, and Netuveli (2010) extend this insight by demonstrating that the experience of adversity is magnified by the limiting effects of health problems, such as impacts on activities of daily living (ADLs). In addition, they may be less easily managed and be experienced as problems that have become compounded and gotten worse over time.

The research of Hardy et al. (2002) specifically assessed stressful life events among community-dwelling older adults. It was found that among their subjects 18% identified a personal illness or injury, 42% the death of a family member or friend, 23% the illness or injury of a family member or friend, and 17% a non-medical event over the previous 5 years. The last category included such events as victimization and changing residence, as well as events affecting another family member (such as the divorce or unemployment of a child). A significant finding from this research is that medical and nonmedical events may be of equal importance in their impact on the lives of older adults.

More recent research by Hildon et al. (2010) defined the adversities examined as "being limited by ill health or (in the past five years) deteriorating health, having more stress, changing life circumstances, being worse off financially, and experiencing a negative or difficult event such as bereavement" (p. 39). Importantly, they also suggested that negative life events, including both bereavement and retirement, may be acute or chronic. For example, the death of a spouse can continue to interfere with the daily routine of the survivor, serving as a constant and ongoing reminder of the loss. In their research, they found that 34.5% of respondents had experienced worse health, 33.3% more stress, 23% worse life circumstances, 40.8% limiting illness, 19.5% worse finances, and 71.3% had a negative life event in the past 5 years.

Enriching these results and insights for understanding the circumstances of adversity are studies focusing on specific types of stressors. For example, the experience of illness has been explored in the context of dementia (Harris, 2008) and serious chronic conditions (Becker & Newsom, 2005). Importantly, the latter study added the dimension of ethnicity to the need for a complete understanding of the role of a life course perspective within the broader cultural, social, and economic context of adversity, a theme also captured in other research (e.g., Felten, 2000). Still other studies have gone into more depth in exploring the circumstances surrounding adversity in bereavement and widowhood (e.g., Bonanno, Wortman, & Nesse, 2004).

The collective importance of these studies is that they draw attention to questions about the nature or types of stressors, the possibility of additive or cumulative effects of adversity, and its duration and whether it is acute or chronic. Each of these aspects may create very different and challenging experiences for older adults, depending on their total set of life circumstances and resources for coping.

Life Story and Narrative

An interesting and emergent approach to understanding and studying resilience is narrative, both as a conceptual framework and as a research methodology. Narrative represents an innovative way to explore the interrelationships within resilience as a trait and a process, and provides important insights into the lived experience of stressors and resilience.

This dimension of the emergent conceptualization of resilience includes that of life story or personal narrative, a theme of growing importance and relevance in gerontology generally (Birren, Kenyon, Ruth, Schroots, & Svensson, 1996; Kenyon, Bohlmeijer, & Randall, 2010; Kenyon, Clark, & de Vries, 2001). In this context, the meaning assigned by individuals to life events and adversity, and how this meaning is incorporated into their ongoing development of self-identity to maintain constancy and continuity across their lifespan, can itself become a resource in the face of life's adversity (Collins & Smyer, 2005; Hildon et al., 2010). As Windle, Markland, and Woods (2008) point out in the area of psychological resilience, such divergent theorists of aging as Erikson, Erikson, and Kivnick (1986) and Kaufman (1986) both underscore the importance of the continuing development of the self across the life span and the emergence of life themes and wisdom as a key component of resilience in old age.

As an example of research using a narrative approach, Randall, Baldwin, Mckenzie-Mohr, McKim, and Furlong (2015) used a mixed-methods approach to explore resilience in a sample of community-dwelling older adults. Comparing those who scored higher with those who scored lower on a quantitative measure of resilience, the researchers found that those with higher resilience levels told personal stories during an interview about their lives that revealed higher levels of personal agency, openness, positivity, autobiographical reasoning, and identification with a larger reality or cause outside of themselves. Randall et al. (2015) concluded that more resilient older adults story their lives in distinct ways, with thicker, richer, and more detailed and complex narratives that are stronger and more robust than those who are less resilient.

Another example of a research method using a life narrative approach is the work of Browne-Yung, Walker, and Luszcz (2017), who sought to understand the procedural aspects of resilience by focusing on a holistic, multidimensional approach incorporating psychosocial and cultural factors. Using the characterization of the "life narrative," through semi-structured interviews they sought to identify ways in which older adults coped with the challenges of aging. The results of their study connect self-identity with individual coping styles and reveal four major themes: (1) adaptation to aging-related physical changes, (2) changes in social networks, (3) continuity in sense of identity to maintain unity and life's purpose, and (4) redemptive capacity to adapt positively to life challenges. Importantly, the researchers found that by exploring the significance of events over a lifetime, they could determine how coping strategies used to deal with adversity were "reutilized and adapted to new situations to provide continuity to deal with new challenges" (p. 289). This finding reinforces the conceptualization of resilience as a dynamic developmental process.

Another narrative study relying on a qualitative methodology using a combination of focus groups and interviews sought to characterize how older adults understood resilience based on their own life experiences (Wiles, Wild, Kerse, & Allen, 2012). Resilience was found to incorporate both internal and external resources. The former included (1) attitude, (2) counting blessings, and (3) having purpose and keeping busy. External resources involved (1) social resources and

(2) environmental dimensions. The researchers concluded that resilience was not merely a trait or a behavior, but rather an ongoing, multidimensional, and contextual process.

Overall, the concept of narrative as a framework for both conceptualizing and researching resilience presents new and exciting opportunities for gaining insight into the lived experience of older adults who face the stresses and strains associated with aging and especially with very old age. In this sense, the approach is based on the seminal work of such investigators as Kaufman (1986), whose research established the importance of life themes as ways to symbolically maintain continuity of the self over the life course, based on the building blocks of identity provided by specific cultural, social, and historical contexts. Resilience thus becomes another element of the self in interaction with the environment over time, a dynamic and developmental process.

Life Meaning and Spirituality

Related to the life story and narrative dimension, meaning in life has been identified as an important dimension of resilience among adults and older adults in several studies. For example, Heisel and Flett (2016) identified perceived meaning in life as a factor related to resilience, and in a longitudinal study they found that it may be an important factor in promoting mental health and well-being and potentially conferring resiliency to suicidal ideation in later life. Having meaning and meaningful relationships was identified as a theme in an exploratory study of resilience among adults who have experienced mental illness (Edward, Welch, & Chater, 2009). Meaning-making was also found to be essential to resilience in Greene and Graham’s (2009) study of Nazi Holocaust survivors, and in Gosselink and Myllykangas’ (2007) research on older women living with HIV/AIDS. Overcoming loneliness through maintaining connections to others was found to be key to resilience for older widowers after the death of their spouses (Crummy, 2002). In a recent study by Musich, Wang, Kraemer, Hawkings, and Wicker (2018), resilience was found to be one of the strongest characteristics of those older adults with medium and high purpose in life, which was strongly associated with improved mental and physical health outcomes. A questionnaire to measure meaning in life has been validated by Hallford, Mellor, Cummins, and McCabe (2018), and a new instrument for measuring resilience for patients with cancer includes a meaning for existence factor (Ye et al., 2018). Taken together, these studies support the earlier work by Burbank (1992) that meaning in life—especially meaning in relationships with others, spirituality, and activities—is key to health and resilience.

A dimension of resilience related to life meaning is that of spirituality, one that was previously alluded to in the work of Randall et al. (2015). Spirituality is conceptualized as a major resource upon which to draw as older adults cope with life adversities, and resilience over the life course is tied to thick, rich narratives about spirituality. Based on in-depth interviews with older adults, Manning (2013) found that spirituality served as a protective factor and a pathway in dealing with adversity, and was tied to a developmental process through which resilience accumulated over time. In her research, she found that three themes emerged as components of spiritual resilience: (1) a web of divine support, (2) having a purpose, and (3) being profoundly grateful (Manning, 2014).

Resilience Metaphors

Thinking metaphorically can be helpful in furthering our understanding of, and insights into, complex and complicated concepts. A metaphorical representation can provide new avenues of understanding to guide both research and application. Metaphor-based approaches may be particularly useful in gerontology, shedding new light on interdisciplinary correlations and connections (Kenyon, Birren, & Schroots, 1991), and this is particularly the case with understanding resilience.

Buffers of Old Age

Early research on resilience as a general concept suggested that it be thought of as a "buffer" between adversity and negative outcomes, as a protective or insulating factor (Rutter, 1987). This term had already been used previously in epidemiological research in gerontology to interpret some significant health-related outcomes from the involuntary relocation of older adults in the community (Kasl, Ostfeld, Brody, Snell, & Price, 1980; Ostfeld, 1985). In this research, the "buffers of old age" included such external factors as social support (having a child living within a 50-mile radius) and internal factors as life meaning (having a sense of oneself as a religious person).

The concept of "buffers of old age" has reappeared again more recently in the gerontological literature as tied to the concept of resilience to describe protective factors that seem to mediate between stressful or adverse events and consequent behaviors or protective responses (McKibbin et al., 2016; Wagnild, 2003; Wagnild & Young, 1993; Windle et al., 2008). This concept may be considered to capture both "intrinsic" factors, such as personality traits of flexibility, and "extrinsic" elements, such as social support. In terms based on Bourdieu's (1986) capital framework, resilience includes elements of both human capital (i.e., resources within the person) and social capital (e.g., social networks and support) that can be used to convert resources into adaptive responses (Harris, 2008; Netuveli, Wiggins, Montgomery, Hildon, & Blane, 2008).

Resilience Repertoire

Another metaphor we would like to propose in this chapter as a framework for exploring factors related to resilience in older adults is that of a "resilience repertoire"—that is, a supply of skills and resources that can be used flexibly to moderate "the bad things that happen" in the lives of older adults to reduce or blunt the negative consequences of those events, or even in some cases to lead to positive growth and development (Hardy et al., 2002). Individuals may have a variety of factors or elements in their repertoire and use them in differing ways at different times and in varying circumstances. As previously discussed, there is thus a contextual and dynamic aspect to resilience over time and across an individual's life span (Kinsel, 2005).

In addition, there can be cumulative or additive effects involved, such as when adverse events or challenges become compounded or chronic and create a greater element of risk for negative outcomes (Hildon et al., 2008). As Netuveli et al. (2008) suggest, "The resilient [are] ordinary people, without superpowers, as indicated by the fact that as adversities add up the probability of resilience decreases; resilience does not imply invulnerability" (p. 990).

These aspects of the "resilience repertoire" can be used as a conceptual framework for understanding the factors linked by research to an understanding of the adaptive responses to adversity that may help to protect adults from some of the losses and challenges of growing older.

Specific Components of the Resilience Repertoire

The focus of the discussion in this section will not include the psychologically related factors in one's resilience repertoire, as these are topics considered by other authors in this book. Rather, this chapter focuses on those elements related to the two broad categories of health and socioeconomic factors that can be characterized as part of the individual's personal portfolio of resources for coping with adversity.

Health Resources

There are three aspects of health that are relevant to a discussion of resilience: (1) health status and health promotion, (2) physical activity, and (3) nutrition.

Health Status and Health Promotion

Older adults are often quoted as saying, “if you have your health in old age, you have everything,” based on the recognition that good health is a major instrumental resource in achieving other important life goals. Poor health and resultant functional limitations can, indeed, become a barrier to reaching a whole host of other objectives in the lives of older adults. For this reason, health status is often seen as being correlated with resilience (e.g., van Kessel, 2013). Consequently, in much research on resilience, (poor) health tends to be addressed more as a factor in causing adversity than as a response to it. An exception is the early research on stamina by Colerick (1985), suggesting that high levels of self-reported physical health that extend back over one’s life history are correlated with increased levels of stamina in old age. A “life pattern” of self-perceived good health seems to equip an individual with important resources for facing some of the potential challenges of growing older.

Additional studies extend this insight by suggesting that it is not so much the level of health status or absence of health problems, but rather how health is defined and viewed by the individual that is important. This finding is consistent with the now widely recognized phenomenon that older adults “overestimate” their self-reported health compared to “objective” measures of their health status. Even under these circumstances, however, there does not seem to be a clear-cut correlation between resilience and self-reported or perceived health. For example, Nygren et al. (2005) found that there was no correlation between perceived physical health and scores on a variety of psychological measures of resilience, sense of coherence, purpose in life, and self-transcendence. In contrast, Hardy, Concato, and Gill (2004) determined that good to excellent self-rated health was associated with high resilience. Interestingly, in their study, Hildon et al. (2008) found that participants with resilient outcomes rarely talked about health-related limitations and did not dwell on them.

A focus not found in the previous research literature on resilience, yet one having increasing importance for the future in terms of reducing the prevalence of chronic disease and functional impairment, is that of health promotion with older adults and its interrelationship with reducing risk and increasing resilience (Smith, Orleans, & Jenkins, 2004). An emphasis on health promotion is based on the assumption that appropriately designed interventions can improve or maintain health status and thereby enhance resilience in older adults (Luthar & Cicchetti, 2000). Research by Clark et al. (in press) suggests that there are resilience “trajectories” that can be characterized by particular patterns of behavioral maintenance or its absence over time.

Physical Activity

Staying physically active is important for maintaining overall health and supporting resilience, and it may be a target behavior for interventions designed to promote resilience in older adults (Macleod, Musich, Hawkins, Alsgaard, & Wicker, 2016). Recent research has demonstrated that resilience is associated with higher physical activity levels (Fields, Hoyt, Linnville, & Moore, 2016; Matzka et al., 2016).

A lifetime of regular physical activity strengthens a broad range of physiological systems in older adults, which influence health and well-being, chronic disease development, and functional capacity. Regular physical activity provides many health benefits, including reduced coronary risk, improved glucose tolerance, higher bone density, greater muscle mass, lower risk of falls, less body fat, and slower development of disability in old age (Garber et al., 2011; Riebe, Ehrman, Liguori, & Magal, 2017). The physiological and health benefits of physical activity serve as a buffer to old age by preventing or mitigating functional limitations. Physical activity levels are associated with cognitive resilience, including faster reaction times, decreased anxiety and depression, and reduced risk of cognitive decline and dementia (Hogan, 2005). In addition, they are beneficial to resilience against stressors such as infections, surgery, wound healing, and frailty (Huffman, Schafer, & LeBrasseur, 2016).

Hospital stays impose a degree of immobility on patients, often resulting in functional decline. Zisberg et al. (2011) found that 46% of hospitalized adults 70 years of age and older experienced a decline in their ability to perform ADLs between preadmission and time of hospital discharge, and the decline persisted at a 1-month follow-up. However, individuals who were highly mobile during the hospital stay were less likely to experience declines in ADLs compared to those with moderate or low mobility during hospitalizations (29%, 65%, and 87%, respectively), suggesting a dose–response effect of in-hospital mobility on physical function. Impairment in functional status is also associated with nursing home admission, increased mortality, and the need for longer rehabilitation and home health care services (Inouye, Bogardus, Baker, Leo-Summers, & Cooney, 2000). Individuals who are physically active have higher levels of functional ability and may be better able to tolerate a hospital stay with no loss in the ability to perform ADLs. Moreover, other research indicates that walking is associated with a significantly reduced risk of hospitalization for cardiovascular disease (LaCroix, Leveille, Hecht, Grothaus, & Wagner, 1996) and a substantially lower risk of hip fracture in older adults (Feskanich, Flint, & Willet, 2014; Feskanich, Willet & Colditz, 2002), allowing individuals to avoid the negative functional outcomes of hospital stays.

The emerging science of sedentary behavior suggests that it is not just hospital stays that contribute to poorer health, but also extended periods of sitting in daily life. Prolonged periods of sitting are associated with greater risk for all-cause mortality, cardiovascular disease, cancer, and Type II diabetes, and negatively impact both physical and cognitive functions (Biswas, et al., 2015; Ku, Liu, Lo, Chen, & Stubbs, 2017). Prolonged periods of muscular unloading exacerbate losses in muscle and bone mass associated with aging and further increase the risk of falls, frailty, and dependence (Dogra et al., 2017). Research suggests that older adults are sedentary for approximately 10 h per day (Harvey, Chastin & Skelton, 2015), and this volume of accumulated sedentary time is greater than any other age group

(Matthews et al., 2012). The effects of being sedentary may be attenuated by adding brief periods of physical activity (e.g., 1–5 min of standing and walking) throughout the day (Garber et al., 2011; Riebe, Ehrman, Liguori, & Magal, 2017).

Physical activity also contributes to resilience via psychosocial pathways. It is associated with improvements in psychological health and well-being, including reduced levels of perceived stress and a lower risk of depression and anxiety (Garber et al., 2011; Starkweather, 2007; Taylor-Piliae, Haskell, Waters, & Froelicher, 2005). Social support may also play an important role in improvement in overall well-being. In one study, improved social relations were related to increased satisfaction with life and reductions in loneliness in sedentary older adults who participated in an exercise program (McAuley et al., 2000). In another study of community-dwelling older adults by Talsma (1995), physical function, psychological function, and well-being were all supported as dimensions of resilience. Physical activity, aerobic exercise, and community involvement were significantly related to resilience and moderated the effects of chronic conditions on resilience.

Finally, the relationship between physical activity and self-efficacy is also well established. In a literature review, McAuley and Katula (1998) concluded that most exercise intervention studies in older adults result in improvements in both self-efficacy for physical activity and physical fitness. In a recent systematic review, Notthoff, Reisch and Gerstorf (2017) found that self-efficacy is consistently related to higher physical activity levels in older adults. Self-efficacy contributes to the maintenance of physical activity and physical function, particularly in those who are at risk for functional decline, allowing them to carry out basic self-care activities when their ability to do so is challenged (Mendes de Leon, Seeman, Baker, Richardson, & Tinetti, 1996).

A geriatrician colleague of the authors talks to his patients about the importance of their “making daily deposits into their exercise account” to build up their physical reserve capacity upon which to draw if they become sick or hospitalized—much like financial deposits in a bank account provide needed resources in an economic downturn. This expression captures the importance of physical activity in one’s resilience repertoire.

Nutrition

Healthy nutrition has been linked with remaining physically active in promoting resilience in older adults (Gill, Robison, & Tinetti, 1997). Healthful dietary patterns have been associated with a reduction in mortality among older adults (Anderson et al., 2011; Ford et al., 2014; Ramage-Morin, Gilmour, & Rotermann, 2017), as well as a reduction in the rate of cognitive decline (Morris et al., 2015; Ngandu et al., 2015; Tangney et al., 2014; Valls-Pedret et al., 2015). Dietary patterns characterized by consumption of a variety of such nutrient-dense foods as fruits and vegetables and whole grains appear to be most protective. This pattern could be conceptualized as building up a “nutritional bank account,” analogous to that for physical activity discussed earlier. The 2015–2020 Dietary Guidelines for Americans (USDHHS/USDA, 2015) recommend that older adults shift toward selecting a variety of nutrient-dense foods.

Inadequate dietary intake (protein-energy undernutrition) can lead to a loss of muscle mass with a negative effect on the performance of ADLs (Sharkey, Branch, Giulani, Zohoori, & Haines, 2004; Kiesswetter et al., 2013), as well as an increased risk of mortality (Ramage-Morin et al., 2017). Age-related loss of taste sensitivity (Sergi, Bano, Pizzato, Veronese, & Manzato, 2017), lack of access to food, depression, social isolation, and bereavement are other factors associated with inadequate intake (Academy of Nutrition and Dietetics, 2012). Simple interventions such as providing an additional meal or a companion at meals have been effective in increasing intake in homebound older adults (Locher, Robinson, Roth, Ritchie, & Burgio, 2005). Another factor is the presence of chronic diseases leading to dietary restrictions often related to inadequate dietary guidance provided by healthcare providers (Academy of Nutrition and Dietetics, 2012; Shatenstein, 2008). The dietary pattern associated with inadequate intake is one of low dietary variety and limited consumption of nutrient-dense foods (Ford et al., 2014; Hollis & Henry, 2007).

Although there has been little research focusing on nutrition-related resilience in older adults, a cross-sectional study found that older adults with poorer quality diets had lower resilience scores than those with better quality diets (Greene, Lofgren, Paulin, Greaney, & Clark, 2018). In addition, those with poorer quality diets indicated a greater degree of negative affect and reduced self-efficacy to consume fruits and vegetables, suggesting a clustering of health concerns. A qualitative study by Greaney, Lees, Greene, and Clark (2004) found that disruption in routine, illness, and loss were cited as reasons for relapse from a healthful diet. Those who were resilient cited determination and willpower as important in returning to healthful eating patterns. Another qualitative study determined that dietary resilience, defined by participants as "doing whatever it takes to keep eating well," was associated with personal motivation and goal-setting ("prioritizing eating well"), personal resources ("being able to do it yourself"), and use of social resources ("getting help when you need it") (Vesnaver, Keller, Payette, & Shatenstein, 2012).

Socioeconomic Resources

There are two aspects of socioeconomic resources that are relevant to a discussion of resilience: (1) social support and (2) financial resources.

Social Support

Social support has consistently emerged as a major component of resilience. For example, recent qualitative research suggests that maintaining social relationships and engaging in activities with family and friends contribute to coping with the challenges of aging (Browne-Young et al., 2017; Wiles et al., 2012). Indeed, other research suggests that the "scaffolding of quality social supports" is needed to bring out trait-based qualities of resilience (Ong et al., 2009, p. 1788). As previously discussed, the term "social capital" has been used to describe the resources involving social support and networks that can be employed to buffer older adults from adversity (Netuveli et al., 2008). For example, these same researchers found that, "The only variable that was consistently related to resilience was social support, measured in terms of having people who can be trusted and who will offer help, comfort, and appreciation, especially in a crisis" (p. 989). Importantly, it appeared that support before and during adversity, rather than after and in response to it, was the critical factor. Earlier research on stamina has also highlighted the importance of support available from close family members, such as spouses and confidants (Colerick, 1985).

The specific element of personal relationships as a factor in social support has also been highlighted. Hildon et al. (2008) suggest that a key factor in weathering life events is the recognition of the availability of help and those who can be relied on for it. In their study, both resilient and non-resilient groups, in fact, relied on family, friends, and neighbors for socializing and sometimes practical support. The key difference between the groups was related to the nature of the impacts of the loss of a loved one or the consequences of health problems.

In addition to relationships, integration into the community, suggesting placement of the older adult within a web of supportive relationships, has emerged as an important variable. In the research by Hildon et al. (2010), a good sense of community was related to "having a lot of friendly neighbors," "people looking out for each other," "a good community spirit," and "having a good mix of people." Community integration was also captured through involvement in paid employment, voluntary work, or community organizations. Expanding on the theme of webs and networks, Netuveli et al. (2008) state that, "resilience is to be found the warp and woof of family and civic society" (p. 990), suggesting through a weaving metaphor the importance for resilience of an integrated and interwoven set of relationships that make up the very fabric of a community.

Financial Resources

Hildon et al. (2010) specifically studied the role that financial or economic resources (including home ownership) might play in moderating adversity or enhancing quality of life among older adults. Somewhat paradoxically, their research determined that worsening financial circumstances were not significantly related to negative changes in quality of life in their older adult cohort, nor were adequate or more than adequate financial resources considered a protective factor in facing adversity. Their conclusion was that "insufficient income may not be as threatening and indeed sufficient income may not be as protective as other, perhaps less tangible, circumstances" (p. 9), such as social support.

Discussion and Conclusions

It is clear that the concept of resilience is multifaceted and multidimensional, a dynamic relationship between, on the one hand, stressors and adversities in the environment and, on the other, responses and reactions to them from an older adult. In understanding this complex interplay of factors and forces, it is essential that we approach the topic of resilience from an integrative and interdisciplinary perspective, much as the field of gerontology in general deals with the issues of aging.

Research on the stress and adversity side of the equation includes consideration of health and mental health status and maintenance, and includes losses and changes in these factors over time. In particular, impacts creating impairment and functional limitation in activities of daily living are important. Additionally, such losses as those associated with bereavement and relocation represent nonmedical factors that may be as important as those related to physical health. In all these stressors, it is essential that we consider the broader social, cultural, and economic contexts represented by gender, ethnicity, and class. Additive or cumulative effects over time, as well as acute versus chronic conditions, are also aspects that must be taken into account. Finally, resilience has temporal and developmental aspects, and depends on the individual's evolving life situation, experience, and resources.

On the other side of the resilience equation, the metaphor of resilience "repertoire" has been suggested as a way to understand the supply of skills and resources that can be used to moderate the impacts of stressors and adversities on the individual, and even lead to positive growth and development. The emergence of the meaning of life events for the individual, set against the backdrop of their own personal story or narrative that gives life continuity and meaning, is especially relevant here. In this regard, the skills and resources in one's repertoire are organized, selected, and wielded in unique ways that depend on the individual's personal values and themes that give his or her life integrity and meaning in a very personal way.

As an element in the resilience repertoire, health status may be important as a factor filtered through the individual's perception, but the research on its importance seems to be mixed in understanding its relationship to resilience. However, a life course perspective on healthy behaviors and health promotion does seem to be relevant to reducing risk and increasing resilience, suggesting a way of examining the concept through a life trajectory approach introducing the possibility of intervention to change its slope and even direction. In particular, physical activity and nutrition have a strong research base of evidence linking these two health behaviors to the development of a "reserve account" upon which the individual may draw when such health-related events as illness or hospitalization occur.

Finally, there is a substantial and well-documented literature on the importance of social support for an individual's ability to weather life crises. Turning to friends, family, neighbors, and others during such times has consistently been shown to provide critical resources for an older adult in coping with life's adversities. In a larger sense, being part of a community, of a web of supportive relationships, is the essential ingredient in support. Having meaningful activities on a daily basis, whether pursued alone or with others, is another facet of the psychosocial factors related to resilience.

In sum and in summary, investing in one's human and social capital may be seen as a critical element in supporting an individual's ability to weather life crises and to cope with adversities. An understanding of the different factors that go into one's resilience repertoire can suggest areas for potential interventions to support and enhance it. In this sense, examining the facts, factors, and facets of resilience in older adults can lead to designing ways to develop and enhance it to promote an individual's quality of life in old age—a worthy goal, indeed!

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Psychological Resilience

Michelle E. Mlinac and Anne Schwabenbauer

Abstract Aging successfully has been held as a goal for older adults (Bowling, 2007), yet late life brings its share of troubles that do not always lend themselves to this ideal (Harris, 2008). For many older adults, simply maintaining stability despite loss is the more achievable aim. Resilience in late life can be conceptualized as the maintenance of physical and psychological health in the face of risk or threats (Mehta et al., 2008). The study of resilience originally developed from the literature on psychopathology (Staudinger, Marsiske, & Baltes, 1995), and has grown to incorporate a diverse literature base that includes positive psychology, adult development, and stress and coping. The process of aging itself can lead to development of adaptive coping mechanisms and wisdom, allowing one to meet the demands of later life with strength (Foster, 1997). Resilience may well be possible for all older adults, including those with cognitive or emotional impairments.

Keywords Psychological resilience · Self-esteem · Social support
Measurement

Aging successfully has been held as a goal for older adults (Bowling, 2007), yet late life brings its share of troubles that do not always lend themselves to this ideal (Harris, 2008). For many older adults, simply maintaining stability despite loss is the more achievable aim. Resilience in late life can be conceptualized as the maintenance of physical and psychological health in the face of risk or threats (Mehta et al., 2008). The study of resilience originally developed from the literature on psychopathology (Staudinger, Marsiske, & Baltes, 1995), and has grown to incorporate a diverse literature base that includes positive psychology, adult development, and stress and coping. The process of aging itself can lead to

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development of adaptive coping mechanisms and wisdom, allowing one to meet the demands of later life with strength (Foster, 1997). Resilience may well be possible for all older adults, including those with cognitive or emotional impairments.

Factors Affecting Psychological Resilience

In contrast to focus on personality variables such as hardiness that may make one resilient (Funk, 1992), often known as the "first wave" of resilience theory, or to the processes that result in resilience after a loss or threat ("second wave"), later researchers from the third wave of resiliency inquiry began by presuming that given the right context of interpersonal and social variables, resiliency is more likely to occur (Richardson, 2002). In a review of the literature on the first two waves, Jacelon (1997) described the traits associated with resilience in adulthood including self-reliance and equanimity, and outlined a possible two-step path to the process of resilience, disruption, and reintegration. The third wave of research poses the question of what is innate that drives resilience to occur, perhaps a more existential line of inquiry than the preceding waves, incorporating theories from such diverse disciplines as physics, Eastern medicine, and psychoneuroimmunology (Richardson, 2002). The application of these waves of research to late-life development is varied. Leipold and Greve (2009) argue that the debate between resilience as a trait or a process is ultimately circular, and resilience should instead be seen as part of a broader model of coping and development. They have proposed a model attempting to incorporate resilience as the activation of coping processes successfully utilized across time to maintain stability or growth. These coping processes may include assimilation and accommodation which foster stability and growth.

There is debate in the resilience literature as to whether the term "resilience" implies a simply a recovery to stability, or if it may also include the concept of growth or evolution following a disruptive event, termed "adversarial growth" (Richardson, 2002; Linley & Joseph, 2005; Bonanno, 2005). Resiliency itself implies that there is something to overcome or bounce back from, though previous methodology has not always identified what older adults are resilient to, besides late life itself. Using a stratified subsample of a longitudinal study (Boyd Orr cohort, ages 62–82), Hildon, Montgomery, Blane, Wiggins, and Netuveli (2010) captured acute and chronic effects of various adverse events, including bereavement, deteriorating health, and financial woes. The effect of multiple adversities was also investigated, as most individuals in reality do not confront just one difficulty at a time. In this study, resilience was operationalized by having a better than average quality of life. Results suggested that while the resilient had experienced adversity, they also displayed use of resources. Psychological resilience was correlated with an adaptive coping style, marked by problem-solving and learning from experience. Those with less resilience (termed vulnerable) tended to use an avoidant style of coping. Access to social support (with emphasis on useful and meaningful assistance) was also an important component of resilience.

In a companion study utilizing both quantitative and qualitative data from focus groups of the Boyd Orr cohort, specific means of coping were elicited from participants in their own words (Hildon, Smith, Netuveli, & Blane, 2008). Adversity was correlated with rigid, inflexible ways of coping. Resilient focus group members also emphasized a sense of stability that (along with social support and positive coping skills) resulted in their being able to weather problems over time. Researchers recommended that interventions to promote resilience be made on both an individual level (engaging in reminiscence or life review therapy to provide a sense of meaning and coherence in face of adversity) and a community level (improving access to social supports to alleviate burden).

Bonanno, Romero, and Klein (2015) have been teasing out the complexity of psychological resilience into discrete threads or concepts, and simplifying their study of resiliency into an examination of four parts of a sequence: a baseline time point prior to an adverse event or stressor, the event or stressor itself, a look at resilient outcomes, and identification of the pre-adversity factors that predict or correlate with the resilient outcomes. A resilient pattern may be a bounce back from a significant adversity ("emergent resilience"), or may appear to be just a blip on the radar of a person's life course ("minimal-impact resilience"). This theoretical framework should prove to be a useful contribution to the sprawling, evolving literature on psychological resiliency.

Self-esteem

The maintenance of self-esteem into later life may shore up individuals against adversity. Two waves of data from a larger study (Collins & Smyer, 2005) were used to explore the trajectory of self-esteem across time (a 3-year period), in context of typical stresses of late life (e.g., financial burden). Participants were over 60, with an average of a 10th grade education. They completed measures of self-esteem, values, and loss. Results indicated little deterioration in self-esteem across time, even in the face of loss. Further, when individuals experienced a loss in a domain tied to their sense of self, such a blow did not diminish their self-esteem; despite identifying oneself as a healthy person, having later illness did not result in a substantial shift in self-esteem. Older adults in this study were seen as able to absorb the losses of later life and maintain a stable self.

A theory of psychological resilience in older people was proposed to incorporate a variety of related constructs including self-esteem and control (Judge, Erez, Bono, & Thoresen, 2002; Windle, Markland, & Woods, 2008). Utilizing a stratified localized (to the UK) sample from a larger European study of adult well-being, researchers obtained data on 1853 adults ages 50–90. Self-report measures of resilience, self-control, and self-esteem were administered to participants. While the model that was derived was suggestive of a common factor relating to self-esteem, competence, and self-control, the construct of resilience itself was not fully validated in this study. Researchers suggested that there may be a number of theoretical models of psychological resilience in late life, and suggested that further research into the presentation of these constructs in late life is needed.

Social Support

Social support has often been correlated with resilience (Hildon et al., 2010; Maddi, Brow, Khoshaba, & Vaitkus, 2006). Other studies have found that resilience and emotional support (but not instrumental support) yield higher quality of life for older adults (Netuveli & Blane, 2008). In a study of older HIV-positive New Yorkers, Poindexter and Shippy (2008) identified unique social support networks contributing to the resilience of their members. Researchers conducted focus groups with five informal support networks comprised of mostly HIV-positive individuals. Despite their avenues for social support shrinking due to fear and stigma, these individuals were able to reallocate their resources and replenish their support networks via the HIV-positive resources in their community. Participants indicated that the loss of a group member to illness or death provided an opportunity for members to strengthen their bonds of support.

Socioemotional selectivity theory—in which older adults sensitized to their own mortality select to maintain only those relationships which they find emotionally supportive—has found empirical support in the literature (Adams, Sanders, & Auth, 2004; Charles & Carstensen, 2007). This theory holds that as time passes, older adults aware of fewer resources and greater demands prioritize emotional connections that are worthwhile to them and shed those that are not. Thus, it may be that older adults do not find new relationships as emotionally satisfying as longer standing ones (Staudinger et al., 1995). Further, it provides evidence that older adults are able to regulate their emotions and social networks to allow for the best possible outcome for themselves; they are able to prioritize needs in a way that preserves the self.

Spirituality

In addition to social support, other factors have been identified that promote resilience against mental strain and distress including hardiness and religiousness, and their overlap, spirituality (Maddi et al., 2006). Spirituality entails a search for meaning in the universe, a view that the world is larger than oneself, irrespective of the adherence to a specific doctrine. An investigation of hardiness, religiousness, and spirituality concluded that these qualities allowed individuals to cope with life stresses and provided protection against depression and stress (Maddi et al., 2006). Positive aspects of spirituality may serve to restore a sense of control following illness, and foster adaptation to chronic illness and disability (Crowther, Parker, Achenbaum, Larimore, & Koenig, 2002). Spirituality was linked to resilience in cancer survivors; though these individuals are more at risk of developing depression and anxiety, their levels of spirituality and personal growth improved post-cancer recovery (Costanzo, Ryff, & Singer, 2009). Older cancer survivors also indicated an improved outlook on self and society. For older adults, religious behaviors such as participating in regular church services can serve as a buffer against a traumatic life event (Manning & Miles, 2017).

Positive Emotions

Reacting with positive emotions in times of crisis may be a way to diminish stress response and cope more effectively (Davis, Zautra, Johnson, Murray, & Okvat, 2007). Further, the experience of positive emotions may provide a protective effect against threats to the ego. The broaden-and-build theory set forth by Fredrickson and Levenson (1998) postulates that as humans have evolved, positive emotions have assisted with adaptation to stressful situations. Specifically, while negative responses to stress (e.g., fight or flight response) are inherently limited, employing positive emotions during stressful times allows for a wider variety of responses. In a series of studies, Tugade and Fredrickson (2004) found that employing positive emotions in times of stress correlated with a return to baseline of physiological arousal, supporting a mind–body connection. Similarly, coping was found to be improved when individuals were instructed to see stressful situations as a challenge they could grow from rather than a threat to harm them. This cognitive reframing may be a way to improve resiliency. The third portion of the study provided evidence for a link between positive emotions and positive appraisal of a situation. Across studies, support was found for the broaden-and-build theory, indicating that those with greater resilience were more likely to experience positive emotions and utilize them to cope with stress.

Cohn, Fredrickson, Brown, Mikels, and Conway (2009) utilized Fredrickson and Levenson's broaden-and-build theory to test how happiness relates to resilience. In this study, ego resilience and life satisfaction were measured before and after participants tracked their daily emotions for a month. Those who experienced more frequent positive emotions were also those with more growth in resilience and improved life satisfaction. Negative emotional experiences were not directly related to resilience or life satisfaction, or with the experience of positive emotions. Experiencing frequent pleasant emotions was theorized to improve resiliency, and those who were more resilient were thought to be more likely to feel positive emotions. Positive emotions have also been thought to lead to greater spirituality (Saroglou, Buxant, & Tilquin, 2008) and improved health (Fredrickson & Levenson, 1998).

To better determine how positive affective experiences buffer against stress, researchers have proposed that emotional memory plays a role in how individuals react to negative events. Emotional memories are powerful and are easily triggered, so might be recruited to assist in cognitive processing of a stressor. Philippe, Lecours, and Beaulieu-Pelletier (2009) examined the relationship between these memories and how people reacted to sadness and anxiety. They hypothesized that more resilient responses would entail activation of positive emotional memory networks. Psychological resilience against sadness and anxiety was found to be associated with positive emotional experiences. From these findings, researchers speculated that people might deal with a difficult event by accessing positive emotional memories, which can help them to cope in the moment and later process the experience more positively. Given the lifetime of pleasant emotional experiences upon which older adults can draw, the applicability of this research to late life has promise.

Perceived affect regulation has been suspected to be an aspect of resilience in old age. The emotional experience of older adults is important in determining how they navigate life's challenges. Positive and negative emotions can differ in the amount of energy invested in expressing them. For example, low-arousal positive emotions include feeling serene and at ease. In contrast, euphoria and delight are high-arousal positive emotions. Similarly, low-arousal negative emotions (e.g., lethargy) can be contrasted with high-arousal negative emotions (e.g., annoyance). Older adults have been found to differ both in the strength and direction of their affective experiences in comparison to younger adults. Kessler and Staudinger (2009) investigated how older adults perceive the effort they put forth in expressing positive and negative emotions, known as "affective arousal." When compared with younger and middle-aged adults across four quadrants of emotional expression (arousal × valence), older adults more frequently displayed positive, low-arousal emotions, remaining fairly unruffled by the losses, and changes experienced in late life. Older adults also displayed fewer negative emotions of either high or low arousal, suggesting that they appeared to take the developmental challenges of the later years in stride. These findings also suggest that older adults may be better able to regulate their emotions over time, and that this improved regulation (whether due to neurophysiology or personal experience) allows them to better adapt to negative life events.

In a review of the literature on depression and aging, Karel (1997) identified helplessness as a factor that contributes to depression, but suggested that despite the many losses of late life, older adults do not demonstrate a diminished sense of control. Further, they display strengths such as more nuanced understanding of emotion, better ability to regulate that emotion, and are more likely to accept circumstances as being out of their personal control. These developmental processes may be similar to Erikson's view of achieving wisdom and gerotranscendence (a shift in perspective from the personal and rational to the cosmic and spiritual accompanied by an increase in life satisfaction) as the last stages of ego development (Erikson, 1998). The ninth stage has been empirically tested in the literature, suggesting the potential for continued psychosocial growth across the end of the lifespan (Brown & Lowis, 2003). Transcendence and resilience were examined in a community-dwelling sample of the oldest old (85+), along with other existential aspects of aging: sense of coherence and purpose in life (Nygren et al., 2005). Significant correlations were found among the four constructs, and higher levels corresponded to better mental health (but were unrelated to physical health, suggesting that for this cohort, health issues do not directly bear on existential concerns and well-being). The oldest old were found to have greater levels of resilience and sense of coherence than have been reported for younger samples.

While the oldest old are potentially the most resilient of all, an age limit on psychological resilience has been questioned (Baltes & Smith, 2003). In a study of centenarians, Jopp and Rott (2006) found evidence against this assumption. Using data from the Heidelberg Centenarian Study, they completed face-to-face interviews with 91 centenarians who had been participants in the longitudinal study. They assessed participants' functional health and cognitive status as well as self-ratings of happiness. Centenarians in this study displayed happiness at or greater than younger or middle-aged adults, though many areas of their functioning were compromised. Factors predicting happiness included social support, extraversion, optimism, and self-efficacy, which were potent even at very late life. For this group of mostly female centenarians (89%), having had job training negatively correlated with happiness, which may be due to other factors (e.g., those with job training were less likely to have had families.) Happiness was not correlated with health status. Researchers suggested that centenarians may have accepted the inevitable declines in functioning and health and instead find happiness for reasons other than physical abilities.

Empirical Measures of Psychological Resilience

Resilience measures have primarily been developed with children and adolescents, as this has been the primary population for resilience work over the years (Ahern, Kiehl, Sole, & Byers, 2006). Most commonly used has been the Resilience Scale (RS) (Wagnild & Young, 1993; Jacelon, 1997), a 25-item scale that has been used with a variety of age groups, and was originally normed on a sample of 810 older women (Ahern et al., 2006; Windle et al., 2008). The scale was conceptualized on five components of resilience which generally comprise psychological constructs: equanimity, self-reliance, existential aloneness, perseverance, and meaningfulness (Wagnild & Young, 1993). Further factor analysis has yielded personal competence and acceptance of self and life as constructs captured by the scale (Ahern et al., 2006). This scale has subsequently been used with other samples of older adults (Lamet, Szuchman, Perkel, & Walsh, 2009; Nygren et al., 2005).

The Connor-Davidson Resilience Scale (CD-RISC), also a 25-item instrument, has yielded good validity and reliability across community, primary care, and psychiatric populations (Connor & Davidson, 2003; Ahern et al., 2006). The scale has been utilized with older adults and reflects characteristics of resilience such as optimism (Montross et al., 2006; Ahern et al., 2006). Analysis found factors comprising resilience for a group of community-dwelling older women included personal control and goal orientation, adaptation and tolerance for negative effect, leadership and trust in instincts, and spiritual coping (Lamond et al., 2008). As the relative strength of the factors in this sample differed from that of younger samples, researchers proposed that resilience for older women may be a different psychological process than it is for younger people. Alternately, it may be that older women utilize (or have available) different resources than younger people do to face the particular developmental challenges of late life. They further suggested that while many of the elements of resilience (e.g., optimism) are associated with successful aging, it is not only those aging successfully who can be resilient. There is evidence for a correlation between successful aging and resilience but how the two may impact each other remains to be determined (Wagnild, 2003).

Recent reviews have looked at the effectiveness of the RS, CD-RISC, and similar measures with older adults. Cosco, Kaushal, Richards, Kuh, and Stafford (2016) found that the RS was well validated with older adults, while the CD-RISC showed promise in being a valid measure with older people, and should be tested further. Gulbrandsen (2016) examined both measures utility specifically for measuring resilience in older women. Perhaps unsurprisingly, gender differences have rarely been studied with either measure thus far. Gulbrandsen suggests either measure (or both) may have utility to further this potentially rich line of research going forward.

In a study examining resilience in community-dwelling older adults, Hardy, Concato, and Gill (2004) developed a 14-item scale (Hardy-Gill Resilience Scale) to detect factors that allowed older adults to maintain stability after a stressful life event. They asked older adults to rate how stressful a specific life event was, and to identify how the event impacted their lives. Events rated included their own health concerns, the illness or death of a family member or friend, or a nonmedical life event. The scale used was derived from a larger health questionnaire based on Rowe and Kahn's construct of resilience (Rowe & Kahn, 1997). For older adults, results indicated that the more stressful the life event, the lower their resilience. This measure has subsequently been utilized to examine resilience to late-life disability (Mehta et al., 2008).

A new brief resiliency assessment tool called the multidimensional individual and interpersonal resilience measure (MIIRM) is in development by Martin, Distelberg, Palmer, and Jeste (2015). The MIIRM is designed to assess a broader picture of resiliency of the older adult, incorporating both relational (i.e., "access to a support network") and individualized (i.e., "self-efficacy") components across eight factors. Given the key role that social support and connection may play in resiliency, a measure that taps into these constructs more specifically is a notable contribution to the literature.

Resilience Among Caregivers

Because of its demanding nature, caregiving has been conceptualized as a “career” (Haley et al., 2008), encompassing a host of emotional, financial, and physical stressors. Many caregivers of those with dementia or other chronic illness and disability are older adults themselves (Schulz et al., 2003; Garand, Dew, Eazor, DeKosky, & Reynolds, 2005). Caregiving for a person with a fatal illness or disability can take a toll on physical and mental health (Flaskerud & Lee, 2001). In a study of spousal caregivers of persons with dementia, a structured clinical interview was administered to determine incidents of depression and anxiety and identify possible predicting factors (Joling et al., 2015). Over the course of the 2-year study, 60% of caregivers developed a depressive and/or anxiety disorder with comorbid depression and anxiety occurring in 32%, anxiety alone occurring in 22%, and depression alone occurring in 5% of the sample. Subthreshold premorbid depression and poor self-rated health were significantly associated with disorder onset. Mausbach et al. (2012) sought to examine factors that mediate the relationship between caregiver stress and depression in older spousal caregivers of Alzheimer’s patients. The study found that greater subjective experience of stress and the number of problem behaviors displayed by care recipients were significantly associated with increased depressive symptoms. This relationship was mediated by intrapsychic factors including self-efficacy and personal mastery as well as an avoidant coping style.

Racial differences in resilience to caregiver stress have been examined, with social support being identified as a protective factor. A longitudinal study of African-American and White dementia caregivers measured levels of social support, life satisfaction, and depressive symptoms across 5 years (Clay, Roth, Wadley, & Haley, 2008). On a self-rated measure of social support, the African-American caregivers reported a higher level of satisfaction with their level of social support than their White counterparts reported, and in turn, White caregivers reported higher levels of depressive symptoms than the African-American caregivers reported. Both groups reported that, across time, they had fewer supportive individuals to rely on. Satisfaction with social support was found to correlate with life satisfaction and possibly protect against depressive symptoms. Researchers suggested that caregivers’ coping could be improved by targeting interventions to improve their satisfaction with social support.

Past experiences and the type of relationship can also impact whether caregiving is perceived as burdensome or rewarding. Utilizing data drawn from the National Health and Resilience in Veterans Study, researchers evaluated the impact of combat exposure on the experience of caregiving (Monin, Levy, & Pietrzak, 2014). The study analyzed older adult veterans’ responses on measures of physical and mental health, cognitive functioning, positive psychological factors (resilience, purpose in life), social support factors, and perceived physical strain, emotional strain, and reward. Overall, results demonstrated that most veterans found caregiving to simultaneously be a rewarding and stressful experience with 67%

describing the experience as “very rewarding,” 39% reporting at least some physical strain, and 53% reporting at least some emotional strain. Veterans with higher levels of positive psychological traits (happiness and gratitude) and perceived social support were more likely to perceive caregiving as rewarding and those with greater psychological resiliency were less likely to report physical strain. In regard to the caregiving relationship, veterans caring for grandchildren reported more physical strain but also perceived caregiving as more rewarding than other caregiving dyads. The authors relate this finding to prior work suggesting that grandparenting may positively impact veterans by providing a greater sense of purpose, meaning, and generativity (Ardelt, Landes, & Valliant, 2010; Hierholzer, 2004). The study also demonstrated that combat exposure was negatively associated with emotional strain. This finding extends to the caregiving experience prior research that suggests that exposure to trauma earlier in life may protect against later life stressors by fostering greater emotional resilience (Aldwin, Levenson & Spiro, 1994; Tedeschi & Calhoun, 1996).

Other studies have examined the relationship between psychological resilience and caregiver strain (Gaugler, Kane, & Newcomer, 2007; O’Rourke et al., 2010). O’Rourke et al. (2010) examined whether the degree of psychological resilience predicts the presence and trajectory of depressive symptoms in spousal caregivers of persons with Alzheimer’s disease. The facets of psychological resilience measured included commitment to living, perceived control, and challenge versus stability (i.e., belief that life’s challenges provide the opportunity for personal growth). Findings demonstrated that caregivers with higher levels of perceived control and those that favor challenge over stability had lower levels of depressive symptoms at 1 year. The study also reported that an increase in the belief that challenge provides opportunities for growth predicted a further reduction in depressive symptoms. These results were significant above and beyond socio-demographic and illness-related factors.

Gaugler et al. (2007) examined resilience throughout the course and end of the caregiving career. Resilience was operationalized as perceived emotional burden in the context of caregiving demands. High levels of resilience are thus associated with low burden despite high demands, also conceptualized as “stress resistance.” The sample included nearly 2000 caregivers from the Medicare Alzheimer’s Disease Demonstration Evaluation (MADDE) study, which was a randomized trial of case management for dementia caregivers. Among the factors identified to correlate with resilience include longer duration of caregiving role and access to available resources (such as respite or home care). An important finding of this study was that higher caregiver resilience was correlated with less frequent institutionalization; those who displayed better coping and support were able to keep their loved one at home for a longer period of time.

A qualitative study assessed the individual assets and community resources that facilitate or impede resilience in caregivers (Donnellan, Bennett, & Soulsby, 2015). The study classified a resilient caregiver as one who is able to maintain meaning and satisfaction and continue to actively participate in life without evidence of significant distress. The authors found that psychological assets were the most prominent facilitator of resilience in caregivers. Resilient caregivers were able to preserve a sense of personal continuity, maintain a positive outlook and find enjoyment in the role, and view caregiving as an opportunity to gain knowledge. These psychological assets often interacted with community and societal resources. Resilient caregivers tended to have greater accesses to resources such as support groups and respite care; however, this group was also more likely to utilize the available resources. Factors that hindered resilience also emerged on an individual and community level. Caregivers that were categorized as not resilient were more likely to have a pessimistic outlook, focus on losses and negative changes, and have perceived or actual loss of friends. Authors suggest the interactional nature of individual, community, and societal factors in caregiver resilience necessitates that it be viewed as a multidimensional construct and that researchers employ an ecological perspective when developing future research and interventions.

Bereavement and Resilient Responses

The course of caregiving in dementia or chronic illness often leads to the death of the individual being cared for, and caregivers have been shown to experience grief symptoms prior to and after the death of their loved ones (Schulz et al., 2003; Bonanno, Wortman, & Nesse, 2004). People handle the death of their loved ones in different ways; the emotions felt after such a loss can vary across individuals. There is significant empirical evidence for resiliency following the loss of a loved one (Rossi et al., 2007; Bonanno et al., 2002; Ott, Leuger, Kelber, & Prigerson, 2007; Galatzer-Levy & Bonanno, 2012; Mancini, Sinan, & Bonanno, 2015). Researchers have consistently found that older adults are capable of responding resiliently to a loss, and do so fairly commonly, with many empirical studies approaching a rate of 50–66% among participants (Bonanno, 2004; Galatzer-Levy & Bonanno, 2012; Spahni et al., 2015).

Bonanno et al. (2004) identified five trajectories of coping in bereaved older widows (normal grief, resiliency, chronic grief, chronic depression, and depressed-improved). Normal or common grief refers to the brief episode of depressive symptoms, distress, and disruption in normal functioning that are typically thought of as the normative response to a loss. This response also known as "recovery" (Ott et al., 2007) differs from the resilient response to loss and also from chronic grief which occurs in 10–20% of individuals (Bonanno et al., 2002). Chronic grievers began with a nondepressed presentation prior to the death of their loved ones and exhibited similar levels of functional impairment as the common grief group did, though their functioning did not return to baseline after 18 months. The group of individuals who have depression prior to a loss can remain depressed following the loss (chronic depression), but also have potential to recover to non-pathological levels of functioning 6–18 months after the loss of their loved one (depressed-improved). Relief of caregiver burden, which had likely been a chronic stressor, may account for this improvement. This group was found to be similar to the resilient group in terms of exhibiting a minimal grief response (Bonanno et al., 2002), suggesting that there may be more than one pathway to resilience (Bonanno, 2004). A minimal grief response has in the past been thought to be pathological.

Sense of control and social support were identified as correlating to resilience in another study of older widowed persons (Ott et al., 2007). In this study, 37% of participants fell into the resilient group, while approximately 50% were in the normal grieving group and the remaining individuals were identified as chronic grievers. Researchers suggested that relying on social support may have helped the resilient individuals to maintain their stability and sense of personal control following the death of a spouse, change in role status, and other losses associated with widowhood.

The complex feelings that one faces after a loss may include the buffering effect of positive emotions. Utilizing daily diaries to track emotional constellations of the recently widowed, Ong, Bergeman, and Bisconti (2004) identified that the greater the number of positive emotions experienced by widows, the less potent were levels of stress and depressive symptoms. In addition, the use of humor was found to be a possible resilient coping style; those who utilized it were better able to capitalize on positive emotions and keep depression from taking hold.

Interventions that target coping across pre- and post-loss time periods (both caregiver and bereavement interventions) have been examined. In a study of caregivers whose spouses had Alzheimer’s disease, support interventions were administered both before and after the death of their spouses (Haley et al., 2008). When compared to usual care controls, a pattern of resilience was found to be more common in those who received enhanced counseling and support (60% resilient with intervention, 42.9% resilient without intervention). This study lends support to resiliency being a common response in the face of chronic stress and loss and indicates that interventions can be undertaken to further enhance such resiliency before and after loss.

Depression

In considering the myriad losses older adults confront, it is presumed that they may be at greater risk of depression. Though old age in and of itself does not cause depression (Rothermund & Brandtstädter, 2003), the health and functional declines that are more common in late life contribute to greater vulnerability for depressive symptoms (Karel, 1997; Lyness, Niculescu, Tu, Reynolds, & Caine, 2006), The onset of late-life depression is theorized to be an interaction between these declines and other stressful life events, genetic factors, individual psychological vulnerabilities, and age-associated neurobiological changes (Fiske, Wetherell, & Gatz, 2009). Depression is characterized by cognitive symptoms (sadness, apathy, anhedonia) and somatic symptoms (sleep disturbance, weight gain or loss). Physical health symptoms such as sleep quality can have an impact on psychological resilience (Motivala et al., 2006). Depressed older adults have been found to display a greater number of somatic symptoms than cognitive symptoms when compared to depressed younger adults, though this may be confounded by the increase in physical health problems in late life (Balsis & Cully, 2008; Karel, 1997).

In older adults, fewer depressive symptoms correlate with higher resilience (Hardy et al., 2004) with even subthreshold levels of depression negatively impacting emotional and physical functioning (Judd, Schettler, & Akiskal, 2002). In a cross-sectional study, Vahia et al. (2010) evaluated the association between the severity of depression and perceived quality of life, positive psychological factors (e.g., psychological resilience and optimism), and physical and mental health in community-dwelling older adult women. The results revealed that subthreshold depression occurred at much higher rates than clinical depression (20.2% vs. 7%). The severity of depression was associated with performance on all measures with the exception of cognitive functioning. Those who self-reported subthreshold depression scored worse than their nondepressed counterparts but better than those that reported clinical depression on nearly every measure of successful aging. Compared to the nondepressed group, subthreshold depression was associated with lower levels of positive psychological traits (e.g., optimism, psychological resilience), greater anxiety and hostility, more perceived cognitive problems, worse perceived quality of life, and poorer physical and emotional functioning. Given the observed negative impact, the authors emphasize the importance of improving the detection and treatment of subthreshold depression.

While the current literature supports the association between greater resilience and less depressive symptomatology (Ávila, Lucchetti, & Lucchetti, 2017), the research examining the impact of older age on this association is mixed (Jeste et al., 2013; Mehta et al., 2008; Rothermund & Brandtstädter, 2003). In a cohort-sequential study, Rothermund and Brandtstädter (2003) compared six cohorts (representing age groups from 54 to 77) over 8 years on measures of depression, health status and impairment, socioeconomic resources, coping styles, and time perspectives (such as future orientation and feelings of obsolescence). They found that depressive symptoms in the younger cohorts remained relatively stable over time. Above a certain age ($\sim$70), depressive symptoms increase and resiliency, while still present, tends to diminish. The researchers correlate this phase change with the average life expectancy of their participants, suggesting that older adults may cease viewing stressors as normal parts of aging and begin anticipating end-of-life.

Further evidence of age-related changes in resilience to depression was found by Mehta et al. (2008). Presuming that physical disability and apathy might interfere with resilience in depressed older adults (and that interference would increase at later ages), they compared young-old (<80) and old-old (>80) community-dwelling geriatric clinic patients on measures of depression, disability, apathy, and resilience. Their results also corroborated resilience’s waning protective effects on depression in later life. Researchers suggested that the old-old may have fewer external resources on which to draw to help them cope with stressors and declines. Internal resources may also be compromised; at later ages, apathy also appeared to drive depression.

Investigators in the Successful AGing Evaluation (SAGE) study also predicted that older age would be associated with worse self-ratings of successful aging and cognitive and physical health (Jeste et al., 2013). They also hypothesized that perceived successful aging would be related to positive psychological traits and physical, cognitive, and mental functioning. Lastly, they expected levels of self-rated successful aging to be predicted by positive psychological functioning and physical and mental functioning. Middle-aged and older adults ages 50–99 with an oversampling of those in their 80s completed a combination of telephone-based and written self-report measures of depression, anxiety, resilience, optimism, and cognitive, physical and mental health functioning. Consistent with the hypothesis, older age was associated with decreased physical and cognitive functioning; however, despite these losses, older age was associated with higher self-rated successful aging. Further analysis revealed that self-rated successful aging was best predicted by older age, high levels of resilience, better physical health, and low levels of depression. Of these factors, depression and resilience were found to have an effect on perceived successful aging comparable to that of physical functioning. Individuals with low physical functioning and high levels of resilience had self-rated successful aging scores similar to those of healthy individuals with low resilience scores. Similarly, individuals with worse physical functioning and minimal to no depression viewed themselves as aging as successfully as healthy individuals with moderate to severe depression scores. Researchers speculate that reducing depression and enhancing resilience may positively impact successful aging to the same degree as reducing physical disability.

Depression in older adults can lead to suicidal ideation (Karel, 1997; Alexopoulos et al., 2009; Cheavens, Cukrowicz, Hansen, & Mitchell, 2016; Heisel & Flett, 2016; Heisel, Neufeld, & Flett, 2016). Identifying resilience in those at risk for suicide may support prevention efforts. McLaren et al. (2007) hypothesized that a sense of belonging (feeling valued by others and part of a community) was a protective factor buffering against suicidality in depression. To investigate this, they asked 351 retired Australians to complete depression, suicide, and belongingness measures. They compared results with four resiliency models: (1) compensatory model (depression will increase risk of suicidality while sense of belongingness will decrease that risk), (2) risk-protective model (as sense of belongingness increases, depression will have less effect on suicidality), (3) challenge model (only high levels of depression will have an effect on suicidality, at lesser levels of depression people will activate their resources), and (4) protective–protective model (the greater the number of protective factors like sense of belonging, the less suicidality would be present). While these models have been studied with children and adolescents, they have not often been applied to older adults (Fergus and Zimmerman, 2005; McLaren et al., 2007). As expected, sense of belonging was found to be a protective factor against suicidal ideation, while depression was a risk factor. These factors lend support to the risk-protective model; the more people feel accepted and valued, the less likely they are to be affected by depression and suicidal ideation. High levels of depression corresponded with a spike in suicidal ideation, which supported the challenge model. For women, the compensatory model was also supported; depressed women who felt part of a group were less likely to display suicidal ideation. For men, being seen as vital to the community removes depression as a risk factor for suicidal ideation.

Whereas the presence of belongingness can act as a protective factor for suicide, a lack of belongingness has been conceptualized as a risk factor. The interpersonal theory of suicide posits that the desire to die by suicide arises when an individual simultaneously experiences thwarted belongingness (loneliness, lack of reciprocally caring relationships) and perceived burdensomeness (view oneself as a burden on others, self-hate) and holds a belief that these states are stable and permanent (Van Orden et al., 2010). The theory further suggests suicidal intent and serious suicidal behavior are most likely to occur when lowered fear of death and increased pain tolerance are also present. Cheavens et al. (2016) sought to investigate the role of resilience factors in the interpersonal theory of suicide. Specifically, authors evaluated whether hope would moderate the relationship between thwarted belongingness and suicidal ideation and whether self-forgiveness would moderate the relationship between perceived burdensomeness and suicidal ideation in older adults. Participants were administered self-report measures of suicidal ideation, depression, perceived burdensomeness, thwarted belongingness, hope, and self-forgiveness. Self-forgiveness was found to be an independent protective factor for suicidal ideation and moderated the relationship between perceived burdensomeness and suicidal ideation. Perceived burdensomeness and suicidal ideation had the strongest relationship at low levels of self-forgiveness. Contrary to expectation and prior research (Van Orden et al., 2010), neither thwarted belongingness nor hope were associated with reported suicidal ideation. Authors suggest that this discrepancy may be due to variations between older and younger adult populations including differences in the size and nature of social networks and possible changes to the power of perceived burdensomeness versus thwarted belongingness at different ages.

The role of positive psychological factors in attenuating risk of suicide was further supported by Heisel et al. (2016). In a longitudinal study of community-dwelling older adults, authors examined whether the presence of perceived meaning in life and reasons for living were protective against suicidal ideation. Meaning in life and reasons for living were found to be protective against suicidal ideation and meaning in life also mediated the relationship between reasons for living and suicidal ideation. Authors suggest that a wish to continue living (reasons for living) protects against suicidal ideation by fostering a deeper awareness of potential and real sources of meaning. The same study also evaluated the relationship between expressed meaning in life and the onset or exacerbation of suicidal ideation over a 2-year period (Heisel & Flett, 2016). After 2 years, those with greater perceived meaning in life at baseline were less likely to report new or worsening suicidal ideation. Authors emphasize the importance of creating holistic assessments and interventions for suicidal ideation that include the identification and enhancement of existential constructs.

Trauma

Adapting to the losses associated with later life is an expected part of the aging process. Coping with sudden and severe trauma by contrast may not result in the same levels of resilience that have been demonstrated by bereavement researchers (Litz, 2005), but others have argued that resilience is a common human response to both significant loss and significant trauma (Bonanno, 2004; Kelley, 2005). Frequent indicators of resilience, specifically religiousness, hardiness, positive emotional experiences, and social support, have also been found to be protective factors for those who have been exposed to trauma (Bonanno, 2004; Maddi, 2005; Nemeroff et al., 2006). By contrast, predictors of PTSD include poor social support, limited education, and history of mental health problems (Bonanno, 2004). Litz (2005) suggested that in addition to the absence of psychopathology as an outcome measure following trauma, researchers and clinicians should also consider functional resilience, the ability to retain day-to-day functional abilities with little disruption.

Early Trauma Exposure and Late-Life Resilience

The interplay between long-standing trauma, stressors experienced in late life, and resilience is complex. In a study comparing Holocaust survivors to non-Holocaust surviving older adults in the wake of 9/11, Holocaust survivors exhibited a higher number of post-traumatic symptoms than did their counterparts (Lamet et al., 2009). Of note, they also displayed higher levels of resilience, suggesting a nonlinear relationship between distress and coping. Older adults may be resilient in some ways but not in others. In this study, despite being more likely to experience post-traumatic symptoms after 9/11, Holocaust survivors continued to function well in other areas of their lives and had greater resilience than the comparison group. One limitation of this study was that this group of Holocaust survivors may have evidenced the same level of symptoms prior to 9/11; findings may simply have reflected the life course of these survivors in comparison to non-survivors. Unfortunately, non-American Holocaust survivors were not utilized as a second comparison group so that the specific trauma of 9/11 on the American survivors could have been examined.

The effects of trauma such as combat exposure experienced decades earlier can result in resiliency later in life. Elder and Clipp (1989) proposed a model of resilience and risk in aging combat veterans. They demonstrated that the experience of participating in combat produces positive and negative results. Later life emergence of traumatic symptoms may be a result of an experience similar to what was experienced in combat. For example, the loss of independence through long-term care placement may evoke feelings of helplessness and fear. They utilized a cohort of WWII and Korean veterans who had been enrolled in three longitudinal studies undertaken at the Institute of Human Development at the University of California, Berkeley. At the time of the study, the sample was primarily in their 60s, though data points were also taken from participants' pre- and post-military service, and at midlife (40s). Veterans were rated on severity of combat exposure (with variables such as exposure to the dead or wounded). They were asked to share their beliefs about how their experience in the military impacted their lives for the better and/or worse. Researchers then examined how these perspectives impacted on the functioning of these veterans from age 55 onward, at the time of the study. Those veterans who were exposed to heavier combat were found to be higher on resilient characteristics such as assertiveness. When compared to pre-war levels, ego resilience appeared to be developed in those exposed to heavy combat during and after their war-time experiences. Ego resilience was not a protection against PTSD. Even those veterans experiencing post-traumatic symptoms were seen as having commensurate ego resilience to those without PTSD symptoms. However, those with lower levels of resilience in adolescence were more likely to have emotional and behavioral problems that endured to later life. Elder and Clipp called for further longitudinal research into the late effects of trauma exposure in combat veterans.

Based on Elder and Clipp's model of resilience in aging veterans, Aldwin et al. (1994) examined how combat affected older adults positively and negatively. As part of the VA Normative Aging Study (NAS), a longitudinal aging study, they obtained data on 1287 veterans of primarily WWII and the Korean War, ages 43–91, administering a measure of combat exposure, cognitive appraisal of military service, and scales of PTSD and depression. With regard to resiliency, those who had positive appraisals of their stress and military experience were less likely to be experiencing PTSD symptoms. Many respondents indicated that despite the stresses of combat, their time in the service yielded improved self-esteem, coping, and character development. These findings have borne out over time within this sample of veterans. Lee, Aldwin, Choun, and Spiro (2017) found that for combat veterans in the Normative Aging Study, being able to identify positive aspects of their military service was related to greater well-being in late life.

Studies of resilience in Vietnam veterans have suggested that hardiness and social support were correlated with resilience to PTSD (King, King, Foy, Keane, & Fairbank, 1999). This broad research included 1200 male and 432 female veterans from the National Veterans Readjustment Study. Using structural equation modeling, they examined the relationship between pre-war risk factors, stressors during war, post-war resilience and recovery variables, and PTSD for both men and women. They found that for both genders, hardiness and functional social support mitigated PTSD symptoms. Yet as veterans were subjected to greater stress during and after the war, hardiness and functional social support lost their potency, and fewer coping resources were available to access.

Late-Onset Stress Symptomatology: LOSS

In investigating the course of trauma across the life course, clinical researchers within the Department of Veterans Affairs have encountered the emergence of symptoms in aging combat veterans who had not previously exhibited significant psychopathology (Davison et al., 2006; King, King, Vickers, Davison, & Spiro, 2007). This phenomenon has been termed "late-onset stress symptomatology," or LOSS, and encapsulates intrusive thoughts and feelings related to the combat experience (Davison et al., 2006). These symptoms emerge in concert with the typical challenges of aging, often with retirement, change in health status, or loss of a spouse. LOSS is not necessarily associated with functional decline and has been considered a normative developmental response not a "disorder" per se (King et al., 2007), in contrast to delayed-onset PTSD which can emerge at midlife and onward (Solomon and Mikulincer, 2006). In a study of older combat veterans from several conflicts (WWII, Korea, Vietnam), researchers developing a scale to assess LOSS symptoms found that veterans exhibited resilient characteristics inversely proportional to (King et al., 2007). Those exhibiting higher measured LOSS symptoms displayed lower social support, life satisfaction, and sense of personal mastery and higher stressors, pessimism, and negative effect. Resiliency may play a role in helping these veterans cope with combat-related thoughts and feelings that emerge in the course of life review or in reappraisal following a disruptive life event. Appraising participation in combat as an adversity that was overcome may help veterans to confront future challenges with a sense of self-efficacy (Davison et al., 2006). Older veterans may thus navigate the usual stressors of aging with a more complex set of challenges but also a unique constellation of personal resources. Researchers have proposed that these veterans may benefit from interventions such as psychoeducation to shore up their strengths, rather than engaging in a more intensive trauma-focused therapy that may not suitably address their developmental needs (Davison et al., 2006).

Conclusion

Some older adults may be naturally unfazed by the unique stressors of late life, while others may benefit from interventions to help them to become more resilient. Ingredients that may be important to bolstering resilience in older adults include a strong sense of community and meaningful relationships, a confident sense of one's self and abilities, and an optimistic outlook when stressors arise. For clinicians, assessing an older adult's resilience can help in distinguishing among those who are doing well on their own, those who could use a small boost to help them better cope, and those who require more significant support.

One topic that might be further investigated is whether societal attitudes prevent or inhibit resilience in older adults. The stigma of older adults as being feeble, frail, and vulnerable has historically been perpetuated and runs counter to a resilience-focused narrative about late life. When social work students were asked to imagine how resilient older adults would be in trying situations, they rated older adults as being less resilient than they themselves would be at that age in the same circumstances (Kane, 2008). These students rated themselves as more likely to recover from trauma, more able to work through negative emotions, and less willing to be seen as a victim of circumstance.

The same shift in perspective may be true for older adults. Older adults' perceptions of themselves and other peers were measured after they were shown negative stereotypes of aging (Pinquart, 2002). Following exposure to these stereotypes, older adults tended to rate their peers more poorly than they had prior to receiving negative information. Yet, their self-perceptions actually improved. Consistent with resiliency theory, these older adults modified their beliefs about themselves in comparison with what their perceptions about other older adults (e.g., "Maybe I'm not doing so badly after all, compared with other people."). This mechanism can be seen as a protective factor; older adults reject negative information about aging rather than allowing it to harm their self-perceptions. Later research has suggested that a diagnosis of cognitive impairment or dementia may negate this process and render older adults more vulnerable to negative stereotypes of aging and exacerbate functional declines (Scholl & Sabat, 2008). Further exploration of resilience in older adults of varying socioeconomic status, gender, race, and religion will help identify how strengths developed over a lifetime of social pressures and stigma can inform adaption to late life.

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Physiological Resilience and the Impact on Health

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Abstract Resilience in aging is the ability to recover from or adapt to stress and maintain or restore one's physical, psychological, or emotional equilibrium. While psychological resilience has been much of the focus in aging, increasing evidence suggests resilience in aging is a biopsychosocial phenomenon. The human lifespan is fraught with environmental, physical, and psychosocial challenges that result in a physiological response. This chapter presents biological aspects of resilience including a discussion of the hypothalamic-pituitary-adrenocortical (HPA) axis, neurochemicals, genetic, genomic and epigenetic influences, inflammation, oxidative stress, microbiome and immunity. Interventions to increase physiological resilience in aging include regular physical exercise, a low calorie high nutrient diet, prebiotics and probiotics and at the core, psychological and environmental stress reduction throughout the lifespan.

Keywords Resilience · Stress · Physiological resilience · Neurochemicals
Genetics

Resilience in aging is the ability to recover from or adapt to stress and maintain or restore one's physical, psychological, or emotional equilibrium. While psychological resilience has been much of the focus in aging, increasing evidence suggests resilience in aging is a biopsychosocial phenomenon. The human lifespan is fraught with environmental, physical, and psychosocial challenges that result in a physiological response. For example, exposure to the sun, air pollution, cigarette smoke, alcohol, unhealthy foods, or other environmental toxins can lead to physiologic changes to one's cell structure, DNA, RNA, proteins, microbiome, and metabolites while contributing to inflammation, oxidative stress, and reduced immunity. Physical stresses such as repeated use of joints, trauma, or other injury can lead to

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inflammation and oxidative stress and cellular or structural damage. Moreover, psychosocial challenges throughout the lifespan can also alter neurochemicals, inflammation, immune function, and other physiologic processes.

There is great variation in the human response to stressors. The degree to which one is able to be resilient depends not only on the stressor in question but also on the amount of physiological reserve available to adapt to or recover from the stressor. For some, accumulation of stress leads to cancer, diabetes, heart disease, metabolic syndrome, autoimmune disorders, or frailty. Yet, others seem to tolerate substantial physiological stress and remain relatively healthy or adapt well to physiologic limitations. Given the demographic trends toward increasing chronic conditions, older adults will continue to experience stressors that will challenge their physiologic reserve with increasing frequency. Our goal as clinicians is to increase the health span for older adults by enhancing both physiological stress resistance and resilience to these chronic conditions.

Physiological resilience is a complex phenomenon clearly affected by several overlapping and intertwined physiological processes. Moreover, there is mechanistic overlap at the molecular level involved in stress resistance or resilience, and the human body is replete with compensatory mechanisms when faced with physiologic stress. Allostasis is the systemic adaptive response to stress using combinations of mediators including sympathetic and parasympathetic activity, cortisol, pro- and anti-inflammatory cytokines, and metabolic hormones that ideally regulate each other to turn on during a stressful event and turn off when the stress resolves (Karatsoreos & McEwen, 2011). These systems are influenced by genetic, genomic, and environmental factors. As the adaptive responses chronically go beyond normal homeostatic ranges, or are not shut off when no longer needed, wear and tear on the body and brain results. The concept of allostatic load is defined as a cumulative physiological burden resulting from biological adaption to stress as life demands (Seeman, McEwen, Rowe, & Singer, 2001). Thus, physiological resilience is often conceptualized in the context of allostatic load as a cumulative measure of biological dysregulation across multiple systems. Allostatic load is associated with mortality, declines in physical and cognitive functioning, cancer, or cardiovascular disease (Seeman et al., 2001).

Stress Resistance Versus Physiological Resilience

There is recent discussion in the literature regarding what constitutes stress resistance versus physiological resilience. For example, Miller, Seals, and Hamilton (2017) differentiate stress resistance as the “mechanisms involved in preventing the ‘tipping point’ from maladaptive to adaptive responses,” while resilience constitutes “the mechanisms that facilitate recovery after reaching the ‘tipping point’” (Miller, Seals, & Hamilton, 2017, p. 2). However, from a physiological perspective, it is often difficult or even impossible to delineate when enough cellular damage has occurred to reach the so-called “tipping point” making stress resistance and resilience difficult to distinguish. For the purposes of this chapter, physiological resilience is conceptualized as “the capacity to maintain adequate function and structure at molecular and cellular levels by adapting or changing to specific challenges” (Franco et al., 2009, p. 14), which encompasses stress resistance, resilience, and allostatic load. In the following sections, we outline how several physiological processes affect resilience to stress and stress-related conditions in aging. We then address the mechanisms for interventions known to enhance physiological resilience in aging.

Hypothalamic–Pituitary–Adrenocortical (HPA) Axis, Stress, and Resilience

The neurochemical stress response systems and the neural circuitry involved in stress responses are associated with physiological resilience in aging (Southwick & Charney, 2012). One of the most important neurochemical modulators of stress and resilience is the hypothalamic–pituitary–adrenocortical (HPA) axis. The HPA axis responds to stress by releasing vasopressin and corticotropin-releasing hormone (CRH) from the hypothalamus, which stimulates the secretion of adrenocorticotropic hormone (ACTH) from the pituitary gland to trigger the production of glucocorticoid hormones (e.g., cortisol in humans) from the adrenal cortex. Glucocorticoids modulate metabolic and other neurologic processes that are necessary for coping with the stressor. Once the stressor resolves, negative feedback stimulated by glucocorticoids reduces production of CRH and ACTH (Aguilera, 2011).

HPA axis dysregulation with sustained elevated CRH and cortisol are associated with poor cognition, cardiovascular disease and psychiatric, immune, and metabolic disorders (Aguilera, 2011; Bowes & Jaffee, 2013). Cortisol is a common biomarker of HPA axis functioning, with elevated levels indicating chronic stress. Cortisol has substantial diurnal variation with peaks upon the start of activity typically around 8:30 a.m., and a steady decrease throughout the day with the lowest levels occurring a few hours after going to sleep typically around midnight and then building back up overnight (Chan & Debono, 2010). However, cortisol regulation by the HPA axis changes with aging and in older adults, especially those exposed to chronic stress. Several studies support that there is a decrease in HPA axis sensitivity and a blunted release of cortisol as an effect of normal aging (Agbedia et al., 2011; Gupta & Morley, 2011; Hatzinger, Brand, Herzig, & Holsboer-Trachsler, 2011; Veldhuis, Sharma, & Roelfsema, 2013). Blunted cortisol declines in older adults and is associated with decreased physical function (Sousa et al., 2017) and cognitive decline in aging (Franz et al., 2011). Alternatively, resilient older adults with a larger diurnal drop in cortisol levels have better physical function (Gardner et al., 2013). Promoting resilience in aging with regard to the HPA axis dysregulation can be done by maintaining normal cortisol fluctuation, turning off the activation of

CRH, promoting the negative feedback of glucocorticoids, or downregulation of glucocorticoid receptors. This can be accomplished via stress reduction, genomic regulation of CRH transcription, or binding up glucocorticoid receptors. One study recently demonstrated that emotion regulation and social support may modulate HPA axis activity and contribute to resilience to chronic stress in older adults (Gaffey, Bergeman, Clark, & Wirth, 2016).

Neurochemicals and Resilience

Numerous neurotransmitters, neuropeptides, and hormones have also been associated with response to stress and thereby influence the individual's resilience in response to the stressor (Charney, 2004). Of these, the monoamine neurotransmitters (e.g., serotonin, dopamine, and noradrenaline) have been the most widely studied. The serotonergic system has long been associated with depression, cognition, and other mental health disorders. Moreover, increasing brain levels of serotonin by inhibiting serotonin reuptake is the target for many antidepressant drugs. A mouse model of normal aging suggests that serotonin does not change with healthy aging, but is lower in mice with depressive-like symptoms and cognitive impairment (Von Linstow et al., 2017). Thus, maintenance of serotonin levels may be important for physiological resilience.

Unlike serotonin, older adults do experience age-related dopamine decline, which affects both motor functioning and higher level cognition (Bäckman, Nyberg, Lindenberger, Li, & Farde, 2006). The decreases in dopamine are compounded by age- and disease-related systemic inflammation which crosses the blood–brain barrier and further decreases available dopamine (Rutherford, Taylor, Brown, Sneed, & Roose, 2016). Maintaining adequate levels of dopamine have been shown to confer resilience to working memory losses in primates (Bäckman et al., 2006).

Noradrenaline and adrenaline are activated in the sympathetic nervous system during stressful situations in order to initiate necessary functions for survival (i.e., fight or flight). While noradrenaline is important in these hyper-stressful situations, prolonged release of noradrenaline is linked with post-traumatic stress disorder (PTSD), anxiety, and panic disorder. Neuropeptide Y (NPY) is an amino acid that is also released with noradrenaline upon activation of the sympathetic nervous system and works to control the continued activation of noradrenaline. In resilient individuals, noradrenaline is activated only in the presence of a dangerous or stressful situation (Morgan et al., 2000). Individuals with high levels of NPY in the brain or central nervous system are less depressed, anxious, and resilient to PTSD (Enman, Sabban, McGonigle, & Van Bockstaele, 2015). Thus, evidence suggests that NPY has potential as therapeutic target of stress resilience. Rodent studies suggest that NPY decreases in the brains with aging (Morley, 2012). However, administration of NPY in the periphery does not cross the blood–brain barrier to get into the central nervous system and has several potentially harmful effects including abnormalities in metabolic homeostasis, obesity, gastrointestinal issues, and cancer (Enman et al., 2015). Therefore, the challenge for future research on resilience in aging would be to adequately maintain NPY in the brain, without increase NPY levels in the periphery.

Another important group of neurochemical modulators of physiological resilience is the neurotrophins. Neurotrophins are vital for creating and connecting neural networks. Specifically, brain-derived neurotrophic factor (BDNF) and its associated receptors are critical for the growth, differentiation, and maintenance of neurons. BDNF works in the synapses between neurons, where neurons communicate. These communication pathways can change based on external experiences. This phenomenon is known as synaptic plasticity. BDNF regulates synaptic plasticity throughout the central nervous system. BDNF protects neurons against damage caused by oxidative, metabolic, and excitotoxic stress potentially via modulation of neuroplasticity or control of neurogenesis (Rothman & Mattson, 2013). Exposure to low doses of voluntary stresses such as physical exercise, intermittent fasting, or cognitive challenges induces expression of BDNF that has been shown to confer resilience to future insults such as epileptic seizures, traumatic central nervous system injury, or stroke by reducing neuronal degeneration and improving functional outcomes (Rothman & Mattson, 2013). However, BDNF expression and the effects of these interventions are blunted in aging. Future studies are needed to determine how to maintain healthy levels of BDNF and the protective effects to enhance resilience in older adults.

Genetic and Genomic Influences on Resilience

Genetics and genomics play a key role in physiological resilience in aging. Not only can single-nucleotide polymorphisms (SNPS), and other genetic variants that individuals are born with, affect physiological resilience in aging, but a lifetime of extrinsic and intrinsic environmental exposures can lead to genomic modifications that alter the expression of resilience-related genes. There are several key genes including *SLC6A4, COMT, BDNF, FKBP5, and CRHR1* that have been associated with resilience in aging.

The serotonin gene solute carrier family 6 member 4 (*SLC6A4*), also known as *5-HTTLPR* gene, has a variable number of tandem repeats polymorphism that come in short (*s*) and long (*l*) variations. *SLC6A4* and its associated receptors [i.e., serotonin 1a (5HTR1A) and 2a receptors (5HTR2A)] are associated with resilience and successful aging among older adults. Among younger adults, typically the long (*l*) allele of *5-HTTLPR* confers resilience to stressful events (Feder, Nestler, & Charney, 2009; Resnick, Klinedinst, Yerges-Armstrong, Choi, & Dorsey, 2015). For example, genetic variation in serotonin receptors affects elderly persons' resilience and recovery from medical events. Specifically, women who had suffered a hip fracture and had 1–2 copies of the G allele in 5HTR1A had more depression and poorer ability to complete instrumental activities in daily living (IADL) compared to those without this allele. In addition, women with 1–2 copies of the 5HTR2A C allele did not have significantly higher depression and had *better* IADL scores than those with A/A genotype (Lenze et al., 2008). However, the results as to whether (*ss*) or (*ll*) alleles confer risk for stress are mixed (Culverhouse et al., 2017; O'Hara et al., 2012) and a recent response to the current inconclusive meta-analysis looking at (*ss*) versus (*ll*) alleles suggests that the most resilient group has the (*sl*) heterozygote allele for the *SLC6A4* gene (Ancelin & Ryan, 2017).

The *COMT* gene directs the synthesis of an enzyme, catechol-O-methyltransferase, which breaks down neurotransmitters, thus maintaining appropriate levels of dopamine and norepinephrine in the brain. SNP variants on Val158Met in *COMT* demonstrate that those with the Met allele (vs. Val allele) are associated with lower levels of sense of well-being in younger adults, but not in older adults (Turan, Sims, Best, & Carstensen, 2016). Another study looking at candidate genes of resilience in aging in a comprehensive model that included age, cognition, comorbidities, pain, and depressive symptoms found no association with SNPs in *COMT* and resilience among older adults (Resnick et al., 2015). Together these findings suggest that (1) older adults may have established methods for promoting resilience and/or (2) other mechanisms to promote resilience in aging may offset genetic vulnerabilities to negative life experiences.

The *BDNF* gene provides the instructions for making BDNF. *BDNF* gene expression is associated with resilience to cognitive decline (Buchman et al., 2016). Specifically, Met carriers of the Val66Met polymorphism in the *BDNF* gene are more vulnerable to depression and have more memory decline than their Val/Val homozygote counterparts (Azeredo et al., 2017; Hosang, Shiles, Tansey, McGuffin, & Uher, 2014; Ward et al., 2017). Thus, older adults who are Val/Val homozygotes may be genetically more resilient. In addition, SNPs in *NTRK-3* gene, another gene that influences neuroplasticity and BDNF, were directly associated with depression when examined as part of a comprehensive model of depression in older adults, that included genetics, fear of falling, physical activity, and pain (Klinedinst, Resnick, Yerges-Armstrong, & Dorsey, 2015).

Two HPA axis-related genes, corticotropin-releasing Hhormone receptor 1 gene (*CRHR-1*) and FK506 binding protein 5 (*FKBP5*), are associated with resilience in aging. Genetic association studies indicate that association between stressful life events and alterations in the HPA axis may be mediated, in part, by gene × environment interactions involving polymorphisms within *CRHR1* and *FKBP5* (Gillespie, Phifer, Bradley, & Ressler, 2009; Ising et al., 2008). *CRHR-1* encodes for a receptor that binds neuropeptides of the corticotropin-releasing hormone, a major regulator of the HPA axis. Genetic studies show that people with the rs110402 A and rs242924 T alleles of *CRHR-1* are resistant to major depressive disorder in individuals exposed to early life stress (Bradley et al., 2008; Polanczyk et al., 2009). Additionally, AT carriers of *CRHR1* rs110402 and rs242924 have significantly better working memory than their GG homozygote counterparts starting at middle age and continuing into old age. *FKBP5* is a protein-coding gene that regulates negative feedback to the HPA axis (Ising et al., 2008) and is associated with major depressive disorder and post-traumatic stress disorder. Genetic polymorphisms in the *FKBP5* gene region results in alterations in the cortisol response during the anticipation period before a stressful event and an impaired recovery of the cortisol secretory response after the stressful event (Ising et al., 2008).

Epigenetics and Resilience

Epigenetics refers to long-lasting alterations in gene expression that do not involve changes in DNA sequence. Epigenetic changes occur through acetylation or methylation of histones or methylation of DNA itself. Childhood treatment/ mistreatment is associated with epigenetic changes that result in differences in resilience in adulthood. This has been demonstrated most clearly in preclinical rodent models of maternal rat grooming of young rats. As opposed to young rats exposed to less grooming, young rats who were exposed to a lot of grooming/ maternal licking have less methylation of the glucocorticoid receptor (GR) allowing for higher GR expression in the hippocampus. This results in lower levels of corticosterone secretion at baseline and upon exposure to stress, resulting in resilience to anxiety (Feder et al., 2009). Additionally, female rats who were groomed are more likely to groom their young (Feder et al., 2009). In humans, childhood maltreatment results in epigenetic changes to GR gene *NR3C1*, resulting in lower GR expression which is associated with post-traumatic stress disorders, bipolar disorders, and major depressive disorders in adulthood (Mehta et al., 2013; Perroud et al., 2011). Research is needed to continue to explore epigenetic alterations that can promote resilience in aging.

Inflammation and Resilience

Aging is characterized by a chronic, progressive increase in inflammation, also known as inflammaging (Franceschi, Monti, Sansoni, & Cossarizza, 1995; Xia et al., 2016). In moderation, inflammation is beneficial for cellular repair, turnover, and adaptation. Yet, a growing body of evidence supports that a heightened inflammatory response is a predictor of stress vulnerability and resilience (Pfau & Russo, 2015; Reber et al., 2016).

Interaction of stress and inflammation has been a focus of psychiatric research since the development of the "cytokine hypothesis of depression" (Pfau & Russo, 2015). This theory posits that abnormalities in depression (i.e., neurodegeneration, oxidative stress, serotonergic signaling dysfunction) are due, in part, to stress-induced cytokine release (Pfau & Russo, 2015). Cytokines reach the central nervous system and stimulate an abnormal stress response and stress-related pathologies in two ways: (1) stimulating the vagus nerve and brain stem nuclei, including the HPA axis (neural pathway); and (2) crossing the blood–brain barrier (humoral pathway) (Pfau & Russo, 2015). This suggests cytokines influence the central nervous system and subsequently resilience and the stress response. For example, research has shown that an elevated inflammatory milieu is associated with PTSD and depression (Cámara, Gander, Begré, & von Känel, 2011; Lindqvist et al., 2014; O'Donovan, 2016) and adults with chronic inflammatory disorders are nearly six times more likely to develop depression compared to those without inflammatory diseases (Moussavi et al., 2007). Moreover, rats with inflammatory profiles exhibit passive coping and helplessness behaviors in response to stress, while active coping and resistance to stress are present in rats with suppressed inflammatory processes (Wood et al., 2015; Yang, Shirayama, Zhang, Ren, & Hashimoto, 2015). Conversely, antagonism of IL-1 receptors prevents anhedonia in rats exposed to chronic unpredictable stress (Koo & Duman, 2008).

Several studies support that inflammation in the brain affects stress response and resilience. First, in the aging brain, the microglia (residing macrophages) do not sense and respond to the microenvironment in the same ways as microglia in younger brains. Instead, aged microglia have an overactive response to inflammation in the central nervous system that stimulates infiltration of additional immune cells and contributes to decreased neurogenesis (Bickford, Flowers, & Grimmig, 2017). This renders the environment less favorable for neural plasticity, neurogenesis, and cognitive function seen in diseases like Alzheimer's disease or Parkinson's disease (Bickford et al., 2017). Thus, microglia and their maladaptive responses in aging may play an active role in adaptation and vulnerability to stress.

Additionally, systemic or intracerebroventricular administration of IL-1, IL-1β, or TNF-α promotes pro-inflammatory cytokine gene expression and proteins in the brain to induce anxiety and sickness behaviors (Ménard, Pfau, Hodes, & Russo, 2017; Song, Horrobin, & Leonard, 2006). Because inflammation damages DNA and promotes cell senescence and cessation of division (Franceschi, Garagnani, Vitale, & Capri, 2017), similar damage in the central nervous system may underlie how inflammation position an aging adult for heightened risk of developing stress-related pathologies and poor stress coping responses (Wood et al., 2015). Specifically, inflammation exhibits downstream effects on the HPA axis and modulates hippocampal neurogenesis, as seen in vitro incubation with IL-1β that showed a decreased proliferation of adult hippocampal progenitor cells (Pfau & Russo, 2015).

Despite these findings, evidence suggests inflammatory processes are present but well controlled by anti-inflammatory responses in resilient individuals (Ménard et al., 2017). Centenarians best exemplify this. Centenarians present with increased age-associated inflammation, but it is offset by adequate anti-inflammatory responses when compared to other aging adults (Cannizzo, Clement, Sahu, Follo, & Santambrogio, 2011). This results in increased resilience marked by longevity. Therefore, interventions that stimulate adequate anti-inflammatory responses may be beneficial.

Oxidative Stress and Resilience

Oxidative stress is the result of persistent and unresolved inflammation, like that seen in aging (Baylis, Bartlett, Patel, & Roberts, 2013; De la Fuente & Miquel, 2009; Franceschi & Campisi, 2014; Rahal et al., 2014). Oxidative stress plays a key role in resilience and response to stress (de Roos & Duthie, 2015; Rahal et al., 2014) and is characterized by an imbalance in oxidative agents [free radicals and reactive oxygen species (ROS)] and antioxidants (De la Fuente & Miquel, 2009). The loss of physiological equilibrium between oxidative agents and antioxidants results in damage to proteins, lipids, and carbohydrates from free radicals know as oxidative stress (Cannizzo et al., 2011; Dröge & Schipper, 2007). This damage is irreversible and accumulates over decades (Baylis et al., 2013) and leads to impaired physiological function (Finkel & Holbrook, 2000) and an altered ability to maintain homeostasis. For instance, the mitochondria structure (e.g., DNA) and function (e.g., energy production) are prime targets for oxidative damage because oxygen is mainly used for and generated by the mitochondria (Dröge & Schipper, 2007; Rahal et al., 2014). Thus, cells, which are governed by mitochondria, are no longer able to function as intended and exhibit a poor response to stress. A considerable body of evidence exemplifies this by showing dysfunctional mitochondrial energy production and alterations of mitochondrial DNA are associated with pathophysiology of stress, resilience, and depression (Henningsen et al., 2012; Hroudová, Fišar, Kitzlerová, Zvěřová, & Raboch, 2013; Kim et al., 2016; Klinedinst & Regenold, 2015; Manji et al., 2012).

This process of oxidative stress affects all cells of an organism; especially cells of regulatory systems (i.e., nervous, immune, endocrine systems) (De la Fuente & Miquel, 2009). Because these systems are susceptible to the greatest amount of oxidative damage, when damage occurs, they suffer functional losses that result in inability to maintain internal equilibrium (De la Fuente & Miquel, 2009). Of particular interest with respect to resilience is evidence that oxidative stress contributes to central nervous system impairment (Bouayed, Rammal, & Soulimani, 2009; Rahal et al., 2014; Salim, 2017). The brain is highly vulnerable to oxidative stress because of its high mitochondrial oxygen consumption and modest antioxidant defenses (Bouayed et al., 2009). ROS stimulate multiple molecular pathways to increase blood–brain barrier permeability (Gu, Dee, & Shen, 2011). Thus, the brain tissue becomes increasingly susceptible to damage including neuroinflammation and neuron death (Gu et al., 2011). The altered structure of brain cells negatively impacts proper functioning and responsiveness of the brain, as seen in several studies in mice models highlighting the association between neuroinflammation, neurodegeneration, and anxiety (Bouayed et al., 2009; Masood, Nadeem, Mustafa, & O'Donnell, 2008; Rammal, Bouayed, Younos, & Soulimani, 2008).

Nonetheless, the exact mechanisms outlining oxidative stress to resilience and the stress response are relatively unknown and require additional research (Schiavone, Jaquet, Trabace, & Krause, 2013). The goal for mediating oxidative stress is not to eliminate oxidative agents, but instead to control their levels and prevent oxidative damage (de Roos & Duthie, 2015). Low levels of oxidative agents are, in fact, beneficial for healthy aging (Dato et al., 2013). Interventions that increase the production of protective enzymes and resilience products (e.g., xenobiotic metabolizing enzymes, antioxidant enzymes) are key to positive responses to exposure to oxidative agents. There is evidence that older adults with healthy dietary habits exhibit adequate balances of oxidative agents and antioxidants, suggesting that a healthy internal and external environment is important for physiological resilience and a positive response to oxidative stress in aging (Bickford et al., 2017; de Roos & Duthie, 2015).

Gut Microbiome and Resilience

Although less is known in aging (Buford, 2017), the gut microbiota is the body's most complex ecosystem (Biagi, Candela, Fairweather-Tait, Franceschi, & Brigidi, 2012). The gut microbiota is involved in regulation of multiple host metabolic pathways (Nicholson et al., 2012), including the gut–brain axis (Holzer et al., 2017). The gut–brain axis involves bidirectional communication between the gut and the brain (Cryan & Dinan, 2012), and its modulation is associated with alterations in the stress response and behavior (Reber et al., 2016). The gut microbiota plays a role in not only programming the HPA axis (Sudo et al., 2004) but also stress reactivity over the lifespan (Foster & McVey Neufeld, 2013).

Several findings highlight and support that alterations in the gut microbiota transmit messages to the brain stem and HPA axis to alter stress responses (Holzer et al., 2017; O'Mahony, Clarke, Borre, Dinan, & Cryan, 2015). Several studies found an exaggerated HPA axis response to stress in germ-free mice (Foster & McVey Neufeld, 2013; Neufeld, Kang, Bienenstock, & Foster, 2011), suggesting commensal gut microbiota is necessary for resilience. Conversely, oral administration of pathogens cause gut microbiota stimulation of neuronal circuits and generate anxiety in mouse models (Goehler, Park, Opitz, Lyte, & Gaykema, 2008; Lyte, Li, Opitz, Gaykema, & Goehler, 2006). The exaggerated stress response is completely recovered with colonization with beneficial gut microbiota and the earlier the colonization, the greater the reversal of effects (Sudo et al., 2004).

Moreover, changes in gut microbiota have a significant effect on brain activity and behavior because they produce a variety of neurometabolites (e.g., GABA, acetylcholine, and serotonin) (Cryan & Dinan, 2012). For example, a vast majority of the body's serotonin is synthesized and resides in the gut (O'Mahony et al., 2015). Serotonin is a well-known biological substrate in the pathogenesis of mood disorders (Foster & McVey Neufeld, 2013), and there is cross-talk between the gut serotonergic system and serotonergic system in the central nervous system (O'Mahony et al., 2015). Thus, changes in one may affect the other. Subsequently, decreased diversity of the gut microbiota seen in aging (Claesson et al., 2011) may not only alter the HPA axis stress response but also dictate serotonin-related health problems like depression and anxiety in older adults (O'Mahony et al., 2015).

The gut microbiota also plays a significant role in modulating host immunity and inflammation (Cryan & Dinan, 2012) as a way to mediate stress and physiological resilience. Thus, detrimental changes in gut microbiota may activate inflammatory and immune pathways to stimulate the HPA axis (Baylis et al., 2013; Buford, 2017; Foster & McVey Neufeld, 2013; Holzer et al., 2017). Beneficial gut microbiota produces an array of metabolites that benefit host function (Nicholson et al., 2012), including essential vitamins and amino acids that develop and maintain gut epithelium (Biagi et al., 2012; Brestoff & Artis, 2013). An adequate balance of beneficial gut microbiota facilitates integrity of the gut, while a loss of diversity of beneficial gut microbiota enhances normal age-related gut permeability. Gut permeability governs the relationship between the gut microbiota and host immunity (Holzer et al., 2017), and gut permeability is strongly associated with long-term health (Bischoff et al., 2014) and the stress response (Hodes et al., 2014; Pfau & Russo, 2015). Subsequently, microbes can translocate across the gut barrier and stimulate an immune and inflammatory response to activate the HPA axis (Buford, 2017; Foster & McVey Neufeld, 2013; Holzer et al., 2017). Activation of the HPA axis then impacts the gut microbiota. As stress increases, normal age-related intestinal permeability, affording bacteria more opportunity to translocate across the gut barrier, creates a cyclic process (Foster & McVey Neufeld, 2013). This positive feedback cycle is exacerbated by trauma or stress exposure and influences not only gut inflammation and bacterial translocation but also emotional behavior (Cryan & Dinan, 2012).

Beneficial gut microbiota also produces short-chain fatty acids, some of which exert anti-inflammatory and immunomodulating effects (Biagi et al., 2012; Brestoff & Artis, 2013). Butyrate, for instance, is a short-chain fatty acid that reduces oxidative damage, inhibits tumor growth, and induces apoptosis of DNA-damaged cells, enhancing a host's ability to withstand stress and disease (Wang et al., 2012). Emerging research suggests that short-chain fatty acids play a key role in the development and maintenance of the blood–brain barrier (Holzer et al., 2017). Because the blood–brain barrier is deemed essential for brain development, function, and overall homeostasis, the gut microbiota may have a significant role in controlling brain activity and behavior important in resilience (Holzer et al., 2017). Age-related changes in gut microbiota composition affect the gut–brain axis balance and may explain why a decrease in beneficial gut microbiota is associated with hospitalization, frailty, and other poor health outcomes (Buford, 2017; Claesson et al., 2011; Zapata & Quagliarello, 2015).

Overall, the gut microbiota interacts extensively with its host to maintain normal function and response to stress necessary for resilience in aging. Although the mechanisms are complex and not fully understood, interventions that ensure an adequate balance of beneficial gut microbiota are suggested to be important for maintaining resilience (Cryan & Dinan, 2012).

Immunity and Resilience

While the mechanisms are not clear, normal aging is marked by a gradual deterioration of immune function, known as immunosenescence (Fagundes, Gillie, Derry, Bennett, & Kiecolt-Glaser, 2012; Larbi et al., 2013). Inadequate immunoregulation increases the vulnerability to stress-related disorders (Hodes et al., 2014; Rook, Raison, & Lowry, 2014). Conversely, centenarians, known as models of successful aging and resilience, show well-preserved immune function (Franceschi et al., 1995).

Innate Immunity. The innate immune system refers to anatomical (e.g., skin) and biochemical barriers (e.g., enzymes in saliva) and nonspecific cellular responses (e.g., phagocytosis by neutrophils) (Fuentes, Fuentes, Alarcón, & Palomo, 2017). A majority of the research exploring stress and innate immunity highlights the negative effect of stress on innate immune cells. Specifically, that stress stimulates enhanced proliferation and release of immature innate immune cells and alters their reactivity toward a more pro-inflammatory profile (Heidt et al., 2014; Ménard et al., 2017; Pfau & Russo, 2015; Powell et al., 2013). Conversely, one study found increases in blood and spleen monocytes is associated with increased susceptibility to stress (Pfau & Russo, 2015). Moreover, mouse models showed that prior to a stressful event, stress-susceptible mice exhibited higher number of leukocytes with increased production of interleukin-6 (IL-6, an inflammatory marker) when compared to non-susceptible mice (Hodes et al., 2014). In humans, similar patterns in elevated leukocytes and IL-6 are followed by a diagnosis of depression (Lanquillon, Krieg, Bening-Abu-Shach, & Vedder, 2000; Maes et al., 1992). This suggests a potential relationship between innate immune cells and the stress response. Centenarians, for example, exhibit adequate concentrations of neutrophils, basophils, monocytes, and eosinophils along with well-preserved ability of these cells to migrate to a target site and mediate killing activity (Franceschi et al., 1995; Sansoni et al., 1993); suggesting a resilience profile is characterized by a well-preserved innate immune response.

Adaptive Immunity. The adaptive immune system, made up of B and T-lymphocytes, is thought to promote resilience by protecting an individual against repeated stressors (Lewitus & Schwartz, 2009). Decreased B- and T-lymphocytes result in poor memory for and response to a repeated threat. In fact, centenarians exhibit a consistent number of CD4 and CD8 virgin T-lymphocytes (Franceschi et al., 1995), highlighting their capacity for stimulating an adequate response and memory against repeated threats. On the other hand, PTSD, a disease marked by inability to respond appropriately to stress, is associated with decreased T-regulatory cells (Sommershof et al., 2009) and T-cell deficient mice are more vulnerable to stress (Cohen et al., 2006; Reber et al., 2016). Centenarians also exhibit decreased presence of autoantibodies (Franceschi & Campisi, 2014), indicating an adaptive immune response that can distinguish between self and non-self. Yet in PTSD, there is a dysfunctional adaptive immune response evidenced by increased autoimmunity (O'Donovan, 2016). Given this evidence, aging adults are at risk for developing diminished stress responses and reduced resilience. Normal age-related changes in the adaptive immune system include a reduction in the T-cell repertoire and an increase in autoantibody production secondary to thymus involution and less sensitive B-lymphocytes (Baylis et al., 2013; Fuentes et al., 2017; Larbi et al., 2013).

Several studies suggest that enhancement of the adaptive immune response will improve resilience in aging adults. In mice models, immunizations with T-cells against self-antigens or microorganisms that stimulate appropriate adaptive immune reactivity are associated with increased resilience (Cohen et al., 2006; Reber et al., 2016). The increased resilience phenotype is characterized by a shift toward proactive coping responses during chronic stress and a decreased vulnerability to development of anxiety and depression symptoms (Reber et al., 2016). As seen in immunizations for diseases such as the flu mild activation of adaptive immunity before stress exposure may confer protection against stress-related disorders and enhance physiological resilience in aging adults (Ménard et al., 2017).

Interventions to Enhance Physiological Resilience Among Older Adults

Physical Activity/Exercise: If there is any "magic bullet" to confer physiological resilience in aging, the strongest evidence is with regard to physical activity and, more specifically, moderate-intensity exercise. Acute exercise buffers the stress response via negative HPA axis feedback and reductions in cortisol release upon exposure to stressors (Zschucke, Renneberg, Dimeo, Wüstenberg, & Ströhle, 2015). Exercise results in higher peak cortisol levels and a greater fall in cortisol concentration from peak levels to midday (Tortosa-Martínez et al., 2015). A more dynamic cortisol secretion pattern consisting of higher peak cortisol and lower drops throughout the day is associated with better cognitive function and physical performance among older adults (Dijckmans et al., 2017). In addition, maintenance of diurnal cortisol rhythm promotes cognitive resilience through maintenance of executive function in older adults with mild cognitive impairment (Tortosa-Martínez et al., 2015).

Exercise is also important for promoting neuroplasticity and maintaining neural networks in aging. Exercise increases BDNF signaling in the hippocampus which is associated with improved cognitive function, mood, and neuroprotection (Silverman & Deuster, 2014). Animal models demonstrate that regular moderate exercise results in increases in synaptic plasticity proteins within the hippocampus, increased neurotrophic signaling, and improvement in spatial memory but type of exercise (aerobic vs. strength training) have different mechanistic effects. Aerobic exercise increased glutamatergic proteins and decreased DNA damage, while strength training resulted in increased levels of PKCα and pro-inflammatory markers (TNF-α, IL-1β) (Vilela et al., 2017).

Acute exercise raises inflammatory markers such as IL-6, which promotes an anti-inflammatory state by promoting the release of anti-inflammatory cytokines such as IL-1ra and IL-10 (Silverman & Deuster, 2014). In long-term exercisers, levels of IL-6 both basal and exercise-induced are lower than in non-exercisers, but the anti-inflammatory effects are maintained (Silverman & Deuster, 2014). Thus, regular exercise promotes resilience to acute inflammation and is protective in response to immune and inflammatory challenges such as stroke (Ding et al., 2005) or infection (Nickerson, Elphick, Campisi, Greenwood, & Fleshner, 2005).

Another mechanism by which exercise reduces inflammation is by controlling adiposity in aging and subsequently reducing inflammation (Sallam & Laher, 2016). A review by Woods et al. (2012) found a large number of studies that conclude exercise-induced loss of adipose tissue is related to exercise-induced reductions in inflammation in aging (Woods et al., 2012). One study in particular found that older adults participating in aerobic-based exercises exhibit reductions in inflammation that are associated with decreases in total body fat and/or trunk fat (Vieira et al., 2009). Changes in body fat through exercise may play at least a partial role in regulating inflammation (Vieira et al., 2009). Exercise induces an acute inflammatory stress that promotes growth and facilitates resilience, independent of fat loss. Long-term exercise increases muscle production of interleukin-6 which reduces TNF-α production and increases anti-inflammatory cytokines (Starkie, Ostrowski, Jauffred, Febbraio, & Pederson, 2003). Thus, exercise, whether or not fat loss occurs, may be useful for mitigating inflammation to improve physiological resilience.

In addition, exercise promotes systemic bioenergetic health. Bioenergetic deficits in platelets, including altered mitochondrial electron transport chain complex activities, generation of reactive oxygen species, and apoptosis improve with physical activity (Neufer et al., 2015). A recent review demonstrated that acute exercise increases ROS production acutely in older adults (Bouzid, Filaire, McCall, & Fabre, 2015) but this in turn activates redox signaling pathways that are associated with cellular differentiation, tissue regeneration, and prevention of many chronic diseases such as cancer, autoimmune disorders, and loss of tissue regeneration with age (Schieber & Chandel, 2014). Thus, chronic moderate-intensity exercise promotes resilience in older adults by decreasing oxidative stress damage and reinforcing antioxidant defenses (Bouzid et al., 2015).

Another benefit of exercise is that moderate-intensity aerobic exercise exhibits a positive influence on the gut microbiota (Buford, 2017). Studies in lab animals have demonstrated that aerobic exercise enhanced epithelial integrity in the gut, improved microbial diversity and led to attenuation of inflammation (Allen et al., 2015; Campbell et al., 2016; Evans et al., 2014; Hoffman-Goetz, Pervaiz, & Guan, 2009; Hoffman-Goetz, Pervaiz, Packer, & Guan, 2010; Mika et al., 2015). Although this relationship is not well studied in aging humans, it may prove to be a promising intervention to promote a healthy gut, reduce inflammaging, and improve physiologic resilience. Moreover, research exploring the effect of various types of exercise on gut microbiota may prove useful for building a body of research surrounding physiological resilience.

Exercise also boosts the immune system among older adults. Regular moderate exercise enhances immunization responses (Kohut et al., 2004; Pascoe, Fiatarone Singh, & Edwards, 2014), reduces systemic inflammation (Woods et al., 2012), results in a more differentiated adaptive immune system that reduces the total number of circulating leukocytes, neutrophils, and lymphocytes, and results in a higher degree of differentiation in CD4+ T-lymphocytes (Moro-García et al., 2014). Exercise is also associated with lower numbers of senescent T-cells, increases in T-cell production, increases in neutrophil phagocytic activity, and increases in leukocyte telomere lengths in older adults (Simpson et al., 2012). This all contributes to the evidence that regular moderate-intensity exercise throughout the lifespan promotes physiological resilience for aging adults. However, significant gaps exist in determining how much and what types of exercise best promote physiological resilience in older adults.

Diet: Adequate nutrient intake with appropriate caloric restriction and plant-based protein consumption is regarded as a gold standard of many aging interventions (Dato et al., 2013; Xia et al., 2016). Caloric intake is strongly associated with inflammatory pathways (Xia et al., 2016). For instance, excessive caloric intake increases mitochondrial ROS production that contributes to oxidative stress and inflammation (Wellen & Thompson, 2010). Increased calories result in more glucose being catabolized which then generates more free radicals (Cannizzo et al., 2011). Similarly, the quality of diet is associated with inflammation. Diets high in refined grains, processed meats, sugar and saturated and trans-fatty acids and low in fruits, vegetables, and whole grains promote inflammation (Giugliano, Ceriello, & Esposito, 2006). In addition, diet is believed to have the largest effect on the microbiome, especially the gut microbiome (Buford, 2017). Older adults who consume a diet high in saturated fat and sugar exhibit a decreased number of beneficial gut microbiota, which is associated with chronic activation in inflammation and an increase in inflammatory disorders (Buford, 2017). Moreover, low-fiber diets are believed to exacerbate inflammation and the presence of associated diseases (Biagi et al., 2012). A Mediterranean diet (high consumption of vegetables, extra virgin olive oil, cereals, nuts, and legumes, moderate consumption of protein including dairy products, and low intake of eggs and sweets), adopted by a high number of centenarians, balances the gut microbiota and reduces inflammation (Davis, Bryan, Hodgson, & Murphy, 2015; Santoro et al., 2014). Similar dietary methods may be beneficial for managing gut microbiota imbalances in aging adults; for example, the Mediterranean diet is high in fiber (e.g., vegetables), which is known to be digested and fermented by gut microbiota into short-chain fatty acids like butyrate (Nicholson et al., 2012).

High antioxidant (e.g., Vitamin C, E, etc.) diets improve inflammation and reduce oxidative stress (Alvarado et al., 2006; Conner & Grisham, 1996; Walston et al., 2006). Aside from daily intake of antioxidants themselves (Block et al., 2009; Calder et al., 2009; E. S. Ford, Liu, Mannino, Giles, & Smith, 2003; Wilson, 2009), one method to increase antioxidant production is through a diet rich in bioactive phytochemicals and fatty acids (plant-based foods, e.g., garlic extract, resveratrol). Phytochemicals and fatty acids increase the production of antioxidants by stimulating the nuclear factor erythroid 2 (NFE2)-related factor 2 (*Nrf2*) pathway, which controls the expression of genes whose protein products are involved in the defense against oxidative or electrophilic stress (Nguyen, Nioi, & Pickett, 2009). This cellular signaling pathway mediates the adaptive response of cells to moderate stress (de Roos & Duthie, 2015). Thus, a well-balanced, high-quality diet that incorporates antioxidants and plant-based foods may increase cellular levels of protective enzymes against oxidative stress and improve health (de Roos & Duthie, 2015).

Adequate intake of micronutrients such as magnesium, vitamin D, thiamin, riboflavin, calcium, and selenium are important for physiological resilience in older adults. Of these, magnesium, calcium, and vitamin D have been most widely studied. Older adults are often deficient in magnesium intake, and intake is even lower among racial and ethnic minorities than among Caucasians (Ford & Mokdad, 2003). Magnesium deficiency is associated with HPA axis dysregulation and induces anxiety behavior in rodents (Sartori, Whittle, Hetzenauer, & Singewald, 2012). Magnesium is also critical for cellular metabolism, and insufficient intake of magnesium is associated with cellular senescence in aging (Killilea & Maier, 2008). Moreover, inadequate magnesium intake is associated with cardiovascular disease, diabetes, cognitive impairment, and sarcopenia in aging (Barbagallo & Dominguez, 2010). A diet that includes whole grains, dark leafy greens, quinoa, and almonds may improve magnesium levels and physiological resilience among older adults.

Calcium is the most abundant mineral in the body, mostly stored in the bones and teeth, and is essential for adequate bone health and cellular signaling. While only 1% of calcium is stored in the serum, this level is maintained by the body at a tight steady state (Beto, 2015). Calcium is used for essential cellular metabolic processes and cellular signaling including oxidative phosphorylation, cell death, and apoptosis (programmed cell death) (Ermak & Davies, 2002). In order to maintain calcium homeostasis, the body will take calcium stored in bones to ensure these metabolic processes are maintained. Low calcium intake is associated with cardiovascular disease, fracture, and osteoporosis. Thus, adequate calcium intake is needed to maintain bone health in aging and reduce risk of fracture. Dairy products such as milk, yogurt, and cheese contain the most dietary calcium, but a significant barrier to adequate calcium intake in aging in lactose intolerance. To overcome this, dairy products could be introduced in small quantities and supplemented with other types of foods that contain high amounts of calcium such as dark leafy greens (e.g., spinach, kale, and collard greens), sardines, and fortified cereals and juices. Alternatively, Kefir is a type of yogurt drink that is 98% lactose free, and an excellent source of calcium (Beto, 2015).

Vitamin D is important for absorption of calcium making it essential to maintain bone density and calcium homeostasis needed for metabolic processes throughout the lifespan. Humans acquire vitamin D mainly through solar ultraviolet B radiation and secondarily through diet and supplementation. Changes in the skin that occur with aging decrease the body's ability to synthesize vitamin D through ultraviolet B radiation, and traditional particularly Western diets are low in vitamin D. This is especially true for minority elders, particularly those with darker pigmented skin tones because they synthesize less vitamin D per unit of sun exposure (Taksler, Cutler, Giovannucci, & Keating, 2015). Low vitamin D has been associated with risk of a plethora of chronic diseases in aging including cardiovascular disease, stroke, cancer, and fracture, so vitamin D supplementation has become a popular prescribed practice. However, a recent meta-analysis of clinical trials examining vitamin D supplementation concluded that vitamin D supplementation does not reduce risk of these diseases or mortality (Bolland, Grey, Gamble, & Reid, 2014a). Contrary to their finding, an updated meta-analysis performed by the National Osteoporosis Foundation concluded that calcium plus vitamin D supplementation does reduce risk of fracture, especially hip fracture among community-dwelling adults (Weaver et al., 2016). However, vitamin D supplementation does not reduce falls (Bolland, Grey, Gamble, & Reid, 2014b). Vitamin D supplementation also does not reduce depression in adults (Gowda, Mutowo, Smith, Wluka, & Renzaho, 2015). Dietary sources of vitamin D include fatty fishes such as salmon, herring or sardines, cod liver oil, canned tuna, oysters, shrimp, and egg yolks. Additionally, many dairy products, juices, and cereals are fortified with vitamin D.

Prebiotics, Probiotics, and Antibiotics: Usage of prebiotics, probiotics, or antibiotics may have a significant effect on the gut microbiota and thus, an effect on physiological resilience in aging. Prebiotics are chemical substances that act as substrates specifically for the host's own probiotic bacteria to promote their growth (Biagi et al., 2012). Prebiotics, acting as a substrate for the fermentation process of an aging adults' gut bacteria, facilitate production of short-chain fatty acids (Biagi et al., 2012). Conversely, probiotics, which are living microorganisms that provide a health benefit to the host (Biagi et al., 2012; van Beek et al., 2016), have positive effects on the gut structure and composition (Buford, 2017). Probiotics have a wide range of effects, and there is evidence that they reduce anxiety, decrease stress responses, and improve mood (Cryan & Dinan, 2012). When aging mice were treated with a probiotic for 10 weeks, three times per week, the treated mice developed a thicker gut mucus layer compared to controls and there was no age-related decline in the mucus layer (van Beek et al., 2016). Should this effect also be true in aging adults, probiotics may be beneficial for improving gut permeability and indirectly reducing inflammation, susceptibility to disease, and increased cellular adaptability to specific challenges. Development of specific foods that contain pre- and/or probiotics may be beneficial to prevent disruption of the gut microbiota associated with aging (Biagi et al., 2012), which may have a significant impact on physiological resilience. Additionally, administration of pre- or probiotics during or after antibiotic treatment may be an option (Biagi et al., 2012), because antibiotic use has a significant negative effect on the balance of gut microbiota, reducing gut microbiota diversity (Biagi et al., 2012; Buford, 2017; Claesson et al., 2011). Thus, usage of pre- or probiotics during and/or after treatment may preserve or restore gut microbiota homeostasis.

If inadequate immunoregulation is a risk factor for stress-related disorders, treatment with immunoregulatory agents may be protective (Reber et al., 2016). Research has shown that usage of probiotics may prove to be a safe intervention for altering immune responses and a way to improve physiological resilience in aging adults. A review by Biagi et al. (2012) found that probiotics restore immune function in aging and prevent or limit the effects of immunosenescence. Furthermore, an interventional study by van Beek et al. (2016) found when aging mice were given a 10-week, three times a week probiotic supplement of *Lactobacillus plantarum*, *Lactobacillus casei,* or *Bifidobacterium breve*, and several processes involved in cell growth and immunity were altered, including enhanced T-lymphocyte dependent B-lymphocyte responses. Collectively, these findings suggest a probiotic-based intervention may improve the aging immune system.

Conclusion

We have demonstrated that stress affects interwoven physiologic processes that influence resilience and the health and well-being of older adults. Our goal as clinicians is not to eliminate stress, as the current state of the science reveals that some level of stress is required for physiological adaptation and resilience. It is when stress becomes uncontrollable, sustained, or intolerable that maladaptive physiological compensation occurs and there is a resilience dysregulation. Identification of older adults with low physiological resilience (e.g., genetic/genomic predisposition, increased inflammation, oxidative stress, and altered gut microbiome) can help to target personalized interventions to boost their physiological resilience. This can be accomplished on an individual level through behavioral, lifestyle, and dietary modifications, such as moderate physical activity, low calorie/high nutrient and antioxidant-rich diets, enhancing social support, and stress reduction techniques. Likewise, environmental modifications that involve social and political changes such as reducing pollution, violence in our communities, and social injustice will also be required to enhance the physiological resilience and ensure successful aging of all older adults.

Aging adults are vulnerable to stress through a lifetime of experiences and the aging process itself. There is a plethora of research focused on the negative effects of aging and the physiological breakdown of the body as one ages. There has only been a recent shift to begin to study older adults who are resilient and flourish despite an aging body. More work is needed to support this directional shift, and examine the positive aspects of aging, the physiological characteristics of those who are aging successfully, and interventions to promote physiological resilience.

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How the Arts and Humanities Can Help Older Persons with Dementia and Their Caregivers Be More Resilient

Robert E. Roush, Michelle Braun, Susan H. McFadden and Kate de Medeiros

Abstract The original chapter (with contributions by MacArthur Fellowship Awardee Anne Basting, geriatrician Jerald Winakur, and art historian Francesca Rosenberg) emanated from the Humanities and Arts Symposium presented at the Gerontological Society of America's 62nd Annual Scientific Meeting in Atlanta, GA, November 2009. In this new version, three of the original contributors—Robert Roush, Michelle Braun, and Susan McFadden—are joined by Kate de Medeiros in exploring how various art forms help persons with dementia and their caregivers cope with that circumstance.

Keywords Creative engagement · Resilience · Dementia-friendly communities Artistic engagement

Background

One of the first prevalence studies on persons with mild cognitive impairment revealed over 5 million persons age 71 and older (22.2%) had MCI without dementia that can adversely affect memory and other executive functional capacities (Plassman et al., 2008). This prevalence level and the additional 5.5 million with Alzheimer's disease in 2017 (http://www.alz.org/facts), coupled with the

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burgeoning older population that will almost double in another dozen years, call for more creative approaches to helping these persons and their 15 million unpaid caregivers become more resilient in coping with the marked changes in their lives. For clinicians, attention should be paid to the most recent American Academy of Neurology practice guideline regarding MCI by Petersen et al. (2018) showing a cumulative dementia incidence of 14.9% among those with MCI over age 65. Art, music, and poetry therapy, along with narrative medicine, have been shown to be helpful adjuncts to traditional health care practices for those millions who now and will have dementia (Roush et al., 2001).

Long known for using the arts and humanities in caring for older patients, the late geropsychiatrist Gene Cohen's book, The Creative Age: Awakening Human Potential in the Second Half of Life (2000), addressed resiliency when he wrote how creativity strengthens our morale, making us more emotionally resilient to cope with adversity and losses. On this point, he said, "Just as exercise improves our muscle tone, when we are creatively engaged, our emotional tone is elevated."

Cohen also wrote about creative persons in many fields making artistic contributions at advanced ages: e.g., famed architect I.M. Pei celebrated his 100th birthday on April 26, 2017. In his eighth and ninth decades of life, this "architectural artist" designed such notable works as the Rock and Roll Hall of Fame in Cleveland, Ohio, the Pyramid at the Louvre, The Morton Meyerson Symphony Center in Dallas, TX, the Suzhou Museum in China, and the Miho Museum in Japan; his last major work was the Museum of Islamic Art in Doha, Qatar in his tenth decade! Has Mr. Pei's creative engagement Cohen talked about made him more resilient than other centenarians who aren't in the creative arts? No one knows certainly but one can argue that the long-lived who didn't die from the leading prevalent diseases or from accidents had some "X" factor that helped them cope with advanced age. Surely the arts and creativity helped many of them enjoy their journey. And surely others of advanced age benefited from engagement in physical and cognitive activities such as sports, games, dancing, serving on boards of civic and business groups, attending places of worship, and the myriad other human endeavors that challenge our brains and bring us pleasure.

This chapter begins with neuropsychologist Michelle Braun's explanation of how the plasticity of the brain and the arts complement neurobiology, allowing persons with dementia to have a better quality of life. Then Susan McFadden presents recent work on the Fox Valley Memory Project showcasing the musical, poetic, and artistic talents of persons living with dementia and how this engagement with the arts has helped them become more resilient. Longtime arts and humanities scholar Kate de Medeiros concludes the chapter on how her endeavors with artistic expression among older people help them cope better with their own idiosyncratic experiences with aging making it difficult to have a standard "prescription" for when art becomes therapy beyond just enjoyment. In the discussion section, Roush concludes this work with comments on his fellow contributors' material and adds remarks about resiliency from three books about art and artists.

Michelle Braun on "The Science of Artistic Engagement"

As with many scientific advances, our understanding of the value of artistic engagement for individuals with dementia began with poignant clinical observations. For many years, clinicians and caregivers reported that individuals with Alzheimer's disease seemed to respond positively to artistic engagement, as evidenced by increased smiling and interaction, improved mood, and decreased agitation (Hanneman, 2006; Stewart, 2004). Over the past several years, a growing body of research has supported these observations and suggests that artistic engagement is an important tool for improving quality of life, decreasing problematic behaviors, enhancing attention, and improving self-esteem and social behavior (Chancellor, Duncan, & Chatterjee, 2014). Although resilience in individuals with dementia is challenging to define and measure, and thus has not been directly examined, it is interesting to note that each of the improvements noted above has the potential to strengthen one's ability to withstand difficult circumstances, and possibly enhance resilience.

The benefits of artistic engagement have been noted in various art forms including drawing, music, dance, creative storytelling, and museum-based artistic appreciation. Although many other art forms have yet to be studied, and there is much more to learn about those that have been studied, extant findings provide important guidance for maximizing the quality of life and person-centered care for individuals with dementia.

Since artistic engagement decreases agitation, making quality of life—at least in the short term—better for all concerned, nonpharmacological treatments are preferred as a first-line approach in treating agitation and depression in dementia (Borsje, Wetzel, Lucassen, Pot, & Koopmans, 2015), especially given concerns about possible medication side effects and increased medication burden in older adults.

Of the various art forms, music has been linked to the most consistent reductions in agitation. For example, Choi, Lee, Cheong, and Lee (2009) showed that individuals with dementia treated with music intervention (versus care-as-usual) exhibited a significant decrease in depression and agitation. Significant reductions in agitation (50% of baseline rate) in individuals with dementia who were exposed to music of their preference and to simulated family presence have also been noted (Garland, Beer, Eppingstall, & O'Connor, 2007). Clinically significant reductions in agitation with music interventions were also noted in a recent meta-analysis of 12 studies (Pedersen, Andersen, Lugo, Andreassen, & Sütterlin, 2017) a systemic review of 34 studies (Travers et al., 2016), and in individuals with moderate to severe Alzheimer's dementia (Millán-Calenti et al., 2016).

In an innovative study combining the use of endocrinological measurements, behavioral evaluations, and functional assessments, individuals with dementia who received 16 sessions of music therapy demonstrated significantly decreased irritability and significant improvement on the "language" subscale of the Mini-Mental Status Examination. Subjects also had a significant decrease in salivary chromogranin A (CgA) levels, a measure of stress and sympathetic nervous system activity (Suzuki et al., 2004). Such multimodal assessment of outcome variables provides fruitful considerations for future studies that seek to expand upon traditional methods of behavioral assessment and examine links between physiological, cognitive, and behavioral variables.

Other studies have shown the benefit of dance, wall art, creative storytelling, and museum-based artistic appreciation. In one study examining the outcome from nine weekly sessions of "Dance and Movement Therapy," individuals with dementia exhibited slight improvements in self-care abilities and on a cognitive measure of global planning and visuospatial ability (Clock Drawing), although no difference in memory or behavioral symptoms between the groups was evident (Hokkamen et al., 2008).

Another study examined door-testing behavior on a nursing home unit (a frequent source of agitation and distress for patients) and found significant reductions in door-testing behaviors when the doors were disguised with a wall mural (Kincaid & Peacock, 2003).

Creative storytelling has also been shown to be therapeutic, as noted in other sections of this chapter. "TimeSlips"—a group storytelling program that encourages individuals with moderate to severe dementia to tap into their preserved creativity by telling and communicating stories to others (rather than engaging in tasks that require them to utilize their impaired memory)—has been shown to increase engagement, alertness, and social interactions with caregivers (Fritsch et al., 2009).

The positive impact of the arts on quality of life for individuals with dementia has also given rise to numerous museum-based artistic appreciation and engagement programs. "Meet Me at MoMa" (The Museum of Modern Art in New York), one of the largest museum-based art appreciation programs for individuals with dementia, ran from 2007 to 2014 and had supported similar programs in over 60 other museums. Research of participants in "Meet Me at MoMa" revealed that they experienced improved mood and self-esteem for days after museum visits. In addition, caregivers who accompanied the participants also experienced improved mood, and greater social connection to the individual with dementia (Mittelman & Epstein, 2018).

In sum, findings from these studies and several others indicate that exposure to various forms of art results in reduced agitation, improved quality of life, and, in some cases, mild improvement in non-memory aspects of cognitive functioning (e.g., global planning, language).

To understand the neurobiological underpinnings of artistic engagement, we can examine changes in artwork as a function of dementia subtype and/or stage, hypotheses about neurobiological changes have been developed. Most studies show increased abstraction in the artwork of patients with advancing Alzheimer's disease (Lev-Wiesel & Hirshenzon-Segev, 2003), and decreased precision and color scheme (Crutch & Rossor, 2006), all of which have been attributed to increased neuronal degeneration due to disease progression.

Although few studies have examined how the artwork of patients with different subtypes of dementia might differ, a case-controlled study provides some evidence of a link between subtypes of dementia and different artistic changes (Rankin et al., 2007). In examining 49 individuals with different subtypes of dementia (Alzheimer's disease (AD), semantic dementia (SD), and frontotemporal dementia (FTD)), an interesting dissociation between subtypes of dementia and artistic style was noted: Individuals with FTD created more bizarre art (presumably due to greater degeneration of frontal lobe areas), as did individuals with SD (the temporal lobe variant of FTD), while individuals with AD used a more muted color palette (attributed to potential impairments in visual association skills and decreased ability to recognize common objects). Similar future analyses may help us to better understand and develop therapies to compensate for the different patterns of neurobiological changes that occur in various subtypes of dementia.

In contrast to the group studies discussed above, several case studies have depicted artists with *preserved* creativity into the later stages of dementia. For example, the artwork of well-known artist William de Kooning, as analyzed by Espinel (2007), was judged to be generally consistent over the course of his dementia, even in the later stages of the disease. Espinel postulated a framework to explain this phenomenon—"Creating in the Midst of Dementia"—suggesting that the well-known deficit in semantic memory that characterizes AD may be offset by preserved functioning in three other memory systems (working, procedural, and episodic), allowing continued consistency in the creation of artwork. Preserved drawing and creativity into the later stages of dementia was also demonstrated in the work of artist Danae Chambers (Fornazzari, 2005).

Although it is unclear why some studies show reduced artistic abilities in advancing AD and other studies show little to no change, some of this may be explained by the artists' prior experience. For example, it is possible that the well-learned abilities of experienced artists are associated with a greater number of neuronal connections (due to their repetitive engagement in artistic tasks), and thus more resistant to neurodegeneration than the artwork of individuals with dementia who were not prior artists. Another consideration in evaluating these findings is the lack of standardized criteria in judging the abstract nature of artwork (Crutch & Rossor, 2006) which may complicate the comparison of findings across studies.

It is also interesting to note an association between de novo (i.e., newly exhibited) artistic behavior and neurological conditions including FTD, epilepsy, subarachnoid brain hemorrhage, and Parkinson's disease (Pollak & Lythgoe, 2007). Such research provides converging support that specific brain mechanisms are involved in artistic production. In comparison to multiple studies of drawing in dementia, there are no known studies analyzing the neurobiological mechanisms of musical appreciation in dementia. In individuals without neurological compromise, activation in the emotional processing areas of the brain (limbic system structures) and right-hemisphere cortical areas is noted during music appreciation, though it is unclear if this association holds true in individuals with dementia. It is hoped that future studies will examine musical appreciation in individuals with dementia and help elucidate neurobiological underpinnings that may in turn inform the use of tailored therapies.

Perhaps we need to become "artists" ourselves in designing and conducting creative research on the role the arts and humanities play as adjunctive therapies. While the work reviewed here provides us with evidence that individuals with dementia benefit from artistic engagement, and suggests possible underlying neurobiological mechanisms, we are only beginning to understand the scientific relationship between artistic engagement and dementia. Given that the number of individuals with AD in the United States is expected to increase by more than 50% by 2050 (from 5.5 million to as many as 15 million; Alzheimer's Association, 2017), and given the continued need to develop effective nonpharmacological interventions, continued research into the link between art and dementia is more important than ever.

Susan McFadden on Creative Engagement, Resilience, and Dementia-Friendly Communities

The *Community Kaleidoscopes: Honoring the Arts in Our Ever-Changing Lives* showcased the works of people living with dementia at home and in long-term care residences. The story of one couple who participated in this event illustrates some of the ways communities can provide opportunities for those with dementia and their care partners to engage with the arts. Although no formal research assessed outcomes of this art event, clues about how programs like this contribute to resilience were identified.

The Fox Valley Memory Project (FVMP; www.foxvalleymemoryproject.org) located in northeast Wisconsin, aims to create a dementia-friendly community through a variety of programs and services designed by and for individuals with dementia and their care partners. Responding to the prevalence of dementia cited at the beginning of this chapter, communities around the world are similarly attending to ways they can be more welcoming to their citizens, beginning when they first become concerned about cognitive changes related to some form of dementia and continuing throughout the course of this progressive condition. Because so many people experience a loss of social connections when dementia symptoms appear and worsen, in its 5 years of existence, the FVMP has become an important source of friendships that often endure for care partners after their loved ones die.

Every year since it began in 2013, the FVMP has sponsored a community arts program to celebrate the creative gifts of persons who are too often misunderstood as hopelessly incapable of contributing anything meaningful or joyful to others. These events have brought residents of about ten different long-term care organizations together with people still living at home with dementia to celebrate their engagement with poetry, story writing, drumming, singing, and the visual arts. Family members, friends, staff from the long-term care organizations, and persons of all ages from surrounding communities come to witness the possibilities for creative expression that dementia does not erase.

In May 2017, the Community Kaleidoscopes event featured poetry, singing, and artistry such as mosaics, paintings, clay sculptures, and collages. It also included displays of actual kaleidoscopes made by individuals with dementia and care partners at a gathering of one of the ten memory cafés of the FVMP. Nearly 200 people came to a senior center on a Saturday afternoon to witness and celebrate what remains possible for those living with dementia. The program ended with a performance by the FVMP's "On a Positive Note" chorus, a group of 20 persons living with dementia.

Roy and Gladys, a journey through dementia. Roy and Gladys were some of the first people to start attending the FVMP's memory cafés when they began in 2012. Roy had received a dementia diagnosis a few years earlier but still lived at home with Gladys and proudly volunteered with some assistance one day a week at a local food pantry. He could always be counted on for a silly joke or an amusing song and he never failed to comment about having "the best wife ever."

Roy worked in a local factory for over 40 years and was proud that this enabled him to support Gladys and their seven children. For much of his adult life, woodworking was his passion; he made children's toys, walking sticks, candy dispensers and other objects that he loved to show and share with others. At some point, however, Gladys worried that he could not use his woodworking equipment safely and the forced cessation of an activity that had brought him and others so much happiness had to be grieved for a long time.

Roy's story of relinquishing a beloved expression of creativity is common, though unfortunately, most standard instruments used by researchers to identify aspects of well-being in those with dementia fail to acknowledge creative output whether that is expressed through woodworking, fabric arts, cooking, or the myriad other talents elders hone through adulthood. Commonly used assessments of well-being and functionality—for example, Activities of Daily Living and Instrumental Activities of Daily Living—utterly fail to acknowledge the "creative activities of daily living" that are important sources of pleasure and meaning for so many people.

The FVMP memory cafés usually feature various types of creative engagement activities. The TimeSlips Storytelling Method (Basting, 2009) is often used and Roy's contributions to the stories were always clever and amusing. Roy loved to sing, and so when the "On a Positive Note" chorus began, he and Gladys joined, performing with the chorus on a number of occasions in different venues.

Roy and Gladys also enjoyed attending sessions of the SPARK Alliance (http://www.sparkprograms.org/) offered at two different cultural institutions in their city where they did "art looking" involving creative storytelling and "art making." Thus, just when Roy had to give up designing and creating his wooden objects, the community provided him with outlets for his creativity. (The positive results of which are typically unmeasured endpoints in program evaluation.)

Roy demonstrated resilience throughout his life. In middle adulthood, he suffered a serious industrial accident. He relished telling the story about how the accident inspired him to make beautiful walking sticks from different kinds of wood for himself and others. Gladys also demonstrated resilience, for life with Roy was not always easy, especially as his dementia progressed. Nevertheless, she managed to continue to work part-time, stay active in their church, and care for Roy's medical issues while giving both of them opportunities to remain connected to others taking a similar journey through dementia. Gladys stated that without their involvement in activities of the FVMP, they probably would have been confined to their house.

Less than a year before he died, Roy's physical needs exceeded Gladys' ability to meet them and she had to make the difficult decision that she could no longer care for him in their two-story home. Roy moved to a nearby continuum of care residence that offered memory care. However, Gladys continued to pick him up and bring him to chorus practices, with the Community Kaleidoscope event being the last one where they performed together. Several months after he died, Gladys started coming to chorus practices again.

What can the story of the Community Kaleidoscopes event and the portrait of Roy and Gladys teach us about creativity, resilience, and dementia? We know from research on the TimeSlips storytelling method that creative engagement can improve communication by people with dementia (Bahlke, Pericolosi, & Lehman, 2010), increase staff–resident interactions in nursing homes (Fritsch et al., 2009), and improve attitudes about dementia among trained volunteers (George, Stuckey, & Whitehead, 2014).

It should be noted however that much of the research on TimeSlips and other creative engagement activities has been criticized as having many problems, including small samples, weak designs, and poor measures (Beard, 2011; deMedeiros & Basting, 2013). Nevertheless, interest in understanding the outcomes of opportunities for creativity infused into the everyday lives of people living with dementia continues to grow. TimeSlips, Inc. recently received funding for a large-scale study of persons living in long-term care residences to determine if the regular use of TimeSlips and other creative programs improves quality of life for residents by increasing positive social engagements among residents.

The story of Roy and Gladys—and perhaps untold numbers of people like them in neighborhoods where we live—points to important questions that few researchers are currently addressing. So much of this research focuses on how creative engagement affects the mood, behavior, and need for psychotropic medications among individuals with dementia (Houser, George, & Chinchilli, 2014). It does not attend to the ways programs like memory cafés, chorus participation, and activities like those offered through the SPARK Alliance might contribute to the everyday resilience (Allen, Haley, Harris, Fowler, & Pruthi, 2011) of those with dementia as well as care partners, community volunteers, and paid staff, all of whom are coping to some degree with responding to the changing needs elicited by this progressive condition.

A qualitative research study on resilience and dementia identified three themes related to resilience among individuals with cognitive challenges and their care partners. Persons who were more resilient felt like they could continue to engage in meaningful activities in their communities, had supportive social relationships, and took advantage of community programs that connected them with others (Harris, 2016). The types of creative engagement activities offered by organizations like the FVMP exemplify these sources of resilience and invite further investigation by researchers.

The relational mindfulness necessary for enabling people with dementia to express their creativity—to plunge with them into the "now" of the creative moment (McFadden, Frank, & Dysert, 2008)—may potentiate resilience by producing positive emotions, thoughts, and actions. In other words, training community members in creative engagement methods like TimeSlips, and giving them the opportunity to invite people with dementia to be creative on a regular basis, might boost their resilience in the face of "disruptive events encountered in everyday life" (Allen et al., 2011, p. 4). This suggestion requires further research attention.

A recent study by Camic, Baker, and Tischler (2016) of an art gallery program much like SPARK suggests that researchers should also address the relational effects of these programs for the wider community. Enabling the creative efforts of those with dementia—including those with extreme cognitive challenges—is an important component of comprehensive community efforts to offer friendship, inclusion, meaning, and purpose to all people living with dementia. It is also possible that commitment to being a dementia-friendly community could nurture resilience in persons of all ages regardless of cognitive status.

Kate de Medeiros on *Homo Ludens* and Play Theory

This piece focuses on the importance of using different frameworks to consider how the arts may function in the lives of people living with neurocognitive decline. Specifically, de Medeiros and colleague Aagje Swinnen (Swinnen & de Medeiros, 2017) applied Dutch historian Johan Huizinga's (1949) concept of the *homo ludens* to reexamine how we evaluate the "success" of arts participation. Since imagination and creative thinking are key components of the arts (Windle et al., 2017), it is not surprising that "outcomes" from participating in such engagement may not be well suited to positivist forms of measurement (e.g., randomized control study designs). Reframing the arts in the context of meaningful play may enable us to better understand the power of artistic engagement and to recognize the opportunities for social connection that the arts provide.

Challenges with arts-based research. Several challenges regarding the evaluation of the effectiveness of arts-based interventions in dementia care have been noted (Basting, 2009; Beard, 2011; de Medeiros & Basting, 2013). Because arts-based interventions often occur in group settings which promote community and connectedness, they are not well suited for randomized, controlled study designs. Other design issues include determining what counts as a "measurable change," determining what outcomes could reasonably be expected from participating in an arts intervention, achieving a large enough study size for meaningful statistical analysis, uniformity of the "intervention" across study sites, and many others. In short, since the arts can be thought of as "the practice of creating perceptible forms expressive of human feelings" (Langer, 1966) (p. 6), why would we expect them to produce the same results in the same way as interventions designed with specific mechanisms of actions in mind using study designs created to measure those mechanisms? (de Medeiros & Basting, 2013).

"Play" and the arts. Huizinga (1949) introduced the concept of the *homo ludens* or "man the player," rather than *homo sapien or* "man the knower" to distinguish humans from other animals. "Play" describes a voluntary act whereby the player enters into a purposeful yet spontaneous imagination-based encounter, one which may have mutually agreed upon rules (e.g., what constitutes appropriate behavior) but lacks competition or an end goal (e.g., winning) (Swinnen & de Medeiros, 2017) (pp. 2–3). In this respect, play differs from "game"—there is no competition and no winners or losers. The essence of Huizinga's argument is that play combines imagination in a way that allows one to transcend the boundaries of ordinary life (Huizinga, 1949), something that is important in the lives of people living with neurocognitive decline that may allow them to not only practice resilience, but to flourish. The following section includes examples of "play" in a poetry intervention and from a creative storytelling session using TimeSlips™.

APP. The Alzheimer's Poetry Project (www.alzpoetry.com) is a 60-minute poetry program developed by poet Gary Glazer for people with neurocognitive disorders. It features three components. The first is a "call-and-response" performance, led by a facilitator, of a familiar poem (e.g., *The Raven*). The facilitator recites a line (e.g., "once upon a midnight dreary") then asks the others to repeat. The next component involves engaging with objects related to the poem, such as touching a bird feather. Finally, participants engage in discussions about the poems or objects. Responses are recorded by the facilitator and then brought together in the form of a group poem. The following is an example of group poem created with residents in a secure long-term dementia care facility who participated in an APP workshop. The poem is in response to the question, "If you were a bird, what would you see?"

I can't fly.
I'm holding my cup.
I'd like to see God flying.
If I saw God flying, I'd say
"Oh God, I wish I could fly"
God would reply,
"Child, take your wings and fly."

But I'm not a bird.
So I get in my car,
go downtown,
get things,
and see people
When I see people, I talk to them for a while
and they get in my car.

I suppose I would be able to fly
if I were a bird
I would fly over town and see all of the people and places
It's a fun place, and everybody would be laughing.
If I could fly,
I would like to see the holy land.
If I could fly, if I could fly.

The poem exemplifies several important aspects of "play" that might easily be overlooked in traditional study designs. More specifically, we could expect that administering a battery of neurocognitive tests before and after the poem would show no measurable change in the short or long term. However, something has arguably "happened." Playing with language through poetry has provided a new way to communicate beyond the typical talk of a care facility and to imagine a future—seeing the holy land, talking to God. While this experience may not translate into a curative model, it speaks to the profound sense of humanity that creative opportunities promote.

TimeSlips™ TimeSlips™ is a collaborative storytelling technique for use with people with dementia developed by Anne Basting (2000). Participants are presented with a visual cue, typically a photograph or other image that depicts something unusual (e.g., a baby sitting in suitcase) or interesting (e.g., a small child holding a large fish). A facilitator asks participants to comment on what they see happening and may ask questions such as "what is the boy's name?" to help encourage response. All answers are acceptable and are recorded on a flip chart. These responses then form a story, which is retold to the group. Following is a story created by a group in response to a painting of a boy eating cookies with a dog looking at him from around the corner:

> What a cute kid. His name is Joe and he looks like he's into mischief. The puppy's name is Bubby Boy. Joe's licking off his fingers so Bubby Boy won't get any. The pot is full of chocolate. The older boys told him to stick his hand in it and clean it out. He won't get in trouble for it. He's just a little kid. Bubby Boy is thinking, 'I'm gonna eat up the rest of them cookies.' They are good cookies. Joe's not gonna let Bubby Boy get any. The dog knows that, that's why he's peeking around the corner. Joe was gonna eat 'em all up quick before he let the dog in. Bubby Boy is watching over him and if he's nice or if the little boy drops one, then the puppy can have one. He will swallow them fast.

As with the poetry example, this story also illustrates playful, imaginative thinking and play with language. The participants are being asked to provide their input in a failure-free setting where their contributions are valued. Also similar to the poetry example is that the participants are given the opportunity to react to and talk about images and ideas that transcend the typical activities and opportunities in a long-term care facility.

Resilience and Play. Although play does not often appear in the literature on resilience in later life and neurocognitive decline, it offers several important areas worth considering. First, play shifts the emphasis away from "knowing," which positions people with neurocognitive decline as having limitations. Play is a creative act that uses imagination rather than memory. Therefore, the construct play is open to anyone and does not stigmatize a person's condition (Windle et al., 2017). It fosters social connections and features joy, humor even vulnerability through people's participation. Viewed through the lens of a humanities area, learning more about play in the context of dementia may therefore provide new insight into understanding how to improve the lives of people with neurocognitive impairment as well as those who care for them.

Discussion

Each of the contributors to this chapter has a body of experience in how persons with dementia and their caregivers respond to heightened senses evoked by the arts; e.g., seeing the graceful dancer's leap in *Swan Lake* or hearing Pavarotti hit Puccini's High C in the *La bohème* aria "Che gelida manina." And the pure joy of sitting alone or with a docent-led group before Renoir's *Luncheon of the Boating Party* at The Phillips Collection in Washington, D.C., makes one wonder what all those people were saying to each other on that sunny afternoon on the Seine. (Since they were real people, it would be interesting to know how they aged and if they remained connected with each other. Did any of them have or care for someone with dementia?)

And the mesmerizing effect of listening to Richard Burton, alone on a stage, reciting line after line of Shakespeare to a hushed audience can increase one's emotional "tone" that Gene Cohen wrote about. So can the power of contemporary performing artists. Lucky ticket-holders who enjoyed 92-year-old Tony Bennett and 32-year-old Lady Gaga's duet were lifted to an experience beyond entertainment: In the moment of being taken in by the "magic" of the two performers, perhaps they were reminded that functional age is what counts. And perhaps the thought wasn't lost on them either were Lady Gaga to perform as long as her Grammy-winning concert partner has, she'll have to keep going another six decades!

Even hearing about the arts in the media or reading about them in fiction is a way to appreciate how elders can be more resilient using the arts in meaningful ways that help them. One such book of fiction is Susan Vreeland's acclaimed Lisette's List (2014). Set in 1937, the newly married Andre and Lisette leave their work in Parisian art galleries to go to Roussillon, a small village in Provence, to care for Andre's ailing grandfather, Pascal. With the author's "literary license," that character knew Pissarro and Cezanne before they were well known; in exchange for wood for frames, the artists gave him several of their paintings.

It was through those paintings and what they meant to Pascal that he taught young Lisette some of life's lessons about living long. Sadly, Pascal dies, Andre is conscripted and killed in action during World War II, and the paintings were looted by German soldiers. Lisette vows to find them and bring them back to Roussillon to honor Pascal and Andre's bravery.

Another Vreeland character, Andre's friend and compatriot Maxime, just back from the horrors of Nazi imprisonment in 1945, explains to the war-widowed Lisette the meaning of a Marc Chagall painting that escaped the purge of Jewish art:

> A great painting has to be more than spiritual…more than original…more than a good likeness, more than a beautiful subject painted in pleasing colors, more than an intriguing composition….Great art – painting, sculpture and architecture – gives us something very rich. It allows us to experience times, places, emotions that we might not otherwise encounter. It invites us to ponder some item – a piece of fruit or a violin in the sky or a marble figure or a cathedral – until its qualities teach us something or enrich us or inspire us…It's capable of grabbing a person…he becomes minutely different than he was before, less limited to his previous, narrower self, and this equips him to live a better life and to avoid getting swallowed up by the world's chaos. (pp. 226–227)

Vreeland's dialogue is somewhat metaphorical for the concept of resilience, as the nonfictional Marc Chagall fled wartime France to escape the Holocaust. Following the death of his wife, he said this: "In our life there is a single color, as on an artist's palette, which provides the meaning of life and art. It is the color of love." He lived for 98 years.

In Joan Hart's 1992 book, Beyond the Tunnel: The Arts and Aging in America, we read the true story of Sarah, a frail elderly lady, and her then-fellow residents at a nursing home in Washington, D.C. Using art loaned from the nearby Phillips Collection, Ms. Hart taught these elders, many of whom just sat and dozed most of the day, about art and philosophy. Sarah, a retired nurse thought to have dementia, came out of her "foggy tunnel." She loved Matisse and attended an exhibition of his works, exclaiming upon having seen the 11-foot high *Large Composition with Masks*, "This has been one of the best days of my life." She died peacefully in her sleep that night. In an interesting sidebar, Matisse painted that magnificent piece in the last year of his 85-year-long life.

Shortly before her death in 2008, nonagenarian artist Anne Eldredge Harris wrote a self-published booklet poignantly entitled Post Mortem Anne: A Fantasy. This gifted artist-turned-author painted her nude spirit floating above the blue Earth in Chagall-like fashion and penned this inscription: "Amazing beauty! Even dark matter has energy. Beyond Einstein." And below this wonderful piece of art, another of Anne's ethereal paintings shows her in space reaching out to the hand of another "being." She wrote these decidedly non-elegiac words: "At last my spirit meets with Ed's." This is resilience.

If only we were able to capture and repeat those visual, auditory and emotional stimuli to effect positive outcomes across all persons with dementia that we see in some. Can the present-day technology of fMRI or some future imaging process help us do that by "enjoying" the "art" of seeing one's own the brain light up and, in turn, lessen anxiety and depression and slow the rate of cognitive decline?

It is to the neuroscientists and biogerontologists that we leave that question. Until we have those answers, though, we should continue to expose persons with and without dementia to the wonderful world of the creative arts and humanities for their own and our enjoyment. Perhaps they and the communities in which they live would become more resilient in coping with cognitive decline.

In closing, this chapter is for all the Sarah's and Anne's and Roy's of the world and their caregivers like Gladys. When we work with them and their countless counterparts across the land, we should document what we do via the arts, always asking questions about what seemed to work and why.

And as we are all marching inexorably toward our own old ages, keep in mind Goethe's maxim: "Science and Art belong to the whole World and the barriers of nationality vanish before them." The authors, neither artists nor art historians are nevertheless *une amatrices d'art*, appreciating what art can mean to persons in good times and in their moments of travail, whether young or old.

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Robert E. Roush, EdD, MPH, has taught at Baylor College of Medicine in Houston, Texas for 47 years. As Professor of Geriatrics, he founded the Texas Consortium Geriatric Education Center there in 1985. His interest in the arts and medicine started in 1974 when the then two newest Houston high schools, The High School for the Visual and Performing Arts and the High School for Health Professions he helped start, held a symposium where the future healthcare professionals and future artisans learned how they could work together to make the lives of people better. Based on the happenstance of meeting art historian Joan Hart in the early 1990s, he became interested in the arts in aging. Ms. Hart used reprints from the Phillips Collection in Washington, D.C., to work with older residents living in nearby nursing homes. In 2018, the Huffington Center on Aging published its 23rd edition of the Arts in Aging Calendar featuring older artists whose works delight our eyes by showing us what their eyes saw. Roush was chair of the GSA Humanities and Arts Committee at the 2009 meeting, chairing the symposium that led to the publication of a chapter in Resilience in Aging: Concepts, Research and Outcomes, a 2011 book edited by B. Resnick, L. Gwyther, and K. Roberto. This chapter in the 2nd edition by Resnick et al. has new contributors and new information but with the same leitmotif of how the arts can help older people cope with the myriad issues of aging. On the latter point, the arts and aging will be one of the themes of age- and dementia-friendly communities of the new Institute for Advanced Thought on Aging Roush recently co-founded. (See www.goodoldage.org.)

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Cultural and Ethnic Perspectives on Enhancing Resilience in Aging

Darlene Yee-Melichar, Emiko Takagi and Kristy Lui

Abstract This chapter shows that comprehensive research on resilience and aging would benefit from an examination and inclusion of cultural and ethnic perspectives relevant to older people. It shows the heterogeneity in resilience of older people as well as the cultural and ethnic perspectives in what older people will need addressed to be resilient in their lives. It also reveals that the older individual within a cultural or ethnic group is not a common stereotype, but still much their own person. Health and human service providers who interact with an older person must adjust their responses to that individual by taking into consideration the person's level of resilience, culture, and ethnicity. More research in cultural and ethno-gerontology is required in order to better understand the diverse aging population and their current resilience and future needs. Forthcoming research on resilience and aging would benefit from a comprehensive and systematic approach by navigating the multi-dimensional perspectives of resilience at the individual, community, and cultural levels for intervention.

Keywords Culture · Resilience · Traits · Characteristics · Cultural sensitivity
Aging

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Introduction

This chapter shows that comprehensive research on resilience and aging would benefit from an examination and inclusion of cultural perspectives and ethnic variations relevant to the sample population of older people. It shows the heterogeneity in resilience of older people as well as the cultural and ethnic perspectives in what older people will need better addressed to be resilient in their lives. It also reveals that the older individual within a cultural or ethnic group is not a common stereotype, but still much their own person. Health and human service providers who interact with an older person must adjust their responses to that individual by taking into consideration the person's level of resilience, culture, and ethnicity. More research in cultural and ethno-gerontology is required in order to better understand the diverse aging population and their current resilience and future needs. Forthcoming research on resilience and aging would benefit from a comprehensive and systematic approach by navigating the multi-dimensional perspectives of resilience at the individual, community, and cultural levels for intervention.

Resilience and Aging

The scientific community has begun to recognize resilience as a central component of success in later life. Although there is no consensus definition, resilience or the ability to recover from adversity and stress in life is a key factor of aging successfully. While resilience is often differentiated from coping and adaptation, how and why it is realized by some people and not others is still unclear. Resilience and aging have received inadequate attention; while some information is presented here, more research is required on the multidimensional perspectives of resilience in older people.

It is possible for older people to prevent or recover from physical decline. In a group of 213 people aged 72 and above who were living independently but needed assistance with at least one activity of daily living (such as bathing, dressing or going to the bathroom), it was noted that 28% of the participants 85 or younger had regained their ability to care for themselves (Gilbert, 1999). This suggests that older adults have the power to help prevent or forestall the loss of independence with regular training and support. This type of behavior further suggests that resilience of individuals in later life is possible but is often related to the individual and his/her willingness to recover.

A comprehensive review of the literature on resilience summarized key concepts and definitions as well as biological and psychosocial factors (Lavretsky & Irwin, 2007). Treatment approaches to promote resilience, and implications for future research and interventions were discussed. The authors (Lavretsky & Irwin, 2007, p. 309) indicated that "Successful aging is associated with a positive psychological outlook in later years, general well-being, and happiness… With global aging on the rise, many nations are developing and implementing healthy aging policies to promote quality and years of healthy life."

Grundy (2006) examined the processes and circumstances that create vulnerability among older people residing in Europe. Vulnerability occurs when the balance between reserve capacity and environmental challenge falls below a level that ensures a reasonable quality and quantity of life. Vulnerable older people were defined as those whose reserve capacity falls below the threshold needed to cope successfully with the challenges that they face in life. The most vulnerable elderly are those who are lacking in autonomy, income, and social relationships. Preventive and compensatory interventions have been shown to be effective in preserving and/or restoring the reserve capacity and reducing the vulnerability of older people.

Individual Traits and Characteristics Associated with Resiliency

A number of research studies have delineated individual traits and characteristics that are commonly found among those with resiliency. For instance, a study conducted by Felten (2000) examined seven women, representing a variety of ethnic groups, who had serious physical impairments from which they had recovered. These older women displayed the traits of determination, previous experience with hardship, knowledge of available services, strong cultural and religious values, family support, self-care activities, and caregiving for others.

Talsma (1995) studied resiliency based on the data from 5,279 people in the Netherlands with a mean age of 69.6 years. Three dimensions of resilience were identified including physical functioning, psychological functioning, and well-being. The conclusion was that resilient older people have high levels of physical functioning, are willing to take initiative, believe they have control over their current life and are generally satisfied with their lives. The Netherlands is a more homogenous society than the United States; hence, the applicability of this latter study to the diverse elderly residing in the United States needs to be examined further.

Hawkley et al. (2005) summarized that resiliency is impacted partly by genetics but is also influenced by individual responses to stress. These differences include frequency of exposure to stress, nature, and intensity of psychological and physiological reactions to stress, and the efficacy of restorative and preventative measures to stress. The authors explained the net impact of human frailties and strengths on physiological resilience and health during the aging process. They summarized how people might be genetically influenced by physiology, but that people have astonishing capacities to minimize or contain the long-term costs of stress, thereby maintaining a resilient physiology and helping them ensure a long and healthy life. This capacity comes from choices that limit exposure to stress, adapting coping strategies, and sleep and exercise patterns. Aging is inevitable, but limiting stress can considerably slow down the degradation of the body and subsequently ease one’s need to be resilient.

Fry (1997, p. 150) concluded that “Older people are people… Older people are people who have been here longer than others.” In summary, it is apparent that resilient older people have shared and will hopefully continue to share similar circumstances and experiences that promote their security and/or decrease their vulnerability as they age.

Cultural Perspectives on Aging

Fry (1997) noted five issues, from a cultural perspective, to promote security or delineate increased vulnerability for older people. These include: (1) material factors, (2) health factors, (3) social linkages, (4) cultural values, especially those of independence, and (5) cultural change (Fry, 1997). Resilience is not examined specifically, but cross-cultural perspectives that impact an individual and how each may confront aging have been explored. Specifically, it was noted that growing older is not a uniformly “good” or “bad” practice; rather studies must look at culture, life experience, and local circumstance to demonstrate people’s responses to aging.

Older people’s experience and relationship to aging must not be separated from their earlier life stages. Younger life cannot be “divorced” from the stages of later life because that stage in life impacts later stages in life. Fry (1997) explained that to understand someone’s reaction to later life, the overall picture of their individual experience must be examined.

Fry (1997, pp. 146–150) reflected that “Culture gives meaning to life. Values define what is good and what is bad. Aging has its valences… Independence is a dominant value orientation in American culture.” However, the differences we see in other cultures are major differences in productive organization, family structures, political centralization, stratification, and worldviews. Yee-Melichar, Boyle, Wanek, and Pawlosky (2014) suggest that maintaining a strong connection to culture, accessibility to medical resources, and patient-focused assessment of their unique background can improve aging individuals’ living condition and overall resiliency.

Moody (1998) cites the differences among cultures in regards to aging. He describes how different cultures view, and tend to, elders in geriatric medical care. His article features a case study of a family who is taking care of their aged Chinese family member who is still currently a citizen of China but is residing in the United States. The family is tending to their elder family member and making medical decisions on her behalf. The scenario is the Chinese elder complains of increasing pain and the family takes her to the hospital. The family learns that the elder family member in fact has cancer. The family asks the doctor not to tell the Chinese elder that she has cancer and opts for herbal remedies instead of traditional remedies such as radiation. The family is adamant about their decision citing their cultural values, but this leaves the healthcare team shocked about the family’s decision and in disagreement with their choices.

Moody (1998) portrays the increasing complexity of "ethnic ethics" in the medical community in relationship to the aging population. The idea of "ethnic ethics" rests on the idea that as elders of different cultures age, there are different practices that varying cultures abide by. Moody (1998) depicts some of the most common arguments that arise when discussing differences in cultural medical care. First, there is the argument that rights and values are relative to the culture in which are expressing them. Some cultures value familial solidarity in later age; whereas other cultures, like the United States, value individualism and independence. Others believe that certain rights are universal and should not be questioned among cultures. Some believe that the argument of the "right thing to do" must be looked at on an individual basis and not in larger context. These viewpoints set the stage for the complexity of different cultures within the American healthcare system.

Moody (1998) also describes a study by the Fan Fox and Samuels Foundation. This study brought together different elders of different ethnicities and surveyed them about their views on aging. Although many of the predicted different responses occurred, there were also many similar statements across different cultures. Some ideas that were similar among cultures included: shared belief of fatalism, reluctance to communicate with healthcare professionals, and the belief that healthcare professionals did not want their opinion in relationship to care. The study predicted they would find differences among cultures but were not prepared for the similarities they found.

It is clear that there are cultural differences that medical and social service providers should be aware of and consider when having to provide care. In fact, future care and services might include the need to "negotiate differences" or to understand differences of cultures and look for ways to incorporate compromises between cultures. Despite a family's wish to use an alternative or less scientific intervention, doctors should still work hard to try and educate the family about the benefits of tested medicine. In summary, no matter the ethnic group, they all share "a concern for the dignity of elders."

Holzberg (1982) described how little is written about the cultural factors that differentially affect the aging individual or social group. She explained that most contemporary literature focuses on the biological, psychological, and sociological factors of aging but not on the cultural perspectives of aging. The author gave details on some of the anthropological perspectives to ethnicity and aging. First, she explained that "cultural patterning of the human life cycle" is an effort to demonstrate how dominant societal values may structure, facilitate, or hinder individual and group adjustments to aging. Through understanding these patterns, one can better understand the diverse ways individual's age separate from the overall age group.

Holzberg (1982) criticized research as often placing minority elderly in the category of impoverished or attributing them with unemployment, low levels of education, and high dropout rates. She explained that it does impact the aging experience but cannot be the only thing that is viewed as important. She gave specific examples of ethnicities including Asians, Native Americans, and Indians and how each group ages differently. Holzberg (1982) explained that understanding the nature of cultural experiences can aid us in our search for explanations of why certain people age differently from others.

Woehrer (1978, pp. 328–339) has stated that “The fact that people of different cultural backgrounds put their social worlds together differently means that their needs and resources as well as the ways in which they use the services available to them will vary.” Holzberg (1982) concludes with a call for more research in cultural and ethnic gerontology in order to better understand the diverse elder populations and their current and future needs.

It is also important to note that there is within-group diversity for each minority group of older adults. Nandan (2007) examined three “waves” of Asian Indian Elderly (AIE) immigrants. The author asserted policy makers and helping professionals have lumped the AIE immigrants with other Asian groups without considering the specific needs and unique perspectives of this population. The author detailed the time periods and numbers in which Asian Indian Elderly immigrated to the United States. Tracing the Asian Exclusion Acts of the early twentieth century, Nandan (2007) stated that the Asian Indian Elderly immigrants did not make much of an impact on the country’s population demographics until well after the US repealed these laws. Therefore, the biggest immigration stages took place in the mid-1963s, during the economic boom in 1970s and mid-1980s, and during the 1990s after the “Family Reunification Act of 1990” was passed. Nandan (2007) noted that most of these Asian Indian Elderly are aged 55 and over, and therefore have specific needs based upon the circumstances surrounding their particular time of immigration.

Nandan (2007) described the differences in present experiences, legal status, reasons for marriage, adaption and challenges, and pre-immigration culture and values, of each wave of immigrants. The author noted that unlike the second and third wave immigrants, first wave immigrants may not as often visit family members in India because much of their family has already migrated to the US or other countries. Also, the support and community life in India is vastly different from the time they left, and therefore they do not recognize their native homeland. On the contrary, second wave immigrants do visit their native India to see family and friends, and seem to hold closer ties with their native culture as they are more often settled in rural areas in the US (unlike the first wave immigrants who migrated to large cities for work). In addition, the second wave of Asian Indian Elderly seems to have retained specific cultural and religious customs of their native homeland, fueling their desire to make visits.

Nandan (2007) remarked upon the loneliness and alienation experienced by third wave immigrants, coupled with the financial and medical burden of caring for their elderly parents. These burdens are compounded by their parents’ (immigrants as well) status as “permanent residents” rather than citizens, which makes them inapplicable from benefiting from most public services. In some situations, children may send their elderly parents back to India in order to give them better care.

Nandan (2007) discussed the proper approach a “helping professional” should take in regards to Asian Indian Elderly, stating that those “competent” persons will keep in mind the specific cultural change, age group, and migration experience during the past 50 years of Asian Indians, rather than grouping their research and goals within the larger Asian Immigrant group. Nandan (2007) has 11 propositions in which helping professionals should engage with Asian Indian immigrants based upon the different time in which each group came to America, including the age group in which they now belong.

For example, the first wave of AIE immigrants should be viewed very similarly to United States-born citizens. They are familiar with American values and often have retired with substantial financial security. Second wave AIE immigrants are in their 50s with college/marriageable age children and, more often than first wave immigrants, come from a variety of countries: India, Kenya, South Africa, along with Guyanese cultures and might have adapted faster to American custom than those who directly migrated from India. Many of the third wave immigrants may not be legal citizens, coming after the reunification clause of the American immigration policy. Nandan (2007) concludes that helping professionals must receive ongoing training to adequately address the specific differences within the three waves of Asian Indian Elderly immigrants in addition to not grouping this specific culture within the larger group of Asian Immigrants.

Nandan (2007) described the increase of Asian Indian Elderly Americans since the mid-1960s. The author discussed the three distinct waves of immigration since 1960 and what services and or resources each may need as they age. Recently in the 2000 US Census, Asian Indians ranked fourth highest with regard to number of immigrants over the age of 55. The author explained that the country is experiencing a “browning” and “graying” of America. Since the needs and experiences of three waves of AIE immigrants are different because of the time, age, and stage in life of their migration to the U.S., their needs will be different.

Cross-Cultural Comparisons of Aging and Resilience

Consedine, Magai, and Conway (2004) explain that there are a variety of ways that older adults employ in adapting to the changes that aging brings. The authors explain that as individuals age, they come to resemble each other less, rather than more. What is known is that older adults engage in a diverse range of self-care efforts and different attempts to anticipate future difficulties related to aging.

Consedine et al. (2004) considered socioemotional adaptation among individuals from six ethnic groups: African Americans, Jamaicans, Trinidadians, Bajians, US-born Whites, and Immigrant Europeans, predominantly Russians and Ukrainians from the former Soviet Union. The study examined a sample of 1,118 community-dwelling older adults from Brooklyn, New York based on data from the Household Income and Race Summary Tape File 3A of the 1990 Census files. The mean age of the sample was 73.8 years. Data were collected during face-to-face interviews that lasted about one and a half hours in the respondent’s home or in a location of their choice such as a church or senior center.

Consedine et al. (2004) used the following measures to look at ethnic constraints on later life adaptation: Demographics, Resiliency, Quality of Social Networks, Stress, Trait Emotions (Negative vs. Positive), Emotion inhibition, Religiosity, and

Interpersonal conflict. For the purposes of the study, resiliency was defined as functionality relative to health impairment. Consedine et al. (2004, pp. 124–125) concluded that "later life is associated with both gains and losses; aging brings with it a variety of challenges in coping with losses in physical, social, and economic realm."

The data also suggested that resilient members of African descent (African Americans, Jamaicans, Trinidadians, and Bajians) were more likely to manifest patterns of adaptation characterized by religious beliefs, while resilient US-born Europeans and immigrant Europeans were more likely to benefit as a result of a nonreligious social connectedness. Social networks, religion, emotions, and emotion regulation are among the key proximal components underlying ethnic difference in later life adaptation.

Cultural differences in resilience can also be related to what older adults value and prioritize for themselves and others. For example, Katzko, Steverink, Dittmann-Kohli, and Herrera (1998) examined the self-concept of the elderly in a cross-cultural comparison. A sample of elderly Spanish participants (n = 83) and elderly Dutch participants (n = 74) were compared to gain an idea of the cross-cultural content of self-concept. The research required participants to provide information through the use of the SELE-Instrument. The SELE-Instrument is a sentence completion test with a set number of stem questions. The test determines whether the statements made by participants are either motivational or dispositional statements. Motivational statements are beliefs or perceptions while the dispositional statements are self-evaluations of the physical and mental self. The SELE-Instrument maintains specific procedures and coding methods to examine the differences and similarities of the responses between the elderly Dutch and Spanish participants.

Katzko et al. (1998) acknowledged that the most striking differences were questions related to the "Family" and "Activities" categories. It appears that the elderly participants are looking for new ways to continue to lead meaningful lives after previous goals related to family, marriage, and career are met. In terms of Planning, it appeared that the elderly Spanish participants were more concerned about "Family" while the elderly Dutch participants were more concerned about "Activities." In terms of Possible, it appeared that the elderly Spanish participants were more concerned about "Family, Habitation and Helping" while the elderly Dutch participants were more concerned about "Autonomy and Activities."

Questions related to "future possibilities" (personal expectations and goals of the participants) also exposed differences in personal desires between the two cultures. Additional responses to various questions exposed the differing goals, plans, and desires of the two cultures. Overall, the results of the study indicated that in both cultures, the elderly participants maintain a "still-healthy" image of themselves and often look for opportunities with which to fill their day-to-day existence with meaningful activities.

Yin (2006) described how elderly white men are most afflicted by high suicide rates. Overall, in the U.S. population, there are 11 suicide deaths per 100,000; however, white males commit suicide three times the existing national average, and are eight times more likely to kill themselves than women of the same age group.

The author described the high suicide rates of elderly white males and why they seem to be at substantially greater risk for suicide than females. Some researchers claim that the lack of resilience in males is from weak coping abilities. For example, men are accustomed to asserting their will and taking charge; however, later in life, as they age, men have unrealistic expectations and are less likely to ask help from others, making aging more isolating. Also, the author explained how much of the research around male suicide explains an elderly person's act of suicide as "tragic but rational," making it seem normal and acceptable.

Yin (2006) explained that women have lower suicide rates because of their existing physical and role changes they experience through life making them more apt to accept change when it happens in later life. Further, women also tend to build more robust social networks with family and friends which is necessary for resilience. Suicide is found to be less common in those with strong social networks. In addition, race might affect resilience in males. Researchers noted that the lower suicide rates in male Hispanics and non-Hispanic whites might be because of "familism" or their increased emphasis on close relationship with extended kinship. The author indicates that lower suicide rates in older male African Americans might be due to more connectedness to social institutions such as family, church, and social-support systems. Researchers found in interviews that African American Pastors in the south viewed suicide as a "white thing," and furthered this by saying that their community had developed a culture of resilience in which suicide was counter to the black experience. Yin (2006) explained that culture, tradition, and family connections seem to lower suicide rates because of increased resilience. However, generalizing that women overall have lower suicide rates is dangerous as it masks the ethnic variations in this issue. Research has indicated that the older Asian American population, such as Chinese women, for example, have higher rates of suicide than women of other nationalities (Periyakoil, 2010; Yoo, Musselman, Lee, & Yee-Melichar, 2014).

Yin (2006) described why there are such obstacles in detecting depression in the elderly. The author explains that in later life depression can manifest into fatigue and or other physical systems, making the diagnosis of depression much more difficult. The author also explains that there is the persisting public view that suicide in the elderly is less tragic and more acceptable than in youth, even viewed as part of the natural aging process. Studies also have found that approximately half of the older adults who exhibit affective symptoms do not reach out to mental health support services and providers (Roh & Yee-Melichar, 2015). Detection of depression can be even harder for certain cultural groups of older adults. For instance, in collectivistic cultures where maintaining balance and harmony of relationships is crucial, individuals are less likely to disclose their thoughts or feelings of depression to those around them—making it even more challenging to detect depression or other health issues in these communities. Research has consistently suggested that mental and psychological issues continue to be negatively stigmatized by communities like Asian Americans and thus, many avoid acknowledging and addressing these health concerns with health professionals for fear of bringing "shame" to their family and those associated with them (Casado &

Leung, 2002, p. 9). Finally, the author concludes with whatever the reasons are that treating depression in later life is treatable and should be treated as aggressively in later life as in youth. The elders are an important and critical part of society and need to be treated that way.

Yin (2006) included a graph that shows suicide by age and sex (which shows elderly white men having a significantly higher number of suicides). The next chart shows male death rates for suicide by race, Hispanic origin and age. It shows how White males have the highest number of suicides per 100,000 later in old age. Some researchers argue that elderly white males lack the resilience and coping mechanisms that make white women and older black people less prone to suicide. Researchers show that Hispanic males might have a significantly smaller percentage of suicides because of the cultural emphasis on close relationships with extended kinship. The author concluded that social institutions such as family, church, and social support systems might serve to protect against things that may influence suicide. The author showed how resilience is probably stronger in culturally rich minorities.

Cultural Resilience

Using the perspectives of critical gerontology, Wild, Wiles, and Allen (2013) describes the concept of resilience as individual behaviors of surviving hardships that are embedded in multiple social contexts. Consequently, Wild et al. (2013) introduce multiple levels of resilience, including individual resilience, household resilience, family resilience, neighborhood resilience, community resilience, and social resilience. Their conceptual framework of resilience considers cultural resilience as one of the key domains that support these different levels of resilience. Certain cultures, for instance, may promote positive attitudes to older adults shared within a community, which could then lead to a community-level resiliency to provide resources to help its older residents survive their hardships (Wild et al., 2013).

Minority older adults tend to collectively share particular hardships and adversities that elevate their needs of remaining resilient. Lewis (2008) comments on cultural resilience, examining the obstacles that specific societies face in establishing and maintaining their various traditions and social norms. He explores resilience and cultural resilience within the elderly community and defines the typical roles of elders (i.e., grandfather, mentor). “Cultural Identity” is an important topic since the elderly relies upon it to maintain status within their community. It is a social support system that allows them to share their culture with younger generations.

Lewis (2008) focuses upon maintaining a community’s level of resiliency, highlighting the peoples of Native Alaska to provide examples of how a specific culture maintains its identity. Examples he includes are the Alaskan natives’ effort to speak and teach their native language and share traditional stories. Lewis (2008) also points out issues such as Alaska’s reliance on imported goods and out-migration of youth, as variables which decrease the community’s resiliency.

Lewis (2008) turns to issues of the elder community within the Alaskan Native people and remarks upon the challenges they face such as: younger generations moving away and leaving elders to support themselves. Tensions between personal and communal resilience address the elders' desire to maintain independence while maintaining a valuable and useful identity within their culture. Lewis (2008) concludes his presentation by emphasizing that the issue of resilience sparks innovative efforts within a specific culture to maintain its identity.

Browne, Makuau, and Braun (2009) discuss the cultural values and traditions shared by Native Hawaiians as the important cultural resiliency that provided critical resources for them to survive a wide range of adversities that were introduced by western encounters and collectively experienced by each cohort of Native Hawaiians since early twentieth century. Browne et al. (2009) show the examples of cultural resiliency demonstrated by Native Hawaiians such as their revival of native language and cultural practice and their introduction of health and social services that carefully considered their indigenous beliefs of health and support.

Blanco, Yee-Melichar, Boyle, and Routt (2016) discuss social and cultural barriers that minority elders tend to experience in the context of cancer care. The researchers examined health disparities among the elderly population, malignant neoplasms, or cancer, as one of the top three leading causes of mortality among Asian Americans aged 65 and older. As discussed earlier, older ethnic minorities such as Asian Americans face a multitude of barriers throughout the different stages of cancer care (Yoo et al., 2014). Older Asian Americans diagnosed with cancer have been found to unlikely access screenings and seek treatment much later in the cancer continuum due to various factors, including: "being older, less educated, recent immigrants, poor, or uninsured" (Yoo et al., 2014, p. 75). In addition to these communities' limited English ability, the lack of culturally and linguistically appropriate support has been "shown to have a significant impact on quality of life among Chinese American and Vietnamese American breast cancer patients" and a contributing factor to the low utilization rate of hospice services among older Asian American subgroups (Yoo et al., 2014, p. 75).

Gunnestad (2006) examined resilience in a cross-cultural perspective with a study about: (1) protective factors, (2) different ways of creating resilience, (3) resilience and vulnerability from culture, and (4) minority and majority cultures, biculturalism and resilience. Although this discussion is not specific to older people, it examines cultural, familial, and social issues which both aid and hinder the development of resilience in children. The author outlined protective factors and processes which help to create resilience. These protective factors include: (1) Network factors (external support), (2) Abilities and Skills (internal support), and (3) Meaning, Values, and Faith (existential support).

According to Gunnestad (2006, pp. 2–3), "Network factors" include external support from family, friends, neighbors, teachers, etc. "Abilities" include internal support such as physical and mental strength, temperament and emotional stability, intellect, and appearance. "Skills" include communication skills, social, and emotional skills. "Meaning, Values, and Faith" include existential support such as perception of values and attitudes. The author pointed out that culture is contained in all three protective factors, and that these protective factors are interrelated. Culture affects the way we form external support and network systems. Culture decides what abilities and skills are appreciated. And, culture is an integral part of meaning, values, and faith.

Gunnestad (2006, p. 3) described the need to create resilience. Resilience is created when the protective factors initiate certain processes in the individual. Identified different ways of creating resilience: (1) building a positive self-image; (2) reducing the effect of risk factors; and (3) breaking a negative cycle and opening up new opportunities.

Gunnestad (2006) examined resilience and vulnerability in different cultures: (1) Latino youth; (2) North American Indian First Nation; and (3) South African youth. The author illustrates how the culture over a long period of time has developed ways of behavior that generate resilience within that setting. Culture can be said to be a way of living facing the challenges in a certain environment with both extrinsic and intrinsic factors (Gunnestad 2006, p. 10).

Gunnestad (2006, p. 17) studied minority and majority cultures, biculturalism, and resilience. Culture relates to the meaning of life of a group of people, it relates to how they live and work (skills), what they hold as right and important for them (values) and it also goes with faith and religion. Culture is a vital part of the identity. Identity is a central part of our personality; it may be seen as the core.

From the perspective of resilience, it can be seen that if you take the culture from a people, you take their identity, and hence their strength—the resilience factors. If people are stripped of what gives them strength, they become vulnerable, because they do not automatically gain those cultural strengths that the majority culture has acquired over generations.

Stutman, Baruch, Grotberg, and Rathore (2002) report on resilience among immigrants and people from minority cultures. Immigrants and people from minority cultures who master the rules and norms of their new culture without abandoning their own language, values, and social support seem more resilient than those who just keep their own culture and cannot acclimate to their new culture or those who become highly acculturated.

Cultural Resources and Interventions for Resiliency

A recent qualitative study looking at 17 community-dwelling Asian American and African American elderly individuals suggests that resiliency at times of adversity in later life is associated with more positive self-reports of one's overall health status (Kwong, Du, & Xu, 2015). Asian American participants in the study included Vietnamese refugees of war, Chinese American immigrants with various experiences of moving to and within the United States, and African American older adults who knew of close individuals with experiences of slavery or more personal loss due to events like Hurricane Katrina (Kwong et al., 2015). Moreover, loss and trauma are common experiences of these older minority individuals' lives, such as the loss of family members, friends, significant others, and personal belongings (Kwong et al., 2015).

Although many findings reiterate the significance of one's social support network as a primary source of resiliency expressed by immigrant and minority elderly, variations in who those social relationships involve and how frequent they are sought out for in times of need is dependent on the individual's cultural background. Friends and family, as well as community resources, continue to be the overarching sources of support and resiliency amongst older minority individuals regardless of the slight differences in relationship characteristics. For example, Kwong et al. (2015, p. 140) discovered that friends of Asian American older adults tend to be limited to those with similar migration experiences and/or those who of the same ethnic group. In contrast, proximity was a strong characteristic of friendships formed by African American older adults (Kwong et al., 2015). In addition, while older African American elders reported having more social connections through their communities, Asian elders were unlikely to have close or intimate bonds with their neighborhood communities (Kwong et al., 2015). Many of the Asian elderly participants expressed that although they greet their neighbors, there is an obvious distinction in culture, experiences, and language that prevent them from engaging in further interaction (Kwong et al., 2015). Furthermore, the elderly Asian immigrants expressed the challenges they faced even with their own family members due to factors such as differences in acculturation levels, language barriers and contrasting viewpoints (Kwong et al., 2015). These findings point to a great concern for the fast aging elderly Asian immigrant population as their social networks tend to be limited while combined with the dominating value and practice of collectivism.

The usage of cultural resources for resiliency can also be observed in one's experience of personal losses. Bereavement tends to become increasingly common with age. Different cultural beliefs and practices heavily shape how individuals uniquely adapt to these profound losses. According to Pearson, Kim, and Sherman (2009, p. 7), Asian Americans often engage in more implicit social support in response to bereavement and loss—which they defined "as the emotional comfort one can obtain from social networks without disclosing or discussing one's problems vis a vis specific stressful events." As Asian culture heavily encompasses collectivistic values, such as harmony, saving face and filial piety, or respect for one's parents and elderly, it may not come as a surprise that many individuals from this culture do not rely on explicit forms of support. Implicit support is thus closely associated with the collectivistic nature of communities of Asian descent where "people do not have to risk disturbing relationships" because of disclosure (Pearson et al., 2009, p. 7). This source of support as a method of coping with loss has been found to be effective in reducing both psychological and biological stress and improving daily well-being (Pearson et al., 2009, p. 7).

The example of Chinese culture shows that the bereavement experience and practice in this culture outwardly cater more to ensuring the well-being of the deceased in the afterlife while implicitly providing emotional social support to the bereaved. Religion and spirituality, such as Confucianism and Taoism, are deeply rooted in the way Chinese culture view and cope with death. Previous literature has found that spirituality is a significant "protective factor and strategy in coping with life challenges, particularly for ethnic minority and immigrant elderly who are at risk of depression and social isolation" (Lee & Chan, 2009, p. 529). For example, intricate ceremonies involving the burning of fake currency and other material goods, as well as elaborate foods and long mourning periods to assure that the deceased successfully reach and are well-off in the afterlife are common in Chinese cultural practices when one passes away (Pearson et al., 2009). Thus, the focus is "less on the emotional experience of the bereaved," but rather the social support is implicitly "gained by participating in this ritual" along with other grieving individuals (Pearson et al., 2009, p. 8). Contrastingly, European American bereavement rituals often involve families, friends and community members coming together to grieve, "with more emphasis on openly expressing the loss of the loved one" (Pearson et al., 2009, p. 8).

Grundy (2006) proposed various interventions to minimize vulnerability and increase resiliency; these interventions included promotion of healthy lifestyles and coping skills, strong family and social relationships, savings and assets; environmental improvements to reduce the risk of falls, social and policing programs to reduce street crime, influenza immunization programs; access to good acute care and rehabilitation, psychological and social work services, long-term assistance, and income support.

Although most interventions in Europe have evolved randomly and have not been thoroughly evaluated; some interventions have been shown to be effective in preserving or restoring the reserve capacity and reducing the vulnerability of older people. Grundy (2006) was careful to point out that more research is needed to learn about what is most effective in reducing vulnerability in different subsets of elderly individuals. Despite heterogeneity in age, there may be cultural and other differences in what each age cohort might need. In Europe, there are such diverse populations that understanding these differences are crucial. The same is certainly true here in the United States.

For example, in a study involving data from over 1,000 women related to the Women's Health Initiative, researchers aimed to understand how resilience might change over the lifespan. Research results indicated that resilience appeared to relate to other healthy aging determinants, and the way one ages (within a cultural and/or other context) may change the way that resilience is expressed (Vahia, 2008).

Bauman et al. (2001) examined resilience in the oldest-old. The authors reviewed three separate studies. One was a qualitative study of resilience in 18 women aged 72–98 years conducted by Neary (1997) who identified common strategies the older participants used to get through difficult times. These strategies were similar to the processes in the selective optimization with compensation model discussed by Baltes and Baltes (1990). Personal traits common to the resilient older women in this study included flexibility, tolerance, independence, determination, and pragmatism (Neary, 1997). These traits are similar to those identified in the LaFerriere and Hamel-Bissell (1994) study.

Lee and Mason (2013) looked at 373 community-dwelling women of Caucasian, Korean, or African American descent aged 65 and older, and they found variations in coping tendencies dependent of each ethnic culture. The findings of the research indicated that each group utilized a combination of active and avoidant coping strategies when dealing with loss. Over half of the African American participants were widowed and engaged in denial and venting strategies as forms of avoidance coping more often than the other two groups (Lee & Mason, 2013). These individuals were also found to simultaneously rely on instrumental support, such as family and their immediate community (Lee & Mason, 2013). Korean American participants employed instrumental and emotional support the least and had smaller social networks compared to their Caucasian and African American counterparts—family being their primary source of support (Lee & Mason, 2013). Instead, Korean Americans tend to engage in self-blame as an avoidant strategy more frequently than the other ethnic groups, reinforcing the popular behavior of those from collectivistic societies (Lee & Mason, 2013). These findings are consistent with previous research on cross-cultural differences in coping strategies where people from European and North American cultures tend to "seek to control their environment as a means of neutralizing challenges and openly expressing personal feelings" while "collectively oriented cultures such as those in eastern Asia, however, stress indirect language, emotional restraint, and harmony as group norms" (Lee & Mason, 2013, p. 1086).

Kim, Kim, Han, and Chin (2015) explore the significance of elderly Korean immigrants' participation in culturally meaningfully activities as a method of maintaining cultural identity and as a contributor to multiple health benefits. Of the 18 elderly Korean individuals who were interviewed in the study, a handful actively partake in community events such as Korean cultural festivals to share their experiences and knowledge with similar individuals and to teach others. A number of older Korean adults volunteer for various organizations by hosting classes to teach the Korean language, important holidays, as well as Korean customs and etiquette. Kim et al. (2015) found that these individuals demonstrated improvements in their psychological well-being. Moreover, all the participants expressed that engaging in these culturally meaningful activities "helped them increase positive emotions and feelings because of the meaningful and rewarding experiences of their engagement" (Kim et al., 2015, p. 5). These findings suggest that participating in activities that enable individuals to give back to society while incorporating their unique cultural experiences can offer various emotional and psychological health benefits to older immigrants and further protect their cultural identities. Similarly, research has found that joy—a form of expression of well-being, such as engaging in "rituals, simple pleasures, stimulating the sense, and spontaneity can produce moments of joy throughout the day that cumulatively enhance quality of life" (Tingley & Yee-Melichar, 2015, p. 842). Furthermore, engaging in such activities can offer increased opportunities for socializing and decreases detrimental health consequences resulting from isolation and loneliness. Subsequently, participation in these cultural activities provides older adults with resources to maintain their resiliency.

According to Shibusawa and Mui (2002, p. 67), older foreign-born individuals residing in the United States face “the dual challenge of aging and acculturation, in which immigrant elders have to contend with their aging process and acculturation at the same time.” Several studies demonstrate that older immigrant individuals struggle with migratory grief and acculturation stress, (Lee & Chan, 2009; Casado & Leung, 2002). Asian American elderly immigrants, in particular, are at high risk of depression resulting from these experiences (Lee & Chan, 2009). Members of these communities tend to engage in self-care coping methods, such as religious and spiritual practices, to maintain harmony and balance within their family in order not to burden others with their personal issues. Lee and Chan (2009) further reiterate the impactful role of spirituality as an adaptive and protective strategy to coping by older Chinese American immigrants when faced with everyday adversities.

Some studies suggest that culturally sensitive interventions for older adults’ future planning may be beneficial to support their resiliency. For example, research by Sorensen, Hirsh, and Lyness (2014) has shown that older adults who are goal-driven and engage in planning for the future exhibit resiliency in various dimensions of health. Sorensen et al. (2014) found that improved coping ability, better mental and physical health outcomes, and overall enhancement in self-efficacy and competence are some of the benefits associated with future-oriented and goal-driven problem-solving in older adults. The older participants of the study reported greater life satisfaction in their later life, as well as lower rates and severity of depression and anxiety (Sorensen et al., 2014, p. 2). These findings suggest that engaging in advance care planning may give older adults a sense of control over their lives and enable them to focus more on other priorities, such as important socioemotional relationships and family affairs. However, ethnic minorities face several barriers that inhibit them from engaging in advance care planning. Sorensen et al. (2014, p. 10) suggest that there is “a lack of trust in healthcare system, diversity among health staff, limited knowledge of medical technology, poor patient and physician communication, and the overall cultural differences in beliefs towards aging and death”—all of which are major obstacles contributing to the lack of participation by elderly ethnic minority immigrants in advance health planning.

Interventions and strategies for resiliency often require intergenerational collaboration and efforts. Kahn et al. (2016) report that their qualitative research with 15 American Indian (AI) urban elders in Arizona showed that the AI elders see the three particular domains of interventions and strategies to support the next generations of urban AI. These include: (1) culture, (2) youth activities, and (3) education. The AI elders in their research believe that they have the responsibilities to teach traditional cultural values and practices to their youth by creating and engaging in a variety of cultural and educational activities so that the next generations of AI can maintain their cultural resilience.

Next Steps in the Area of Cultural Impact on Resilience

This chapter shows that comprehensive research on resilience and aging would benefit from an examination and inclusion of cultural perspectives and ethnic variations relevant to the sample population of older people. Information on resilience and aging indicate that the elderly have the power to help prevent or forestall the loss of independence with regular training and support; successful aging is associated with a positive psychological outlook; some interventions have been shown to be effective in preserving or restoring the reserve capacity and reducing the vulnerability of older people; and the way one ages may change the way that resilience is expressed.

Research on resilience in aging and cultural perspectives reveal that studies must look at culture, life experience, and local circumstance to demonstrate people's responses to aging; culture affects the way we form external support and network systems, decides what abilities and skills are appreciated, and is an integral part of meaning, values, and faith; culture over time has developed ways of behavior that generate resilience within that setting; immigrants and people from minority cultures seem more resilient than those who cannot acclimate to their new culture or those who become highly acculturated; differences in goals exist between cultures yet cultures look for opportunities with which to fill their existence with meaningful activities; need for individual resilience as well as cultural resilience and community resilience and need for ethnic ethics in cultural medical care to address differences and similarities in cultural perspective.

Studies on resilience in aging and ethnic variations suggest that as individuals age, they come to resemble each other less; social networks, religion, emotions, and emotion regulation are among the key components underlying ethnic difference in later life adaptation; little is written about the cultural factors that differentially affect the aging individual or social group; understanding the nature of cultural experiences can aid us in our search for explanations for why certain people age differently from others; culture, tradition, and family connections seem to lower suicide rates because of increased resilience; and resilience is probably stronger in culturally rich minorities.

This review of the literature shows the heterogeneity in resilience of older people as well as the cultural and ethnic perspectives in what older people will need better addressed to be resilient in their lives. It also reveals that the older individual within a cultural or ethnic group is not a common stereotype, but still much their own person.

A "strengths perspective for social work practice" indicates that "people have untapped, undetermined reservoirs of mental, physical, emotional, social and spiritual abilities that can be expressed. The presence of this capacity for continued growth and heightened well-being means that people must be accorded the respect that this power deserves. The capacity acknowledges both the being and the becoming aspects of life." (Weick, Rapp, Sullivan, & Kisthardt, 1989, p. 352).

Health and human service providers who interact with an older person must adjust their responses to that individual by taking into consideration the person's level of resilience, culture, and ethnicity. More research in cultural and ethno-gerontology is needed in order to better understand the diverse aging population and their current resilience and future needs. Forthcoming research on resilience and aging would benefit from a comprehensive and systematic approach by navigating the multidimensional perspectives of resilience at the individual, community, and cultural levels for intervention.

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Volunteering in Later Life: Policies and Programs to Support a Resilient Aging Society

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Abstract Civic engagement among older adults has gained attention in both the popular and academic press over the last decade. As the health and education of aging Americans continue to increase, so does the opportunity to engage this growing population in civic activities aimed at improving communities. At the same time, this engagement has the potential to promote the health and resiliency of older adults. In this chapter, we focus on formal volunteering, given the vast potential of the aging population to serve communities in these roles. Volunteering can be defined as an activity undertaken by an individual that is aimed at helping others/ improving the community, undertaken with free will, unpaid (or minimal compensation to offset costs), and structured by an organization. Evidence suggests that volunteering improves health, mental health, and socialization, and is protective in the face of loss and other challenges of later life. Thus, it has a place in the discussion of resilience as defined in this book, the *ability to achieve, retain, or regain a level of physical or emotional health after illness or loss*. In this chapter, we review the current status of volunteering among older adults in the United States, and we highlight over three decades of research demonstrating the positive association between volunteering and well-being of older adults. We then consider the relationship of volunteering to resilience. We review current policies and programs that promote volunteering, and finally, we address challenges to wider participation among the older population.

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Introduction

Civic engagement among older adults has gained attention in both the popular and academic press over the last decade. As the health and education of aging Americans continue to increase, so does the opportunity to engage this growing population in civic activities aimed at improving communities. At the same time, this engagement has the potential to promote the health and resiliency of older adults. Civic engagement has a wide variety of definitions, but volunteering is a constant in any discussion of civic activity. In this chapter, we focus on formal volunteering, given the vast potential of the aging population to serve communities in these roles. The numerous definitions of formal volunteering include the following attributes: an activity undertaken by an individual that is aimed at helping others/improving the community, undertaken with free will, unpaid (or minimal compensation to offset costs), and structured by an agency or organization (Donnelly & Hinterlong, 2010; Griep et al., 2017; Omoto & Packard, 2016). We include a wide range of volunteer activities, from episodic, such as serving a Thanksgiving meal at a homeless shelter, to high commitment, like participating in the Foster Grandparent or Senior Companion programs where older adults serve their communities for at least 15 h a week.

Evidence suggests that volunteering improves health, mental health, and socialization, and is protective in the face of loss and other challenges of later life. Thus, it has a place in the discussion of resilience as defined in this book, the *ability to achieve, retain, or regain a level of physical or emotional health after illness or loss*. In this chapter, we review the current status of volunteering among older adults in the United States, and we highlight over three decades of research demonstrating the positive association between volunteering and well-being of older adults. We then consider the relationship of volunteering to resilience. We review current policies and programs that promote volunteering, and finally, we address challenges to wider participation among the older population.

Current Status of Volunteering Among Older Adults

Prevalence of Volunteer Engagement

Older Americans have a strong history of volunteering. Many adults engage in service well into their retirement years, and volunteer rates do not decline significantly until later life when health concerns make volunteer engagement more difficult. In 2015, 62.6 million people volunteered in the United States, representing an overall volunteer rate of 24.9% (Corporation for National and Community Service [CNCS], 2015a). The volunteer rate among older adults is slightly lower (23.5%). This rate has remained relatively consistent throughout the last decade (CNCS, 2015b).

There are several explanations for the lower rates of volunteering among older adults. Younger and middle-aged adults take on volunteer roles related to their children's activities as well as their work roles. Older adults are generally more separated from educational and work institutions and are thus less likely to be presented with volunteer opportunities (Morrow-Howell, 2007). This disconnection between older individuals and institutions may result in them not being included in volunteer outreach efforts. Declining health in older age, dissatisfaction with the operations of volunteer organizations, and other employment or caregiving commitments are also commonly cited reasons why members of this demographic group stop or reduce their volunteering activities as they grow older (Tang et al., 2010).

Once in volunteer roles, older adults commit more time, reporting a median of 94 h a year, while the 45–54 age group reports 52 h a year, and those 55–64 years report 56 h (U.S. Bureau of Labor Statistics, 2015). These numbers increase when definitions of "service" are expanded to include informal help to others. According to AARP, as many as 69% of older Americans report having performed some type of service—formal or informal—in 2012 (AARP, 2012). Older adult respondents reported helping friends and neighbors on their own, as opposed to volunteering through an organization, though the majority of volunteers reported engaging in volunteerism through both formal and informal routes simultaneously. Indeed, a full accounting of the helping activity of older adults must extend beyond the boundaries of formal voluntary activities (Rozario, 2007).

Older adults with more resources—those with more education, income, health, and social capital—are more likely to volunteer (Morrow-Howell, 2010; McNamara and Gonzales, 2011). More recently, psychological sense of community, which refers to one's feelings of membership and emotional connection with a specific group, has also been shown to be a predictor of volunteerism (Omoto and Packard, 2016). Although findings are inconsistent, researchers often document that females, whites, and married individuals are more likely to volunteer than their male, non-white, and unmarried counterparts across all age groups (Einolf, 2009; U.S. Bureau of Labor Statistics, 2015). Non-Hispanic whites have higher representation among formal volunteers than do African Americans: 26.4% compared to 19.3% (U.S. Bureau of Labor Statistics, 2015). Differential rates in volunteering can be attributed to disparities in economic, health, and neighborhood resources, and competing demands of caregiving and working (Tang et al., 2012; Gonzales et al., 2016).

Great hope is placed in the rising cohort of older Americans. Baby Boomers tend to volunteer in greater numbers than previous generations; this can be at least partially attributed to their higher levels of education and may also be influenced by cultural changes in the way older adults view retirement (Einolf, 2009). Baby Boomers may work longer, but there is evidence that employment, especially part-time employment, is related to volunteering (Morrow-Howell, 2007; Einolf, 2009). Specifically, retirement transition plays a role in shaping volunteering decisions, with those who volunteer before retirement more likely to transition to part-time work while continuing to volunteer (Carr and Kail, 2012). In addition, up to two-thirds of older adults not currently engaged in volunteer service express a desire to become engaged (National Governors Association [NGA], 2008). Clearly, there is tremendous potential for increasing the civic engagement of older adults in the future.

Outcomes of Volunteering

Volunteering has been associated with many positive outcomes for older adults, including reduced mortality, fewer functional limitations, increased levels of self-rated health, reduced depressive symptomatology, higher self-esteem, and greater life satisfaction (Anderson et al., 2014). Research findings have also suggested that volunteering may serve to reduce the risk or delay the onset of dementia, though additional research is needed to understand the exact mechanism by which this occurs (Anderson et al., 2014; Griep et al., 2017). The above findings generally were derived from longitudinal surveys, where well-being outcomes at a subsequent observation period are associated with volunteer activities in previous observation periods, controlling for as many confounding variables as possible.

Experimental and quasi-experimental studies have also been conducted. Hong and Morrow-Howell (2010) evaluated the health effects of participating in the Experience Corps (EC) program, a high commitment volunteer program in which older adults perform service in elementary schools, by comparing EC volunteers to a matched comparison group from the US Health and Retirement Study (HRS). In the study, 167 new recruits to the program provided information about a wide range of health factors before entering the program, and then were assessed again after 2 years of service. Compared to the HRS participants, the EC participants reported fewer functional limitations and symptoms of depression after 2 years had passed. Researchers have also found that EC participants report engaging in more physical activity (Tan et al., 2006; Varma et al., 2016) and more intellectual and social activities such as reading, using computers, visiting friends, and attending religious services (Parisi et al., 2015). They also showed a trend toward improved cognitive function (Carlson et al., 2008).

Role theory has long been used to explain the beneficial effects of volunteering. By assuming the role of volunteer, individuals may gain access to resources, social contacts, status, and recognition (Moen et al., 1992). Researchers have pointed out that, compared to other productive activities that tend to be seen as obligatory (like work or caregiving), volunteering is usually more discretionary in nature. Older adult volunteers perceive having the freedom to choose their volunteer activities as very important, which makes them feel more inclined to volunteer through institutions that allow them flexibility and choice in their volunteering responsibilities

(Tang et al., 2009). Additionally, the choice involved in volunteering may increase its potential to provide older adult volunteers with a sense of meaning or purpose in their lives (CNCS, 2007).

Volunteering may provide unique opportunities for older adults, who report more gains in life satisfaction and self-esteem, and more improvement in depressive symptoms than do younger volunteers (Anderson et al., 2014). These age differences may be due to the fact that the volunteer experience helps give older adults a sense of purpose in their encore years, and thus assumes a different meaning among the specific role sets that vary across the life course. A sense of purpose has been linked with a number of positive outcomes that are similar to those provided by volunteering, including slower rates of mental decline (Boyle et al., 2012), decreased mortality (Hill and Turiano, 2014), and reduced symptoms of depression (Dixon, 2007). Having a sense of purpose has also been shown to protect against negative effects of chronic stress (Herriot & Wrosch, 2016). It is possible that the sense of purpose resulting from a volunteer role may be one of the mechanisms by which the benefits associated with volunteerism emerge, though additional research is needed to further investigate this potential linkage.

Volunteering and Resiliency

The literature on the positive effects of volunteering for health, mental health, self-esteem, social connections, and life satisfaction of older adults suggests that volunteering is related to resiliency in several ways. Volunteering increases the potential for an adult to be resilient when faced with adversity, and may serve as a coping strategy in the recovery process. As summarized by Musick and Wilson (2003), volunteering increases the personal and social resources of an individual to make a psychosocial comeback.

Individuals with fewer personal and social resources may be at greater risk for difficulty in recovering from an adverse event. That is, they may be more vulnerable and less resilient. These same individuals are those that research suggests may benefit most from volunteering (Spring et al., 2007). Okun et al. (2010) found that older adults with functional limitations potentially benefit more from volunteering than those who are more functional. Further, lesser educated and lower income older adults report more benefits from volunteering than their better educated and higher income counterparts, including better health, improved self-esteem, increased socialization, and greater generativity (Morrow-Howell et al., 2009a). Another study found that African American older adults, who are generally less likely to volunteer than their white peers, committed more time and reported greater perceived health and psychosocial benefits when they did volunteer (Tang et al., 2012). In sum, it appears that volunteers who are more vulnerable to poorer quality of life outcomes, especially in the face of loss and other challenges, benefit the most from volunteering. Thus, volunteering can be seen as strategy to bolster resources to better prepare for loss or crisis.

It has long been suggested that volunteer work may substitute for the loss of other roles in later life (Chambre, 1987), especially the productive and social roles of a workplace. An older adult who volunteers may be less disrupted by the loss of another role. Greenfield and Marks (2006) demonstrate that volunteering can protect older adults with role-identity absences (e.g., partner, employee, and parent) with regard to purpose in life. A study of Dutch older adults found that volunteering role identity was most salient for older, fully retired adults, and that the time they invest in volunteering compared to their younger peers. These findings suggest that they are compensating for the loss of other roles (van Ingen & Wilson, 2017).

Finally, volunteering is a specific coping technique that an adult can utilize in response to adversity, or as a way to recover after a crisis or loss. Volunteering can provide a means to deal with emotional needs or feelings of uselessness, and individuals report that their volunteer work is therapeutic (Musick and Wilson, 2008). Regarding the challenge of losing a spouse, some research has suggested that the volunteer role may provide meaningful social activity that can facilitate adaptation, but findings in this area are mixed. Li and Ferraro (2007) found that widows were likely to adopt a volunteer role after spousal loss, and that this role could protect against depression symptoms and lead to gains in self-efficacy for those who increased their volunteer hours. However, Donnelly and Hinterlong's (2010) study did not replicate these findings and instead found that spousal loss did not lead to an increase in volunteering habits, but that maintaining volunteering activities could have a protective effect. Nesbit (2012) found that although widowhood generally decreases one's likelihood of adopting a new volunteer role and reduces the number of hours existing volunteers are willing to commit, the changes in volunteering habits vary by age and older widows are actually likely to volunteer more.

Given the potential of volunteering to increase the health and resiliency of the aging population, policymakers and program leaders should be encouraged to support strategies to maximize the involvement of older adults in volunteer activities. In the next section of this chapter, we review policy and program initiatives aimed at volunteering and older adults.

Maximizing Participation Through Programs and Policies

Government Programs

The federal government currently supports a variety of volunteer programs targeting older adults. Most prominent are the three national Senior Corps programs: the Foster Grandparent Program, the Senior Companion Program, and the Retired and Senior Volunteer Program (RSVP). Together, these programs engage nearly 250,000 older Americans in service to their communities each year (CNCS, 2017b). The Foster Grandparent Program is Senior Corps' oldest program, dating back to the War on Poverty initiatives of Lyndon Johnson's administration in the mid-1960s (Carr et al., 2015). The program provides a small stipend to low-income adults age 55 and over who serve as mentors, tutors, and caregivers for disadvantaged or disabled youth. The Senior Companion program pays a small stipend to low-income adults age 55 and over who provide support to frail persons—most of them older—who require assistance to live independently in their homes or communities. RSVP, the youngest, largest, and most flexible of the three programs, promotes the engagement of adults age 55 and over in a diverse range of service activities, including organizing neighborhood watch programs, tutoring children, building houses, and assisting victims of natural disasters.

Older adults who are involved in the Foster Grandparent and Senior Companion programs report higher self-ratings of health and fewer symptoms of depression compared to the general population; additionally, those who participated for more than 6 months reported that they felt more socially connected in comparison to their peers who left the programs (Georges et al., 2017). However, due to limited funding levels, very few individuals who are eligible for these programs are able to participate, and many potential volunteers are placed on long waiting lists (Carr et al., 2015). The Senior Corps programs operate through the Corporation for National and Community Service (CNCS)—an independent federal agency established in 1993 to coordinate federal and state volunteer efforts—and their funding has recently been jeopardized by the federal government's changing priorities (CNCS, 2017a).

Additional programs that support service and volunteering opportunities for older adults operate or receive the majority of their funding through other federal agencies. Among these programs are the Senior Community Service Employment Program (SCSEP), SCORE, the Senior Environmental Employment Program, the Natural Resources Conservation Services ACES, and the AARP Experience Corps.

SCSEP—established by Congress in Title V of the Older Americans Act of 1965 and operated through the U.S. Department of Labor—offers low-income adults age 55 and over job training and placement in paid volunteer positions through public and nonprofit agencies, such as senior centers, governmental agencies, schools, hospitals, and libraries. Although SCSEP began as an anti-poverty program rooted in community service, its mission has expanded to include work-based training and job placement. The program has proven to be largely successful in connecting older workers with employment opportunities, and participants have reported high levels of satisfaction with their experiences in the program (Kogan et al., 2012). It has also been determined to be very cost-effective, as the value of services provided by its participants far exceeds the cost to fund it (Harootyan & McLaughlin, 2012). However, like the Senior Corps programs, SCSEP is also at risk of losing its federal funding. The Department of Labor's budget proposal for fiscal year 2018 states that the program is not helping enough participants transition to unsubsidized employment to justify its continued existence (U.S. Department of Labor, 2017).

The U.S. Small Business Administration also provides volunteer opportunities for older adults through SCORE—a nonprofit organization that encourages working and retired executives and business owners to provide free counseling and training to aspiring entrepreneurs and small business owners. The Senior Environmental Employment Program, administered by the Environmental Protection Agency (EPA), provides an opportunity for retired and unemployed Americans age 55 and over to remain active using their skills in meaningful tasks that support a wide variety of EPA's environmental programs. More recently, the U.S. Department of Agriculture (USDA) has launched a similar program called the Natural Resources Conservation Service Agriculture Conservation Experienced Seniors (NRCS-ACES) Program, which compensates adults 55 and over for providing technical services for the USDA's conservation-related programs.

Experience Corps, which began as a national demonstration project under the auspices of CNCS in 1995 and became part of the AARP Foundation in 2011, supports adults age 50 and older who attend 25 h of training and work in teams for at least 5 h per week to tutor and mentor elementary school students, help teachers in the classroom, and lead after-school enrichment activities. Today, the program operates in over 20 cities with funding from AmeriCorps (the national service program administered by CNCS), state and local public and private funds, private foundations, and in-kind donations. It has been very successful in helping to improve children's academic outcomes while imposing little burden on their teachers (Morrow-Howell et al., 2009b). Hong and Morrow-Howell (2010) found that older adult Experience Corps members experience significant positive health outcomes as a result of their participation in the program. These include decreases in functional limitations and reduced depressive symptoms.

Nonprofit Sector Initiatives

Over the last few decades, a number of nonprofit organizations have spearheaded innovative efforts to advance opportunities for volunteering, employment, lifelong learning, advocacy, and public service in later life. Although too numerous to list here, they include national networks of retired healthcare professionals working in free clinics (e.g., Volunteers in Medicine); programs that provide opportunities for older adults to help children in need (e.g., Encore.org's Gen2Gen campaign); awards for individuals who innovate new ideas to help older adults make an impact on the lives of young people (e.g., The Encore Prize); networks of pro bono business consultants for nonprofits, schools, and government agencies (e.g., The Taproot Foundation); faith-based initiatives to engage older adults in civic work (e.g., Shepherd's Centers, the National Volunteer Caregiving Network); organizations that promote healthy aging by connecting older adults to local volunteer opportunities (e.g., OASIS); social innovation awards for individuals age 60 or older who have demonstrated vision and entrepreneurialism in addressing community and national problems (e.g., AARP's Purpose Prize); clearinghouse-type organizations that facilitate the link between older adults and volunteer opportunities (e.g., VolunteerMatch); as well as several initiatives to help working or retired adults transition into new careers in the public sector (e.g., Partnership for Public

Service), nonprofit sector (e.g., ReServe, The Transition Network, Bridgespan, Executive Service Corps), or international service (e.g., International Executive Service Corps, International Senior Lawyers Project).

Several states also have active nonprofit programs that aim to provide opportunities for employment, civic engagement, and socialization for older adults. These include programs to connect skilled older adults to local nonprofits or affiliated programs where they can use their experience to make a difference in their community (e.g., Experience Matters in Arizona, Boomers Leading Change in Colorado); organizations that recruit retired individuals to perform odd jobs and handyman work for other older adults (e.g., Umbrella of the Capital District in Schenectady, New York); as well as programs that provide support and personal growth opportunities for older individuals as they age (e.g., Next Chapter in Kansas, the Vital Aging Network in Minnesota).

Political Actions

Civic engagement has been a focus of the last two White House Conferences on Aging (WHCoA), held in 2005 and 2015. The 2005 WHCoA led to a number of policy initiatives that came to fruition under the Obama Administration, some of which are described here. The 2015 WHCoA also included recommendations for expanding opportunities for older adults to engage in volunteer activities. While these recommendations may lead to policy changes, as those made in 2005 did, efforts to bolster existing civic engagement programs or initiate new programs may be slowed by desires within the Trump Administration and Congress to decrease social spending and reduce federal involvement in local programs.

In 2005, among the 50 policy recommendations that the delegates voted to bring forward to the President and Congress, were two related to civic engagement: the first was a resolution calling for a national strategy to promote meaningful volunteer activities for older Americans; and the second was a resolution calling for renewal of the laws that authorize national service programs (O'Neill, 2007). With regard to civic engagement, one of the delegates' major policy goals was achieved in late 2006 when President Bush signed into law the 5-year reauthorization of the Older Americans Act (H.R. 6197). The law included several areas of expansion, building upon ideas and language developed in the WHCoA policy recommendations. The law included a definition of civic engagement, required that the Assistant Secretary for Aging develop a comprehensive strategic plan for engaging older adults in meeting critical community needs, and authorized a new program of demonstration, support, and research grants for projects that engage older adults in multigenerational and civic engagement activities.

At the state level, efforts to engage older adults in volunteer work also emerged in the mid-2000s. In 2007, California Governor Schwarzenegger launched the "EnCorps Teachers" program, an initiative that recruits skilled soon-to-be-retired employees to serve as math and science teachers in public secondary schools.

In 2008, California and New York were the first two states to create cabinet-level positions for service and volunteering, giving volunteers a voice at the highest levels of state government. Facing tight budgets, states are experimenting with incentives to increase volunteering. In 2008, Illinois granted free public transportation to all older adult citizens with the expectation that it would facilitate greater access to community volunteer opportunities. In several other states, local districts offer residents over age 60 the opportunity to volunteer in schools and earn a modest tax credit against their property taxes (see, for example, the Littleton, Colorado, Senior Citizen Tax Rebate Program, http://littletonpublicschools.net/content/volunteer).

The 110th (2008) session of Congress also saw the introduction of several bills to expand service opportunities for baby boomers and older adults. In three separate bills—the GIVE (Generations Invigorating Volunteerism and Education Act, H.R. 5366), the Encore Service Act (S. 3480), and the Serve America Act (S. 3487)—members of the U.S. House and Senate laid out their visions for service by Americans of all ages. And, at a summit on national service held 2 months prior to the November 2008 election, both presidential candidates John McCain and Barack Obama committed to signing into law major expansions for the nation's service programs if they were elected (Stengel, 2008).

In his first 100 days in the White House, President Barack Obama signed into law the Edward M. Kennedy Serve America Act of 2009; the largest expansion of national service programs since the Depression-era Civilian Conservation Corps (Public Law 111-13 [H.R. 1388], 2009). The Act included several provisions that would specifically benefit midlife and older adults. The law—which went into effect in October 2009—aimed to establish an Encore Fellowship program for individuals age 55 or older to serve in leadership or management positions in public and private nonprofit organizations for 1 year; it targeted 10% of AmeriCorps funds for organizations that enroll adults age 55 and older; and it created Silver Scholarships that would provide a $1,000 higher education award—transferable to children, foster children, and grandchildren—to older volunteers who contribute at least 350 h of service per year. The new law also required that the nation's 50 State Commissions on National and Community Service complete detailed plans to recruit and leverage the resources of the baby boomer generation. It also expanded service options for older Americans by lowering the age requirement for the Foster Grandparent and Senior Companion programs from 60 to 55, and increasing hourly stipend eligibility for the programs from 125% of the federal poverty level to 200%. Unfortunately, the recession of the late 2000s prevented the Serve America Act from being fully funded and implemented in its entirety; for instance, although the law authorized creation of 250,000 AmeriCorps positions, in fiscal year 2014, only 73,600 positions were actually funded (Stein and Sagawa, 2016), and funding has not increased since then. As a result, it is unlikely to have a substantial effect on volunteering rates in the long term (Nesbit and Brudney, 2013). Its most significant lasting impact is seen in the changes to the age and income eligibility requirements for two Senior Corps programs, which were implemented and have remained at the levels specified by the Act, and the implementation of new evaluation guidelines for

CNCS programs. The Serve America Act required regular program evaluations of all national service programs under the umbrella of the CNCS, and increased competition in the funding of the Senior Corps programs. The creation of performance measures for use across the various Senior Corps programs promises better comparative analysis of program implementation strategies.

The 2015 WHCoA identified "Supporting Lifelong Learning And Engagement" as one of the goals associated with the theme, "Healthy Aging," and identified several new initiatives to move the nation's older adults toward this goal (WHCoA, 2015). One initiative announced in the 2015 WHCoA Final Report was funding to support over 100 new Senior Corps volunteer positions within federally recognized Indian Tribes and Tribal organizations. The report also acknowledged several privately funded initiatives, such as a new national initiative by Encore.org to engage older adults in efforts to address the needs of vulnerable children. Although it is unlikely that new federal funding will support increased engagement of older volunteers in the near future, the WHCoA reiterated the role of civic engagement as an important component of healthy aging, and as a valuable resource in addressing the needs of vulnerable communities.

One other emerging trend worth noting is the increase in grassroots political activism across the United States since 2009. Developing first as a conservative backlash against efforts to enact the Patient Protection and Affordable Care Act (ACA) in 2009 and 2010, the "Tea Party" movement became a grassroots force that led to the election of many first-time, ultra-conservative representatives to both state legislatures and Congress. A majority of Tea Party grassroots activists were over the age of 45, with many in their 60s and 70s, and they identify being older as a strength and motivation for their engagement (Skocpol & Williamson, 2012). This movement spurred a number of conservative legislative victories that included reductions in federal social spending, resistance to full implementation of the ACA, and, ultimately, a victory against Democratic candidate for President, Hillary Clinton, in 2016.

This electoral victory, which ushered in Donald J. Trump as President along with a Republican majority in both chambers of Congress, initiated another wave of civic engagement, however. Building upon the tactics used by Tea Party activists to advocate for a legislative agenda and campaign for champions of that agenda, a number of new progressive movements have emerged (Dickinson, 2017). Among these, groups such as Indivisible, Swing Left, and the Sister District Project have sparked new energy in progressive grassroots organizing. Although it is still too early to know how these groups compare demographically to the Tea Party movement, one survey of activists using a new, progressive political action platform, Daily Action, found that 66% of users were age 46 and older, with 15% older than 65 (Lake Research Partners, 2017). Older adults have been prominent in political actions initiated by these groups, particularly in defending the ACA, Medicaid, Medicare, and Social Security against Republican reform and repeal efforts. Older adults are continuing to have significant impact in grassroots efforts to set legislative agendas and elect policymakers.

Challenges and Future Directions

Policy Directions

The government can encourage more volunteering by helping to remove barriers that older adults face. For example, volunteers provide critical driving services to those who cannot otherwise conduct personal errands or get to and from medical appointments or other activities, yet individuals and nonprofit organizations carry the cost of liability insurance. Driving services could be expanded if the Good Samaritan laws were broadened to include volunteer drivers. In addition, raising the charitable mileage deduction from 14 cents per mile to the 58.5 cents per mile that is deductible for business driving likely would have a major impact on allowing volunteers to serve those who live in places that require driving (Bridgeland et al., 2008). Expanding home- and technology-based volunteer opportunities (via telephone or computer) could increase access to volunteer roles for older adults with disabilities, transportation limitations, or remote residences (O'Neill, 2007).

Policymakers also can make use of rewards and incentives to encourage activities that benefit the public. Research suggests that small incentives—such as education credits, access to group health insurance, or a modest monthly stipend—might reap large benefits by attracting more adults into community service (Bridgeland et al., 2008). Going forward, policy experts have recommended creation of a national commission to develop a "blueprint" for tapping the time, energy, and talents of millions of older adults to strengthen America's communities. The commission might be tasked to explore how tax, pension, education and retraining, and healthcare policies could be reformed to maximize the involvement of older adults and baby boomers in their communities (Gomperts, 2007). The commission could also spotlight outstanding programs and organization arrangements that warrant replication.

The corporate sector also can play an important role. Almost 70% of America's volunteers are in the labor force (U.S. Bureau of Labor Statistics, 2009). Volunteering peaks in midlife, not retirement. Therefore, the workplace is an ideal location to connect with and engage potential volunteers, including retirees. Companies can implement or expand corporate volunteer programs for their employees, and offer programs for their retirees to stay involved in community service. For example, through its Transition to Teaching program, IBM trains some of its most experienced employees to become fully accredited teachers in their local communities upon leaving the company. Policymakers might offer subsidies, tax credits, and other incentives to encourage businesses to create volunteer time policies, such as paid and unpaid leave for volunteering (Gerontological Society of America [GSA], 2005).

Recruitment and Outreach

Clearly, one challenge is bringing together older adults and nonprofit agencies in need of volunteers. Unless older adults are recruited actively, they will not likely come forward in large numbers to serve. Currently, organizations make contact with potential volunteers through a variety of channels: social media, written newsletters and newspapers, local community events, and civic organizations. Additionally, websites have been developed that may prove more effective over time as more older adults become comfortable with using the Internet to connect with resources (see, for example, https://www.volunteermatch.com and https://www.allforgood.org). AARP also provides an online portal to connect older adults with volunteer activities, through its Create the Good website (http://www.createthegood.org), and also regularly updates a Facebook page by the same name, which shares announcements, pictures, and profiles of middle-aged and older adult volunteers. Leaders in the public and nonprofit sectors are starting to reach out to older adults with national social marketing campaigns intended to stimulate a new spirit of volunteerism and convey the positive outcomes of volunteering for older adults. These include Encore.org's Gen2Gen campaign and the America, Let's Do Lunch campaign launched by Meals on Wheels. With similar goals in mind, the Obama administration launched the Serve.gov initiative in 2009, in an effort to engage Americans of all ages in addressing community needs in education, health, energy and the environment, community renewal, and safety and security. The website, managed by CNCS, helps visitors find local opportunities to engage in national service, recruit volunteers by sharing information about projects, and find inspiration to make a difference.

Yet, the recruitment method that seems most effective is the "personal ask." It has long been understood that older adults who are asked to volunteer do so at rates five times higher than those who are not asked, and yet, certain subpopulations, like African Americans, are less likely than Caucasians to be asked to volunteer (Independent Sector, 2000). More recent research has explored the implications of this knowledge for identifying effective methods for recruiting volunteers, especially those who may benefit most from engagement but are least likely to be recruited. Patterns of underrepresentation are reinforced when members of certain groups are not present in volunteer organizations and thus cannot recruit their peers (Morrow-Howell, 2010). Targeting recruitment to more isolated, lower socioeconomic status (SES), and ethnic minority older adults may depend on effective messages and messengers who can connect with these adults more personally. Informal volunteering may play a role in connecting older adults to other community members who could invite them to use their skills in more formal settings (McNamara and Gonzales, 2011). Identifying individuals to engage in personal communications and recruitment may be difficult, but if health and social service providers, family members, and informal community leaders understand the potential benefits of volunteering and know about volunteer opportunities in the area, targeted outreach may be feasible.

Some research has also suggested that motivations for volunteerism may differ across demographic lines, which can have implications for organizations' strategies to recruit more diverse volunteers. In a study of Experience Corps volunteers, Chen and Morrow-Howell (2015) found that purely altruistic motivations for volunteerism were most common among male and African American older adults. Thus, based on this information, organizations may choose to tailor their messaging to emphasize "giving back" to the community and leaving a legacy behind in order to attract more volunteers from often-underrepresented demographic groups.

Inclusion

Concern has been expressed that the current movement toward increasing volunteer involvement among older adults is elitist, fails to capture the diversity of the older population in terms of ethnicity and SES, and does not value informal volunteering efforts (Martinez et al., 2011). Common structural barriers to formal participation include lack of knowledge about volunteering opportunities or inability to find interesting opportunities, prohibitively high personal costs, insufficient transportation options, time constraints, lack of flexibility, lack of opportunities to utilize skills, and inadequate volunteer management (Tang et al., 2009; Martinez et al., 2011). These barriers exert unequal influence on older adults, and those with fewer social and economic resources may not overcome them. McBride (2007) points out that volunteering can be inaccessible to older adults who need to earn income, provide caregiving, or have certain disabilities—all circumstances that are more common among older adults of lower SES.

The lack of inclusion of certain subgroups of older adults is a disservice to communities and to older adults themselves, and could potentially lead to increased disparities in health and well-being (Martinez et al., 2011). Thus, inclusion of diverse populations in formal volunteering is a priority. Policymakers, program leaders, and researchers should consider diversity widely to include ethnicity, education, skill levels, and functional ability. Further, policymakers, program leaders, and researchers must recognize roles as informal volunteers and caregivers. Ethnic-based organizations, religious institutions, and informal social groups can serve as access points for more formal opportunities (McNamara & Gonzales, 2011). Although some argue that offering a stipend undermines the concept of voluntary engagement, others believe stipends are a necessary tool to make volunteering more accessible to underrepresented groups (Morrow-Howell, 2010). Recent research on the effects of stipends has demonstrated that a minimal amount of compensation, such as the stipends offered to Experience Corps participants, contributes to increased volunteer participation and may increase retention rates (McBride et al., 2011; Chen and Morrow-Howell, 2015). Compared to non-stipended volunteers in the Experience Corps program, stipended volunteers are more likely to belong to ethnic minority groups and to have lower incomes; additionally, stipended volunteers report higher perceived benefits of participation than non-stipended volunteers (McBride et al., 2011). The expansion of stipend programs, as discussed above, is a step in the right direction toward increasing inclusion.

Research Needs

It would be useful to have more research to inform program and policy development in civic engagement in later life. Throughout the last few decades, we have accumulated evidence that volunteering is good for older adults, but additional research is still needed to determine what programs and policy initiatives will maximize the engagement of older adults in volunteer roles. Future research should seek to further identify and understand: (1) the volunteer behaviors and motivations of the baby boomer generation, (2) the mechanisms by which volunteering improves mental and physical health outcomes for older adults, (3) how volunteer activity fits into wider activity patterns, (4) effective strategies to mobilize baby boomers and older adults, (5) best practices for volunteer program structures and design to attract and support older volunteers, and (6) extent of inclusion of diverse older adults, not only in terms of ethnicity but also all ranges of education, income, functional abilities. Additionally, as more research has been conducted on the volunteering experiences of older adults in other countries, new opportunities exist to gain insight into how volunteering differs across cultural contexts. This knowledge could help inform the practices of volunteer organizations in the United States, in order to maximize their ability to engage aging Americans.

At the same time, outcomes research that identifies the economic consequences of engaging older adults in civic engagement programs is critical for building a constituency among policymakers and legislators. Very few good cost–benefit analyses of volunteer programs currently exist. Finally, expanded understanding of the potential and limitations of online innovations in the arena of volunteering seems particularly important to older adults.

Conclusion

Research suggests that volunteering is a component of resilience in older adults, because it supports both physical and mental health while assisting individuals in developing networks of social support. State, local, and private efforts are underway to expand the availability and diversity of volunteer roles available to older adults. Regarding federal involvement, many policy experts argue that fully funding civic engagement programs run by the CNCS is a cost-effective way to promote health among older adults while also addressing some of the country's most pressing problems. Further research is needed on how civic engagement relates to resilience, how volunteer programs can improve inclusion of diverse populations, and how organizations can maximize the benefits of their programs for all stakeholders, including the volunteers, the organizations, and the larger community. The baby boomer generation holds vast potential to leverage their skills, education, and experience for the good of the community; policies and programs must continue to evolve in order to capitalize on this unique opportunity.

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Sustained by the Sacred: Religious and Spiritual Factors for Resilience in Adulthood and Aging

Serena Wong, Kenneth I. Pargament and Carol Ann Faigin

Abstract There are many sources of strength when stressful events occur throughout life. Psychologists have identified factors such as social support, positive emotions, and self-compassion that contribute to resilience. Religion and spirituality offer an additional dimension in coping with adversity: *the sacred*. We argue that an integrated connection with the sacred is essential for accessing unique reservoirs of strength in difficult times. Religious resources serve as lifelines that route individuals towards wellbeing. On the other hand, unrelenting spiritual struggles can compound stress or exacerbate difficulties. Thus it is critical to assess the nature of one's relationship with the sacred. In doing so, targeted interventions to build spiritual resilience and decrease spiritual risk factors can be applied at different points throughout adulthood and aging.

Keywords Resilience · Religion · Spirituality · Sacred · Religious resources

Introduction

Human beings endure a multitude of life events, from daily frustrations to the terror of violence. What factors determine our trajectories in the face of adversity? Traditional approaches to this question have investigated biological, sociocultural, and secular psychological variables. Scientists have identified factors such as social

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support (Moore et al., 2015), positive emotions (Gloria & Steinhardt, 2014), and self-compassion (Neff & Knox, 2017) that contribute to resilience. These discoveries have led to a greater understanding of the framework of resilience. However, another substantive body of research, generated by the field of psychology of religion and spirituality, has further informed our appreciation of resilience pathways.

In this chapter, we focus on the sacred dimension of resilience. It is important to mention here that we argue for attending to people's psychological experience of the sacred rather than its ontological reality. We offer theory and findings concerning the sacred that support its unique relevance when people suffer. Select contributions relevant to resilience are highlighted. Of note, the terms religion and spirituality are used interchangeably in this review for the sake of simplicity, given their substantial overlap in conceptualizations across researchers, laypeople, and older adults (Oman, 2013; Schlehofer, Omoto, & Adelman, 2008; Zinnbauer et al., 1997). We offer that an integrated connection with the sacred is essential for accessing distinctive reservoirs of strength in difficult times. Religious resources operate as lifelines that route individuals towards well-being. On the other hand, unrelenting spiritual struggles can compound stress and exacerbate difficulties. The sections of the chapter are organized by life stage (adulthood and aging), with accompanying overviews of helpful and harmful religious pathways. Subsequently, we offer suggestions for psychospiritual interventions that promote greater resilience in adulthood and later life.

The Sacred as a Unique Dimension of Resilience

To begin, it is important to define what is meant by *the sacred*. As conceptualized by Pargament (1997), the sacred refers to one's core beliefs about God, the divine, or transcendent reality. The sacred also encompasses aspects of one's life that are viewed as manifestations of this core or imbued with the core's sacred qualities. Consequently, a drawing of the sacred would comprise a numinous inner core and surrounding ring of sanctified objects, relationships, activities, and experiences (Pargament & Mahoney, 2005). Transcendence, boundlessness, ultimacy, deep interconnectedness, and spiritual emotions are qualities of the sacred (Pargament, 1997, 2007). Transcendence involves perceptions of an object or experience as extraordinary, literally outside of the worldly or mundane. Ultimacy involves the arrival at profound, elemental truths about the universe or existence. Boundlessness refers to the perceived expansion of time and space boundaries. Deep interconnectedness involves the authentic meeting of another living being, as captured in an *I-Thou* encounter (Buber, 1958). Elicited by sacred perceptions, spiritual emotions include uplift, awe, gratitude, and humility. Altogether, the sacred is at the heart of religious and spiritual life.

Historically, theorists in the field of psychology have viewed religion through a reductionist lens. It has been argued that beliefs in the divine serve more basic purposes, such as a defense mechanism for anxiety (Freud, 1927), an attachment figure (Kirkpatrick, 2005), an object representation (Rizzuto, 1979), a physiological response (D'Aquili & Newberg, 1998), or a source of identity and community (Durkheim, 1915). More recently, Galen (2017) questioned whether religion could provide anything beyond what the secular is able to offer. Religious attendance, for example, ostensibly serves the same psychological functions as social support or civic engagement. One manifestation of the reductionist perspective is the stripping away of spiritual components from healing practices such as yoga and meditation. However, others (e.g., Frankl, 1984; James, 1961; Pargament, 2002, 2013) have argued that there is something unique to one's relationship with the sacred in religiousness and spirituality, and thus its role in resilience.

We caution against "explaining away" religion for several reasons. Spirituality holds a distinctive and important role for many individuals. National polls reveal that 72% of people in the United States identify with a particular religion, and 77% acknowledge religion as somewhat or very important to them (Pew Research Center, 2008). Moreover, Mercadante (2014) identified themes of the sacred at the forefront of her interviews with the growing faction who identify as spiritual but not religious. One participant describes habitually returning to the ravines behind her home, feeling "just a sense of peace and order and… feeling like I belonged somewhere. There was… [a] fulfilling and rejuvenating kind of silence" (Mercadante, 2014, p. 46–47). As illustrated, individuals have looked within and beyond the structures of organized religion for guidance in their search for the sacred. The search itself seems to be of irreducible and enduring importance.

It is probable that the sacred is not the *only* answer to coping with challenges, but it is a good one. The sacred has accounted for variance in outcomes above and beyond secular analogues in several studies (see Pargament, Magyar-Russell, & Murray-Swank, 2005). One such study compared the roles of religious engagement and secular civic engagement in buffering stress (Acevedo, Ellison, & Xu, 2014). In a cross-sectional random sample of adults, religious engagement significantly moderated the association between financial hardship and psychological distress in a model controlling for demographic factors and physical health. Furthermore, the researchers observed that religious engagement played a greater part in buffering stress relative to secular volunteering. In addition, religious resources seem to steer individuals towards well-being. In one study on medically ill patients with HIV, those who drew from the sacred to cope were two to four times more likely to survive over 17 years (Ironson, Kremer, & Lucette, 2016). Strategies that increased resilience included prayer, meditation, attending services, expressing gratitude to a higher presence, and reinterpreting situations through a benevolent spiritual lens. These findings suggest that the sacred holds a distinct and compelling role in resilience.

More recently, findings across cultures have supported the ubiquitous nature of sacred perceptions. In a sample of Brazilian outpatients with bipolar disorder, higher levels of engagement with religious resources predicted better quality of life 2 years later (Stroppa, Colugnati, Koenig, & Moreira-Almeida, 2018). This effect was consistent across physical, mental, social, and environmental domains of life.

In a sample of Asian American older adults, Lee (2007) observed associations between religious resources and life satisfaction. A survey of Swiss churchgoers revealed significant links between stress-related growth and the use of religious resources (Winter et al., 2009). In their cross-cultural review of religious coping research, Abu-Raiya and Pargament (2015) concluded that patterns of prevalence and correlates were strikingly similar across major religious traditions, with well-being linked positively to religious resources and negatively to spiritual struggles. These diverse studies affirm the central role of the sacred in the lives of people worldwide.

Why does the sacred draw so many to its shores, especially when under duress? This is perhaps due to its very nature. In his theory of religious coping, Pargament (1997) posited that the sacred offers a direct response to human frailty and finitude. People turn to the sacred for solace or unique solutions to life problems when pushed beyond their worldly resources. When one's connection is healthy, the sacred delivers a deep wellspring of sustenance. Furthermore, Pargament, Wong, and Exline (2016) have postulated that the sacred is an essential ingredient of eudaimonic well-being and wholeness, functioning as a higher order organizing force that lends cohesion, purpose, depth, breadth, and flexibility to one's search for significance.

However, when one's connection to the sacred is broken or unhealthy, people can encounter unique distress that leads to negative outcomes throughout the lifespan. Spiritual struggles, previously termed as negative religious coping, refer to tensions, conflict, or strain in relating to the sacred (Pargament, 1997, 2007; Exline, 2013). Given the salience of the sacred in the lives of many people, threats, challenges, and struggles in this realm may be particularly problematic. For example, in a nationally representative cross-sectional study on American adults, spiritual struggles predicted unique variance across indicators of well-being and psychological distress, even after controlling for potentially confounding secular variables such as neuroticism and social isolation (Abu-Raiya, Pargament, Krause, & Ironson, 2015). Struggles with the sacred contributed to higher levels of depression and anxiety, as well as lower levels of happiness and life satisfaction. Those who wrestle with sacred matters may experience a distinctive form of distress due to the profound nature and core relevance of these questions, doubts, and tensions.

Powerful as spiritual struggles may be, more often than not people benefit from sacred perceptions. Across studies on religious coping, Pargament (1997) observed that the prevalence of religious resources is reliably higher than spiritual struggles, although neither struggles nor resources are uncommon. Thus it is critical to assess the nature of one's relationship with the sacred in order to predict one's trajectory following adversity. In doing so, targeted interventions to build spiritual resilience and decrease spiritual risk factors can be applied at different points throughout adulthood and aging. To better frame these methods of coping and relating to the sacred, we provide some background on religious resources and spiritual struggles.

Religious Resources

In 1997, Pargament introduced a framework for organizing the concept of positive and negative religious coping with major life stressors. Positive religious coping methods or religious resources encompass ways of responding to life events that reflect a healthy connection with the sacred. Such responses may involve benevolent religious appraisals, a collaborative approach with the divine to solve problems, and searching for spiritual connectedness with others. Others may summon the sacred to engender feelings of forgiveness, purification, gratitude, or purpose. Joining forces with the sacred to cope with life's problems can help people conserve their beliefs in a higher power, surrender control over the uncontrollable, and draw meaning from stressful circumstances (Pargament, 2007). This profound trust in the divine is exemplified by a community-dwelling octogenarian woman (Manning, 2013, p. 6):

> It's like this: You're more confident in whatever happens. I know I'll get through it. I always have. I don't know what it will be, and I'll be okay. I have confidence in what I call God. So, whatever happens, there is a plan. …I trust in the process and I trust in God to help me overcome whatever I need to. …I've had many chances to practice overcoming hardship, and I get better at it each time.

This quote demonstrates a secure, enduring connection with the sacred, which proves to be a protective factor when dealing with accumulated hardships over time. Research has demonstrated that an integrated religion and spirituality are associated with decreased levels of depression (Ronneberg, Miller, Dugan, & Porell, 2016), anxiety (MacKinlay & Burns, 2017), and chronic pain (Wachholtz, Pearce, & Koenig, 2007). In addition, engaging with the sacred predicts greater posttraumatic growth (Prati & Pietrantoni, 2009), happiness (Martinez & Scott, 2014), well-being (Yonker, Schnabelrauch, & Dehaan, 2012), life satisfaction (Doolittle, Courtney, & Jasien, 2015), and mental and physical health (Koenig, 2015). Furthermore, in a meta-analysis of 49 studies, Ano and Vasconcelles (2005) concluded that religious resources were linked to better psychological adjustment to stress. Thus, a healthy relationship with the sacred appears to be a protective feature for life's turbulence. There are times, however, when this relationship can be threatened.

Spiritual Struggles

As mentioned previously, spiritual struggles refer to tensions, conflict, and strain related to the sacred. It is meaningful to speak of spiritual struggles in both the singular and plural. After a decade of research, six types of spiritual struggles have been clarified, each possessing discriminant validity: divine, supernatural evil, moral, ultimate meaning, doubt, and interpersonal (Exline, 2013). Furthermore, in 2014, Exline, Pargament, Grubbs, and Yali developed the Religious and Spiritual Struggles Scale, confirming a six-factor model that is being increasingly used to examine the phenomenon. Divine struggles are characterized by negative feelings towards the sacred, such as expressions of anger or disappointment towards God as well as feelings of abandonment, alienation, and punishment by the divine. Another type of struggle with the supernatural involves feelings of being tormented, attacked, or tempted by evil spirits or demonic forces. Moving into the intrapersonal domain, moral struggles involve wrestling with one's perceived wrongdoings, desires, and moral or religious standards. Feelings of guilt and worry are commonly encountered in the moral struggle domain. Struggles of ultimate meaning relate to existential concerns and the challenge of finding a deeper purpose in life. Doubt is the experience of questioning, confusion, and instability in one's beliefs about the sacred or larger religious institutions. Lastly, interpersonal struggles refer to negative encounters with individuals when sacred matters are raised. Practically speaking, people can and do experience various configurations of spiritual struggles concurrently (Exline, 2013). Yet Stauner et al. (2016) also demonstrated the viability of examining struggles as a unidimensional factor.

Broadly, spiritual struggles predict myriad indicators of maladjustment and poor health. In longitudinal and cross-sectional studies, higher levels of spiritual struggles have been tied to greater depressive symptoms (Abu-Raiya et al., 2015; Exline et al., 2014; Henslee et al., 2015; Park, Holt, Le, Christie, & Williams, 2017), anxiety (Abu-Raiya et al., 2015; Exline et al., 2014), stress (Henslee et al., 2015), negative affect (Park et al., 2017), less happiness (Abu-Raiya et al., 2015), lower satisfaction with life (Abu-Raiya et al., 2015) lower quality of life (Henslee et al., 2015), mortality (Pargament et al., 2001), and poorer physical health (Krause, Pargament, & Ironson, 2017). In the same meta-analysis reviewing 49 studies by Ano and Vasconcelles (2005), spiritual struggles in coping were significantly related to poorer psychological adjustment to stress.

Despite these unwanted outcomes, spiritual struggles should not be confused with signs of weak faith or pathology. Consider the divine struggles of Mother Teresa featured in her letters (Teresa & Kolodiejchuk, 2007, p. 210): "I just long and long for God—and then it is that I feel—He does not want me—He is not there. …The torture and pain I can't explain." Quite the contrary, they can represent a turning point or transitory state. When successfully worked through, spiritual struggles can result in positive outcomes, such as spiritual- and stress-related growth (Cole, Hopkins, Tisak, Steel, & Carr, 2008; Desai & Pargament, 2015; Exline, Hall, Pargament, & Harriott, 2017; Pargament, Desai & McConnell, 2006). On the other hand, when people "get stuck" in their struggles, they may be at greater risk for problems (Pargament, Koenig, Tarakeshwar, & Hahn, 2004).

Resiliency and Religion

Most people experience the sacred as a source of strength and struggle during their lives and, at times, these processes occur simultaneously. The following review explores some of these religious resilience factors and their outcomes in adulthood (ages 18–65 years) an in older adulthood (65 years and older).

Resiliency in Adulthood

Adulthood is a tenuous time filled with a multitude of transitions and personal discoveries, and the exploration and deepening of beliefs and behaviors. This phase of life can be filled with monumental growth while also presenting great risk. A large fund of data regarding the role of religious coping highlights both ends of this spectrum.

Religious Resources in Adulthood

Few people survive adulthood untouched by distressing or traumatic events, whether in the form of community violence, car accidents, natural disasters, unexpected losses, or life-threatening illness. Sometimes, stressors are more enduring, as in the case of chronic illness, partner abuse, and discrimination. Fortunately, many individuals are able to recover and flourish in spite of such experiences (Bonanno, 2004). In pain and brokenness, people often stumble upon sacred pathways to wholeness. This notion is reflected in a line of poetry by the Sufi mystic Rumi, “The wound is the place where the Light enters you.” Sacred pathways take the form of various religious resources used in coping with hardship.

One major finding recapitulated in the literature is the link between religious attendance and lower mortality. Hummer, Ellison, Rogers, Moulton, and Romero (2004) verified this association in their review of several high quality, population-based studies emerging from disciplines such as medicine, public health, and the social sciences. Such studies also controlled for demographic variables. Across the board, religious attendance has been reliably correlated with lower mortality risk in the U.S. (Hummer et al., 2004). Further substantiation of this finding is seen in the association between religious attendance and leukocyte telomere length, a biological marker of cellular aging (Hill, Ellison, Burdette, Taylor, & Friedman, 2016). That is, longer telomeres indicate longer life. Engaging with institutions that center upon the sacred seems to have a dose effect, extending the lives of people who participate more often at religious services.

Another well-studied topic is the role of religious coping in posttraumatic growth. In 2009, Prati and Pietrantoni conducted a meta-analysis of 103 studies to identify factors predicting posttraumatic growth in adults. Religious resources yielded one of the largest effect sizes in comparison to secular strategies that included acceptance, optimism, social support, and positive reappraisal. Of note, the favorable effects of the sacred were stronger for women and those who were older (Prati & Pietrantoni, 2009). Findings from this meta-analysis bolster the role of the sacred in resilience and underscore the heightened importance of the sacred for disadvantaged and vulnerable populations.

Indeed there is variance in the use of religious coping by demographic variables. Generally, religious coping is more frequent among females, older, black, and married people (Ferraro & Koch, 1994). Additionally, prayer is more frequent in African-Americans than Caucasians, as well as in those who are less educated (Bearon & Koenig, 1990) and have lower incomes (Poloma & Gallup, 1991). Even by country, the poorest nations tend to be most religious (Crabtree, 2010). The countries with the largest proportion of adults endorsing the importance of religion were Bangladesh, Niger, and Yemen, and each had an average per capita income of less than $2000 (Gallup, 2010). It seems reasonable that those who face greater odds would draw upon the sacred when other options are limited or appear bleak.

In recent years, the protective potential of the sacred has been explored in minorities. For example, the benefits of religious resources were investigated in a large sample of African American adults (Park et al., 2017). Those utilizing more religious resources reported greater well-being two and a half years later. Specifically, participants endorsed fewer depressive symptoms and more positive affect, self-esteem, and meaning in life. In another study, Brewster et al. (2016) examined the role of religious resources in sexual minority individuals. The majority of their sample identified as lesbian, gay, or bisexual. Notably, the link between internalized heterosexism and psychological well-being was moderated by the use of religious resources, such that those who engaged more with the sacred were less likely to be affected by the homophobic beliefs that they had internalized (Brewster et al., 2016). Stated otherwise, the sacred acted as a buffer against self-stigma for being a sexual minority. In both studies discussed (i.e., Brewster et al, 2016; Park et al., 2017), the authors used the Brief Measure of Religious Coping Styles (Pargament, Feuille, & Burdzy, 2011) to assess participants' level of engagement with the sacred. Items for religious resources included seeking divine support (e.g., "I sought God's love and care") and collaborative problem solving with God (e.g., "I tried to put my plans into action together with God"). It appears the sacred is a vital ingredient for well-being, particularly for individuals who identify with marginalized identities.

Immigrants represent another kind of vulnerable population that may face issues related to discrimination and acculturation to their country of reception. One cross-sectional study examined the role of the sacred in Latino immigrants in coping with acculturative stress related to settling in the U.S. (Sanchez, Dillon, Concha, & De La Rosa, 2015). All of the participants had emigrated within the past 2 years. They responded to questions about religious coping, acculturative stress, and problematic alcohol use. Contrary to the researchers' hypothesis, religious resources failed to moderate the association between acculturative stress and harmful drinking behavior. That is, Latino immigrants who frequently drew upon the sacred while enduring acculturative stress were no more likely to refrain from problematic drinking than those who did not. In addition, the use of religious resources was positively correlated with acculturative stress and spiritual struggles. How do we make sense of these seemingly incongruous findings?

The stress mobilization hypothesis is relevant when interpreting results from cross-sectional studies on religious coping (Pargament, 1997). Religious resources have occasionally been found to predict undesirable outcomes or null effects. Known as the *stress-mobilization hypothesis*, Pargament (1997) posited that distress itself mobilizes the use of religious resources and other means of coping. Consequently, a positive or nonsignificant association between negative outcomes and religious resources can be explained by the mobilizing effects of the stressor, which offsets the benefits of religious resources when examined cross-sectionally. Support for this hypothesis is found in longitudinal studies on the healthful effects of religious resources (Pargament, 1997). In the sample of Latino immigrants surveyed by Sanchez et al. (2015), acculturative stress triggered both adaptive and maladaptive ways of spiritual coping, resulting in a null finding regarding the role of religious resources.

Nonetheless, at a phenomenological level, people report finding comfort, strength, and inspiration in the sacred. The value of religious resources in coping with chronic disease is supported in several qualitative studies (e.g., Alcorn et al., 2010; Rafferty, Billig, & Mosack, 2015; Ridgeway et al., 2014; Unantenne, Warren, Canaway, & Manderson, 2013). Consider the power of active spiritual surrender in an Australian interviewee with type 2 diabetes (Unantenne et al., 2013, p. 1154):

> You've got your toes rotting away…then finally comes the day and [doctor] says "oh, we do [the amputation] tomorrow." And then you sit in bed [and think]: "well that's the last day that I walk to the toilet…It's the last time I scratch my leg" …then you go into a sort of prayer or meditation… and you hand it over. …You can call it Allah. You can call it Buddha. You just hand it over. And you have that relief… All these voices in your head stop. It's a real relief! … You don't have the fear anymore.

Overall, these studies support the notion that an integrated connection with the sacred provides people with powerful resources that can facilitate positive emotions, relief, meaning making, posttraumatic growth, and longevity. The sacred dimension is wholly relevant to resilience. However, it is important to explore how other religious coping methods can hinder one's growth and grounding during stressful life experiences.

Spiritual Struggles in Adulthood

Spiritual struggles in adulthood are natural. In a large national sample, the prevalence of spiritual struggles was highest in younger adulthood compared with older and middle adulthood (Krause, Pargament, Hill, Wong, & Ironson, 2017). Specifically, those between the ages of 18 and 40 were more likely to report having difficulties with the sacred (Krause et al., 2017). The widespread experience of spiritual struggles is also found in college students. Nearly half of the 5472 students surveyed across higher education institutions in the U.S. endorsed some degree of distress related to spiritual concerns (Johnson & Hayes, 2003). Perhaps surprisingly, nonbelievers are not immune to spiritual struggles. Exline, Park, Smyth, and Carey (2011) found that some atheist and agnostic individuals reported feelings of anger toward God when recalling past adverse events. Such individuals were also able to summon anger at a hypothetical God (Exline et al., 2011). As such, the occurrence of spiritual struggles has been supported across the spectrum of belief and non-belief.

Many studies have underscored the prevalence and potency of longstanding spiritual struggles in adulthood. Left unaddressed, spiritual struggles are predictive of poorer psychological adjustment. Severe levels of pathological indicators have been found in those experiencing spiritual struggles. In a cross-sectional national study of people with and without a personal illness, spiritual struggles predicted greater levels of phobic anxiety, depression, paranoid ideation, hostility, obsessive-compulsiveness, and somatization even after controlling for demographic and religious variables (McConnell, Pargament, Ellison & Flannelly, 2006). These findings are corroborated by longitudinal research. For example, spiritual struggles predicted poorer mental health and quality of life in a sample of Brazilian adult outpatients with bipolar disorder, who were tracked over 2 years (Stroppa et al., 2018). Those who had spiritual struggles were also more likely to experience manic symptoms two years later, which may be interpreted as difficulties with mood stabilization (Stroppa et al., 2018). Similarly, Park et al. (2017) observed the negative impact of spiritual struggles in a nonclinical sample of African-American adults surveyed via telephone. Those reporting greater spiritual struggles had more depressive symptoms, negative affect, lower self-esteem, and less meaning in life at follow-up, which occurred 2 and a half years later (Park et al., 2017). The detrimental effects of spiritual struggles on psychological health are clear.

Moreover, spiritual struggles play an influential role in coping with traumatic experiences. Gerber, Boals, and Schuettler (2011) examined the link between spiritual struggles in coping with trauma in a large cross-sectional sample of college students. After controlling for secular coping methods and demographic variables, spiritual struggles in coping predicted greater posttraumatic stress symptoms. In other words, struggling with the sacred was associated with more trauma-related intrusions, avoidance, and hyper-arousal. Furthermore, Wortmann, Park, and Edmonson (2011) observed that divine struggles partially mediated the association between trauma and posttraumatic stress symptoms at follow-up months later. Those who were dissatisfied with God, reappraised God's powers, and believed God to be punishing them as a result of the trauma were more likely to suffer psychologically (Wortmann et al., 2011). A third study explored the role of spiritual struggles in a sample of outpatient veterans (Raines et al., 2017). Two types of spiritual struggles, divine, and ultimate meaning predicted greater suicidality in veterans with posttraumatic stress disorder and/or substance use problems (Raines et al., 2017). Thus the unique and harmful role of spiritual struggles in coping with adverse life events is supported.

Given the distress brought by spiritual struggles, it may be tempting for individuals to suppress, compartmentalize, or otherwise avoid them. The term *spiritual bypass* is used to describe a person's maladaptive efforts to use the sacred for the purposes of evading psychological discomfort (Whitfield, 2003). Such attempts are costly over the long run. Oemig-Dworsky, Pargament, Wong, and Exline (2016) investigated avoidance in a cross-sectional online sample of adults who were experiencing spiritual struggles. Avoiding spiritual struggles exacerbated the link between spiritual struggles and poorer mental health. That is, struggle-specific avoidance predicted higher levels of anxiety, depression, somatic symptoms, functional difficulty, goal difficulties, impulse difficulties, and difficulties with emotion regulation (Oemig-Dworsky et al., 2016). As such, spiritual strugglers would benefit from heeding the words of Cashwell, Bentley, and Yarborough (2007, p. 139) who stated in their discussion of spiritual bypass, "The only way out is through."

Resiliency in Later Years

As the "Baby Boomer" generation enters older adulthood, there are important insights to be gained about their experiences and sources of resiliency. This sizeable cohort persevered through the Cold War (1947–1991), the Civil Rights movement (1954–1968), the Vietnam War (1955–1975), the Watergate scandal (1972), the Iranian hostage crisis (1979–1981), the height of the 1980's HIV/AIDS crisis, the Persian Gulf War (1990–1991), the 9/11 terrorist attacks (2001), the Iraq War (2003–2011), and the ongoing War in Afghanistan. They also navigated their families through the economic recession from 2007–2009. Today, they are witnessing increasing political polarization, their children's generation reeling from terrorist attacks, and their grandchildren contending with issues of climate change and gun violence.

Religious Resources of Older Adults

Older adults are the likeliest group to cultivate an integrated spirituality. According to the Pew Research Center's (2008) national religious landscape survey, 70% of older adults reported believing in God with absolute certainty. Those who were 65 years and older also endorsed greater importance of religion, attendance at religious services, frequency of prayer and meditation, and feelings of spiritual peace and well-being compared with other age groups. In a multi-generational longitudinal study spanning 35 years, greater age was related to more self-reported religiosity and stronger religious beliefs across cohorts from the World War I era, the Depression, Baby Boomers, and Generation Xers and Millennials (Bengtson et al., 2015). Next, the religious trajectories of Baby Boomers were observed using mixed-methods as they aged from their 50s to 60s (Silverstein & Bengtson, 2018).

The majority of participants maintained their level of religiosity and over one in five grew more religious over that decade. When asked what influenced their trajectories, typical responses from Baby Boomers included a loss of interest in worldly matters and the experience of a significant loss or adverse life event. Economic decline was also a chief contributor to increases in religiosity. Of note, the most cited reason for religiosity was the desire to connect with the sacred or a Higher Power (Silverstein & Bengtson, 2018). These findings align with those of Hayward and Krause (2016), who found that older adults drew upon religious resources at relatively high levels over the span of 11 years. Taken together, the sacred is likely a formidable resource as people transition into older adulthood.

Cognitive decline is an inevitable part of aging, but empirical evidence suggests that older adults may draw upon the sacred to slow such processes. Broadly speaking, cognitive decline impedes people's capacity to think, function independently, and adapt to the environment (Plassman, Williams, Burke, Holsinger, & Benjamin, 2010). Yet many older adults engage with religion to their cognitive and spiritual benefit. In one study, Kaufman, Anaki, Binns, and Freedman (2007) tracked 70 patients with signs of Alzheimer's disease over the course of three years. Remarkably, self-reported spirituality and engagement in religious practices predicted a slower rate of cognitive decline, accounting for approximately 17% of the variance after controlling for demographic variables (Kaufman et al., 2007). The authors concluded that engaging with the sacred appears to delay the progression of Alzheimer's disease. Addressing the role of religious coping with dementia in older adulthood, Agli, Bailly, and Ferrand (2014) systematically reviewed 11 quantitative articles. Their findings recapitulated that individuals who actively integrate their spirituality benefited from less cognitive decline. In addition, it was noted that religion facilitated the use of healthy coping strategies in eight studies (Agli et al., 2014). The authors summarized the benefits of the sacred in late life, mentioning outcomes such as higher levels of meaning making, self-transcendence, positive attitudes, and interconnectedness.

The central role of the sacred is further elucidated in studies on HIV-positive older adults, a historically marginalized population. Those with HIV often bear psychological wounds from the stigma of the illness (Porter, Brennan-Ing, Burr, Dugan, & Karpiak, 2017). However, spirituality significantly mediated the negative association between HIV stigma and mental health in a cross-sectional sample of 914 older adults diagnosed with the illness (Porter et al., 2017). Using structural equation modeling, the authors demonstrated how aspects of a patient's spirituality facilitated a greater sense of mastery, autonomy, purpose in life, positive relations, self-acceptance, and personal growth in spite of HIV stigma (Porter et al., 2017). Moreover, Emlet and colleagues (2018, p. 264) uncovered the theme of "HIV as a spiritual journey" in their interviews with older adults who self-identified as successfully aging with HIV. These participants commonly marked points of spiritual struggle, resolution, and transformation in relating to the sacred. For example, many interviewees recounted the pain of being rejected by organized religion for their sexual identity (Emlet et al., 2018). Yet they also described revitalizing their sacred connection through various processes, including cultivating a personal relationship with the divine, engaging in choir and music, sanctifying nature, and finding a more accepting religious community.

More evidence for the utility of religious resources comes from studies on older adults with cancer, which is another common, protracted source of stress in late life. Research has demonstrated lower levels of depressive symptoms and suicidal ideation in more religious older Muslim patients with colorectal cancer in Saudi Arabia (Shaheen et al., 2016), in addition to greater satisfaction, less conflict, and less difficulty related to treatment decision-making in more spiritual older men with prostate cancer in the U.S. (Mollica, Underwood, Homish, Homish, & Orom, 2016). The former study utilized the Muslim Religiosity Scale (Koenig et al., 2014) to assess people's level of engagement in worship, prayer, almsgiving, reading the Qur'an, experiencing Allah's presence, and the centrality of Islam to their life. The latter study measured spirituality with the Functional Assessment of Chronic Illness Therapy—Spiritual Well-being Scale (FACIT-Sp; Peterman, Fitchett, Brady, Hernandez, & Cella, 2002), which evaluates the degree to which people draw strength, comfort, meaning, and transcendence from spirituality during sickness. In a meta-analysis on cancer patients that included 101 independent samples, spirituality was positively tied to better physical health and functional well-being (Jim et al., 2015). The authors adopted a broad conceptualization of spirituality, including the sub-dimensions of spiritual wellbeing and use of religious resources in coping. Thus the prominence of the sacred dimension and its benefits for well-being are supported in studies of those successfully coping with chronic diseases in later life.

Women in later life are another group for whom the sacred plays a valuable role. For example, Manning (2014) interviewed six women who were 80 years or older and noted the ways in which the sacred has sustained them through extreme adversity. Consider the following experience of one older woman (Manning, 2014, p. 357–358):

> I've watched loved ones die and nursed them in their sickness. That is hard and it takes strength. I am able to do that because of God. He helps me handle what at times I think I cannot deal with…I'm on my knees every Sunday morning. …The reminder that there is something greater than myself, something that I can be a part of that's greater and better than myself. This gives me strength.

In the example above, we see the sacred resources of divine support, acceptance of human limitations, transcendence, and ultimacy utilized to build resiliency during and after each loss in the woman's life. Furthermore, Vahia et al. (2011) found that spirituality was linked to greater resilience in a large cross-sectional sample of community-dwelling older women. Other correlates of spirituality included lower income, lower education, and unmarried status. These findings echo the theme of the sacred being especially important for those who have the least. In another qualitative study on rural women living in poverty or near poverty, it was found that an integrated spirituality predicted wellness throughout adulthood, extending well into later adulthood (Gill, Barrio Minton, & Myers, 2015).

Again the sacred is seen to be of relevance for older women, especially those with fewer social and financial resources.

Finally, when disaster strikes, older adults can rely on their sacred connection for grounding and guidance. In 2005, Hurricane Katrina wreaked havoc in the lives of those in New Orleans and surrounding areas. For older adults who survived the event, many described constantly engaging with the divine during the crisis (Lawson & Thomas, 2007). A substantial proportion of older adults also drew inspiration from the sacred to help others in the midst of their own uncertain fate, shifting their priorities to providing aid. One interviewee cited his spiritual philosophy as the motivating force behind his distributing food and clothing to other survivors, stating, “Giving to others and helping those is in need is how God blesses you” (Lawson & Thomas, p. 348).

It seems that many older adults who find themselves in unstable or dangerous situations are able to draw from religious resources, bolster their wellbeing, and direct their behaviors towards the welfare of others. Whether facing acute stressors or bearing chronic strife, the relevance of the sacred in the lives of older adults has been reinforced by scientific literature.

Spiritual Struggles in Older Adults

Spiritual struggles are less prevalent in old age. Krause et al. (2017) noted that individuals age 65 and over reported fewer spiritual struggles compared to younger adults (i.e., those under the age of 40). On the other hand, older adults who do experience spiritual struggles are at greatest risk for poor health, physical illness, chronic conditions, and functional disability (Krause et al., 2017). It is not surprising that the role of spiritual struggles is augmented in the elderly, given increased global health vulnerabilities related to old age.

One cross-sectional study explored spiritual struggles in a sample of 603 older adults with late-stage cancer (Trevino, Balboni, Zollfrank, Balboni, & Prigerson, 2014). All participants had fewer than 6 months to live as determined by their healthcare team. Spiritual struggles predicted suicidality after controlling for demographic factors, cancer characteristics (e.g., number of physical symptoms, pain management, physical quality of life), and other risk and protective factors related to suicidal ideation (e.g., social support, support by one’s religious community, secular coping methods). Thus spiritual struggles appear to function as a unique risk factor, signaling poorer mental health in older adults during their final days.

The real danger of a fractured relationship with the sacred is captured in a study by Pargament, Koenig, Tarakeshwar, and Hahn (2004). The researchers measured spiritual struggles in a sample of medically ill elderly patients at a hospital over two years. Spiritual struggles predicted greater mortality risk longitudinally, after controlling for demographic and health variables at baseline (Pargament et al., 2004). Those who endorsed feelings of being unloved by and alienated from God (“Questioned God’s love for me,” “Wondered whether God had abandoned me”), or felt that the devil was involved in their illness ("Decided the devil made this happen") were 20–30% more likely to die over the 2-year period. As such, the experience of strain with the sacred may prove fatal in sick older adults.

Overall, spiritual struggles have predicted mortality, poorer quality of life, functional decline, and depressive symptoms longitudinally in older adults (Pargament et al., 2004), as well as suicidality (Trevino et al., 2014) and poorer physical health (Krause et al., 2017) in cross-sectional studies. Thus the importance of addressing spiritual struggles in healthcare cannot be understated.

Practical Applications

As outlined above, research has supported that religion and spirituality serve distinct functions in strengthening people. However, as we have noted, spiritual struggles can impede resiliency. We, therefore, argue that it is critical to understand the *nature* of one's spirituality so that interventions can specifically target spiritual mechanisms for growth and attend to hidden risk factors.

Adulthood

To implement spiritually integrated health care, we first encourage providers to utilize spiritual assessments. Spiritual assessments involve both implicit and explicit questions about the relevance of the sacred in people's lives, particularly during times of hardship. Consider the sets of questions provided by Pargament (2007) that may help illuminate areas of struggle and resources for coping. One could ask (Pargament, 2007, p. 226), "To what degree has your spirituality been a source of pain?" Alternatively, practitioners can apply instruments such as the Multidimensional Measure of Religiousness and Spirituality (Fetzer Institute, 1999), a compilation by multiple experts for use in health research. Moreover, Hodge (2005) introduced various pictorial methods of assessment such as the spiritual lifemap, spiritual genogram, and spiritual ecomap (Hodge, 2005). Diverse types of spiritual assessments are available for eliciting the client's whole story, identifying problematic spiritual pathways and destinations.

Numerous effective treatments have populated the literature. For instance, spiritually integrated interventions have resulted in decreased depressive symptoms, greater use of religious resources, fewer spiritual struggles, and lowered cortisol levels in adults with HIV (Tarakeshwar, Pearce, & Sikkema, 2005; Bormann, Aschbacher, Wetherell, Roesch, & Redwine, 2009). An intervention for people with moral spiritual struggles resulted in greater spiritual development, more engagement in virtues, lowered stress, and decreased engagement in vices (Ano, Pargament, Wong, & Pomerleau, 2017). In *Solace for the Soul*, an intervention for survivors of sexual abuse, participants reported improved spiritual well-being and use of religious resources (Murray-Swank & Pargament, 2005). Furthermore, meta-analyses and systematic reviews of spiritually integrated interventions have consistently supported their efficacy and ability to outperform, or at least perform equally as well as secular interventions on treatment outcomes (Anderson et al., 2015; Candy et al., 2012; Holloway, Adamson, McSherry, Swinton, 2011; Gonçalves, Lucchetti, Menezes, & Vallada 2015; Hulett & Armer, 2016; Oh & Kim, 2014). However, larger scale randomized controlled trials of spiritually integrated interventions remain necessary to unequivocally establish the benefits of addressing the sacred. Nonetheless, the data widely suggest that spiritual interventions can have far-reaching and potent implications for adults.

Accordingly, it is essential for providers to develop spiritual competence. One aspect of spiritual competence involves gaining basic knowledge about the beliefs, practices, and sources of authority for major world religions (Oxhandler & Pargament, 2017; Vieten et al., 2013). Another component of competence involves building spiritual self-awareness. We encourage practitioners to reflect upon natural biases related to certain types of spiritual expression. Awareness of one's "blind spots" allows for clinicians to continuously revisit these areas and actively shape their orientation into one that is effective rather than exclusive, overinclusive, or rejectionist (Pargament, 2007). Training in the area of spiritual competence is highly encouraged.

Older Years

The role of the sacred is amplified in later life. When presented with concerns about the afterlife, existence, and meaning, it is especially important for health providers to normalize spiritual struggles and refrain from proselytizing. Instead, older adults would benefit from review and exploration of religious resources. They can also be encouraged to develop new ways of relating to the sacred when past methods are no longer viable. There are several promising spiritually integrated interventions for older adults in this regard.

In the *Hear My Voice* program, Piderman et al. (2017) examined the feasibility and impact of a spiritual legacy intervention in older adults with brain cancers and other neurologic illnesses. Trained chaplains conducted a review of each participant's spiritual life. The older adults answered questions about their spiritual beliefs, community, activities, changes, and challenges throughout the years. They were also given the opportunity to communicate with their loved ones through their spiritual legacy and to provide spiritual guidance or wisdom in light of their experiences. Next, the chaplains organized each person's responses into themes and helped create a spiritual legacy document. The majority of patients and their support persons reported greater feelings of peacefulness and use of religious resources at one- and 3-month follow-up. Moreover, nearly 90% of older adults persisted in developing and reviewing their spiritual legacy (Piderman et al., 2017).

Such interventions appear to be feasible and beneficial, particularly in collaboration with allied health professionals and pastoral care.

In a brief spiritual intervention involving engaging with the sacred through different forms of prayer, older adult with depressive symptoms reported lowered anxiety following participation (Rajagopal, MacKenzie, Bailey, & Lavizzo-Mourey, 2002). Similarly, Berning and colleagues (2016) explored a chaplain-guided spiritually integrated intervention for adults and older adults who were mechanically ventilated in the intensive care unit. The researchers utilized spiritual picture cards for patients to communicate their religious affiliation, emotion, and spiritual pain. Patients were also offered a selection of spiritual care options. Examples included a blessing, reading from a sacred text, chanting, meditation, sitting with them, and speaking to them. Overall, participants' anxiety and stress decreased following the intervention (Berning et al., 2016). Whether older adults are critically ill or feeling low, the validation of spiritual pain and connecting with the sacred seems to bring comfort.

Our collective vision of spiritually integrated healthcare across the lifespan is bound only by creativity and resources. One potential avenue for interventions with older adults is pairing music with the sacred. Given increasing age-related difficulties with reading and memory, connecting with the sacred through music seems favorable. In fact, at 3-year follow-up, listening to gospel music modestly predicted decreases in death anxiety and increases in a sense of control in a sample of community-dwelling older adults (Bradshaw, Ellison, Fang, & Mueller, 2015). Sacred recollections and spiritual emotions may be readily facilitated through music. Empirical research on *sacred moments* suggests that many people can vividly recall important periods of time in which they experienced the qualities of transcendence, boundlessness, ultimacy, and deep interconnectedness (Pargament, Lomax, McGee, & Fang, 2014). Findings on sacred moments have supported their relevance to therapeutic gains, motivation, and meaning in samples of mental health providers, mental health patients, nurses in psychiatric units, and family caregivers of older adults with dementia (Alvarado, 2016; Pargament et al., 2014; Wong & Pargament, 2018).

Conclusion

Although theory and research on resilience has risen dramatically over the last 25 years, the sacred dimension of resilience has been relatively overlooked. In this chapter, we have surveyed a growing body of literature that supports the unique and critical resources offered by religion and spirituality to people coping with the challenges and crises of life. Conversely, religion and spirituality can also contribute to distress when people encounter struggles in their relationship with the sacred. The findings from this literature underscore the importance of a more spiritually integrated approach to health care. To date, numerous empirical studies and systematic reviews of spiritually integrated interventions have shown promising results. However, this work is in its early stages of development and additional studies are needed. Treatments that focus on promoting the use of religious resources and helping individuals work through their spiritual struggles are an important future direction. Addressing spiritual competence in the training of healthcare providers is another significant priority. By helping people draw upon the sacred for resilience, practitioners and researchers can contribute to a more holistic approach to building resources amidst adversity in adulthood and aging.

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Overcoming Stressful Experiences in Older Age

Meredith Troutman

Abstract *What is stress?* Similar to resilience, stress has been conceptualized in a variety of ways. Understandably, stress can exist in terms of physiology or psychology. These variations present challenges to aging; overcoming them will vary according to the nature of the stress (or) but there are some common features present when a successful ager overcomes physiological or psychological stress.

Keywords Stress · Resilience · Physiologic stress · Cognitive stress
Mental health

What is stress? Similar to resilience, stress has been conceptualized in a variety of ways. Understandably, stress can exist in terms of physiology or psychology. These variations present challenges to aging; overcoming them will vary according to the nature of the stress (or) but there are some common features present when a successful ager overcomes physiological or psychological stress.

In the **physiological** sense, (oxidative) stress connotes an imbalance between the systemic manifestation of reactive oxygen species and a biological system's ability to readily detoxify the reactive intermediates or to repair the resulting damage (Kala, Ali, Mohd, Rajpoot, & Khan, 2015). Disturbances in the normal redox state of cells can cause toxic effects through the production of peroxides and free radicals that damage all components of the cell, including DNA, proteins, and lipids (Kala, Ali, Mohd, Rajpoot, & Khan). Oxidative stress from oxidative metabolism causes base damage, as well as strand breaks in DNA. Base damage is mostly indirect and caused by reactive oxygen species (ROS) generated, e.g., O_2^- (superoxide radical), OH (hydroxyl radical) and H_2O_2 (hydrogen peroxide) (Kala, Ali, Mohd, Rajpoot, & Khan). Further, some reactive oxidative species act as cellular messengers in redox signaling. Thus, oxidative stress can cause disruptions in normal mechanisms of cellular signaling. Essentially, oxidative stress is an imbalance between the production of free radicals and the ability of the body to counteract or detoxify their harmful effects through neutralization by antioxidants. This kind of stress causes

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harm and less efficient functioning of cells, ultimately, if not remedied. Thus, physiologic stress necessitates management or adaptation, in the physiologic and psychosocial sense.

Oxidative stress is recognized as a leading cause of early aging and disease (Smith, 2017). Oxidative stress is thought to be involved in the development of cancer (Halliwell, 2017), Parkinson's disease (Hwang, 2013), Alzheimer's Disease (Valko, Leibfritz, Moncol, Cronin, Mazur, & Telser, 2007), atherosclerosis (Bonomini, Tengattini, Fabiano, Bianchi, & Rezzani, 2008) and depression (Jiménez-Fernández, Gurpegui, Díaz-Atienza, Pérez-Costillas, Gerstenberg, & Correll, 2015), all of which often occur in older adults, presenting challenges to aging successfully.

In more clinical terms, infections, hypertension, and decreased immunity are just a few examples of the physiological effect of stress on an aging body. Other common effects include: headache; muscle tension or pain; chest pain; fatigue; stomach upset; sleep problems, and left unaddressed, stress can contribute to many health problems, such as high blood pressure, heart disease, obesity, and diabetes (Mayo Clinic, 2017). Thus, at both the cellular and systemic levels, physiological stress poses challenges to the older adult's ability to overcome such stressful experiences, adapt, and, ultimately, to age successfully.

One common effect of stress is on the immune system. Stress significantly reduces the immune response to influenza and pneumococcal vaccine in older adults (American Institute of Stress, 2017). For example, the stress of caregiving for a spouse or loved one with dementia has been shown to delay wound healing and shorten life that may be related to effects of inflammation (American Institute of Stress).

Telomeres are areas of genetic material on the ends of a cell's chromosomes that provide protection (Blackburn & Epel, 2017). As a cell divides, telomeres shorten and some of these genetic instructions are lost. Normally, an enzyme called telomerase prevents this; however, as individuals grow older, the ability to make telomerase decreases, and the protective telomeres become shorter. Thus, telomere length is a basic indicator of cellular aging and telomerase activity is a measure of cellular capacity for ongoing replication. Both of these were shown to be significantly reduced in Alzheimer caregivers compared to controls. Caregivers also had double the rate of severe depression and prior research has shown that this can increase risk of death by as much as four times when compared with nondepressed controls. Older adult spousal caregivers (aged 66–96) who experienced caregiving-related stress had a 63% higher mortality rate than non-caregivers of the same age (Schulz & Beach, 1999).

Another study (Sijwali, 2015) focused on telomere research found that spouses who provided such constant care shortened their lives by as much as 4 to 8 years. Caregivers also had double the rate of severe depression; prior research has shown that this can increase risk of death by as much as four times when compared with nondepressed controls (Sijwali).

Thus, perhaps just as powerful (as physiologic or physical stress), are **cognitive and mental/psychological** stress. Lazarus (1966) defined stress as a relationship between the person and the environment that is appraised as personally significant and as taxing or exceeding resources for coping. Similarly, Siegrist (2016) defined stress as a transactional process resulting from a misfit between structural and personal (capabilities, resources) conditions. Psychologically, stress can manifest as anxiety; restlessness; decreased or lack of motivation or focus; feeling overwhelmed; irritability or anger; sadness or depression (Mayo Clinic, 2017). While stress is an inevitable part of living, unresolved or poorly managed stress is not consistent with successful aging.

Common behavioral effects of stress include overeating or undereating; angry outbursts; drug or alcohol abuse; tobacco use; social withdrawal; and exercising less often (Mayo Clinic, 2017). All of these (physiological, cognitive and mental/psychological) manifestations or responses to stress, left untreated, have the potential to hinder or impede one's aging and quality of life (thus increasing the risk of not aging successfully). Stress is an inevitable part of living. Aging has been characterized as stress-related. Overcoming stressful experiences of any kind is critical to aging optimally, healthily, or successfully.

Regardless of the nature or etiology of stress, most would agree that it is an uncomfortable sensation, from which one logically seeks relief. Though unmanaged stress/ineffective coping or adaptation can prevent one from aging successfully, effective stress management can actually be associated with or stimulate successful aging. For example, Lee, Jang, and Yang (2016) investigated factors influencing successful aging in 103 middle-aged women and concluded that significant factors influencing successful aging were post-traumatic growth and social support, which explained 48% of the variance in successful aging.

Thus, effective management of stress can yield some positive outcomes. Equipping older adults to effectively manage stress could encourage successful or healthy aging. For example, higher pessimistic orientation scores have been associated with shorter average leukocyte telomere length in older men (Ikeda et al., 2014). Therefore, greater pessimism is correlated with cellular aging. Short telomeres are connected to premature cellular aging (Armanios & Blackburn, 2012; Blackburn & Epel, 2012).

Chronic stress is widely believed to accelerate biologic aging and support comes from studies confirming its adverse effects on immune system function (American Institute of Stress, 2017). Stress significantly reduces the immune response to influenza and pneumococcal vaccine in the elderly, and to hepatitis B vaccine in younger individuals (Choi, Fauce, & Effros, 2008). The stress of caregiving for a spouse or loved one with dementia has also been shown to delay wound healing and shorten life that may be related to effects on inflammation (American Institute of Stress). Interleukin-6 (IL-6) is an important indicator of subclinical inflammation thought to contribute to degenerative diseases (Choi). When such caregivers were followed for 6 years, their average IL-6 levels were found to have increased four times more than controls matched for age, sex, health, and socioeconomic status. This increased difference in IL-6 persisted for years after caregiving activities ceased, which could speed up the aging process and explain higher death rates. In one study, older adults who felt stressed out from taking care of their disabled spouses were 63% more likely to die within 4 years than caregivers without this complaint (American Institute of Stress). In another study that focused on telomere research, spouses and children who provided such constant care shortened their lives by as much as four to eight years! Both telomere length and telomerase activity were shown to be significantly reduced in these Alzheimer caregivers compared to controls. Caregivers also had double the rate of severe depression and prior research has shown that this can increase the risk of death by as much as four times when compared with nondepressed controls (American Institute of Stress). Clearly, prolonged and/or repeated stress experiences place one at risk for not aging successfully.

A growing body of research supports the notion of stress management as integral to successful aging. Some key components of managing and overcoming stress include: recognizing signs of stress, social support, exercise, nutrition, sleep, health promotion, spirituality, self-awareness, and leisure/recreation (Park & Kim, 2016). Moreover, Lavretsky and Newhouse (2012) summarized the research on stress-related changes associated with aging, exploring how issues such as inflammation and sex steroid alterations might interact with psychosocial stress, associated with risk for mood and cognitive disturbances in older adults (consistent with unsuccessful aging). They note that typical age-associated stressors include chronic illnesses, cognitive impairment, psychosocial stress of caregiving or personal losses of people, independence, and financial. However, different individuals react very uniquely to these adversities: some succumb to depression and early death as a result of these adversities, while others continue to lead a life of personal fulfillment despite such restraints (Lavretsky & Newhouse). Research into the intricate pathways of stimulus, response process, and output continues, and demonstrates variable relationships, contingent upon very individual characteristics such as age, gender, and medical status. What we do know is that awareness and active decision-making in the face of stressors are of great importance. Encouraging is the fact that self-awareness and problem-solving skills can be targeted through psychosocial intervention, and ideally, learned.

Thus, with stress comes the potential for growth and resilience, meaning, and coherence. Overcoming stressful experiences in older adulthood is therefore an essential component of successful aging. Put simply, one could reframe stress management as stress management for successful aging. Key features of cognitive reframing include: (1) sense of personal control (Chou, Chan, Phillips, Ditchman, & Kaseroff, 2013; Grossoehme et al., 2012; Lachman, 2010; Parveen, Morrison, & Robinson, 2014; Sun, 2014); (2) altering or self-altering perceptions of negative, distorted, or self-defeating beliefs (Grossoehme et al., 2012; Ko & Degner, 2008; Vernooij-Dassen, Draskovic, McCleery, & Downs, 2011; Wicks & Buck, 2011); (3) converting a negative, self-destructive idea into a positive, supportive idea (Grossoehme et al., 2012; Lachman, 2010); (4) the goal for cognitive reframing is to change behavior and improve well-being (Ivings & Khardaji, 2007; Lachman, 2010; Vernooij-Dassen, Draskovic, McCleery, & Downs, 2011; Wicks & Buck, 2011). Considering stress management with this subtle distinction might incentivize and motivate one through enhanced successful aging self-efficacy. Perhaps more importantly, stress management (and successful aging) could then be possible for anyone cognitively capable of appraising his or her own aging.

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The Relationship Between Resilience and Motivation

Barbara Resnick

Abstract Resilience refers to the capacity to spring back from a physical, emotional, financial, or social challenge and bounce forward. Being resilient indicates that the individual has the human ability to adapt in the face of tragedy, trauma, adversity, hardship, and ongoing significant life stressors. Motivation is different from resilience and is based on an inner urge rather than stimulated in response to adversity or challenge. Motivation refers to the need, drive, or desire to act in a certain way to achieve a certain end. Motivation is, however, related to resilience in that it requires motivation to be resilient. The characteristics of individuals who are motivated and those who are resilient are similar and can be developed over time. This chapter reviews the ways in which these two concepts are similar and different and provides theoretical and empirical support for the evidence that they are both critical to recovery following an acute event and to assure successful aging.

Keywords Motivation · Resilience · Optimism · Self-efficacy
Self-esteem · Measurement

Resilience

The word "resilience" comes from the Latin world "salire," which means to spring up and the word "resilire" which means to spring back. Resilience literally refers to the capacity to spring back from a physical, emotional, financial, or social challenge. The American Psychological Association defines resilience as "the process of adapting well in the face of adversity, trauma, tragedy, threats, or significant sources of stress" (American Psychological Association Help Center, 2004). Being resilient indicates that the individual has the human ability to adapt in the face of tragedy, trauma, adversity, hardship, and ongoing significant life stressors (Newman, 2005). Resilient individuals tend to manifest adaptive behavior, especially with regard to social

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functioning, morale, and somatic health (Wagnild, 2003), and are less likely to succumb to illness or disability (Battalio, Silverman, Ehde, Amtmann, Edwards, & Jensen, 2017; Bolton & Osborne, 2016; Byun & Jung, 2016; Manning, Carr, & Kail, 2016) and to develop into stronger more resilient individuals. The ultimate definition of resilience is the ability to not only spring back to where one started but to spring forward and grow through the experience. As shown in the resilience model (Richardson, 2002) (Fig. 1), when challenged by some type of experience or illness the individual has the choice to use internal protective factors such as self-reliance, self-efficacy, and self-esteem as well as psychological and physical health, and external protective factors such as social networks to restore balance to life and grow through the experience. This has been referred to as resilient reintegration. Alternatively, the individual can choose to: (1) reintegrate following some type of challenge or disruption in his or her life and return back to prior functioning, (2) to reintegrate with a sense of loss and disappointment, or (3) become dysfunctional and unable to cope following the disruptive period.

Resilience is a combination of genetics, personal characteristics, and the environment (physical and social) (Bolton & Osborne, 2016; Resnick, Klinedinst, Yerges-Armstrong, Choi, & Dorsey, 2015; Ukraintseva, Yashin, & Arbeev, 2016). Resilience is not static and becoming resilient is a dynamic process that occurs

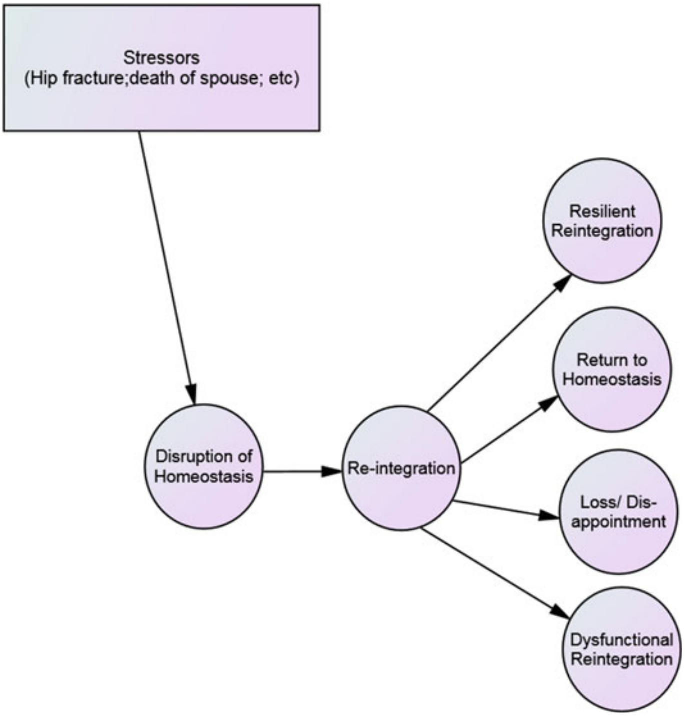


Fig. 1 A model of resilience

throughout the life span (Bolton & Osborne, 2016; Grothberg, 2003; Hardy, Concato, & Gill, 2004). Motivation is related to resilience, specifically it takes motivation to be resilient and age successfully (Harris, 2008) or recover from physical or psychological traumatic events (Charney, 2004; Manning et al., 2016; Sanders, Lim, & Sohn, 2008; Silverman, Molton, Alschuler, Ehde, & Jensen, 2015).

Older women who have successfully recovered from orthopedic or other stressful events describe themselves as resilient and determined (Brown-Yung, Walker, & Luszcz, 2017; Byun & Jung, 2016; Resnick, Orwig, Zimmerman, Simpson, & Magaziner, 2005) and tend to have better function, mood, and quality of life than those who are less resilient (Battalio et al., 2017; Bolton & Osborne, 2016; Byun & Jung, 2016; Manning et al., 2016). In prior research, resilience has also been associated with adjustments following the diagnosis of dementia (Harris, 2008), widowhood (Rossi, Bisconti, & Bergeman, 2007), management of chronic pain (Karoly & Ruehlman, 2006; Terrill et al., 2016), and overall adjustment to the stressors associated with aging (Brown-Yung et al., 2017; Byun & Jung, 2016).

Types of Resilience

Resilience has been differentiated into health resilience (Sanders et al., 2008), psychological resilience (Boardman, Blalock, & Button, 2008), emotional resilience (Chow, Hamagani, & Nesselroade, 2007), dispositional resilience (Rossi et al., 2007), physiological resilience (LeBrasseur, 2017; Ukraintseva et al., 2016), and physical resilience (Resnick, Galik, Dorsey, Scheve, & Gutkin, 2011a; Whitson, Duan-Porter, Schmader, Morey, Cohen, & Colon-Emeric, 2016). Health resilience is the capacity to maintain good health in the face of significant adversity. Psychological resilience is focused on being able to maintain a positive effect regardless of the situation. Emotional resilience is described as the ability to maintain the separation between positive and negative emotions in times of stress. Dispositional resilience incorporates three personality characteristics including commitment to others, a sense of control over outcomes, and a willingness to learn from the current situation. Physical resilience is the ability to recover or optimize function in the face of age-related losses or disease. Lastly, physiologic resilience is the capacity of an organism to resist and respond to the physiologic stressor or challenge. All of these different types of resilience reflect being able to maintain a positive attitude and endure through any variety of health-related, emotional, or social challenges. Moreover, it is anticipated that resilience translates across areas of physical and mental health so that those who are physically resilient are more likely to be resilient to psychosocial challenges and vice versa.

Table 1 Resilient qualities or traits commonly noted in older adults

Positive interpersonal relationships
Strong self-efficacy
Positive self-esteem
A sense of purpose
Spirituality
Ability to use humor
Creativity
Acceptance of changes (physical and mental)
Maintaining a positive attitude
Ability to identify and utilize resources
Self-determination
Optimism
Seeing joy in each day
Grit
Maintaining hope
Adaptive coping styles
Meaningfulness
Prior experiences with hardship
Self-acceptance
Self-care

Factors that Influence Resilience

Many characteristics within individuals have been associated with resilience (Table 1). These include such things as positive interpersonal relationships, incorporating social connectedness with a willingness to extend oneself to others, strong internal resources, having an optimistic or positive effect, keeping things in perspective, setting goals and taking steps to achieve those goals, high self-esteem, high self-efficacy, determination, and spirituality which includes purpose of life, creativity, humor and a sense of curiosity, a sense of meaningfulness, previous experiences with hardship, grit, self-acceptance, independence, altruism, and good self-care (Boardman et al., 2008; Bolton & Osborne, 2016; Bonanno, Galea, Bucciarelli, & Vlahov, 2007; Brown-Yung et al., 2017).

Positive Interpersonal Relationships

Interpersonal relationships include interactions with a network of family, friends, colleagues, and other acquaintances that the individual interacts with for help, for enjoyment, or to provide psychological or physical assistance. Involvement in interpersonal relationships and activities, whether receiving or giving the help, serves as a psychological buffer against stress, anxiety, or depression which commonly occur with aging. Interpersonal activities also help individuals cope with losses, maintain a sense of belonging, and strengthen self-esteem and self-efficacy.

Strong Internal Resources: Self-Efficacy, Self-Esteem, Determination, Problem-Solving, Self-Care, Acceptance of Self

Self-efficacy is the belief in one's ability to organize and execute a course of action to achieve a specific outcome, and is thereby relevant to resilience. Different than self-efficacy, self-esteem is reflective of one's appraisal of his or her self-worth. Individuals who have positive self-worth, accept and like themselves, and refrain from being "too hard on themselves" tend to be resilient and psychologically successful (Bolton & Osborne, 2016; Brown-Yung et al., 2017). The ability to accept oneself is particularly important in aging due to the many physical and mental changes that can occur as well as the role losses. With age, for example, the older individual may note impairments in his or her ability to go up the stairs, carry grocery bags, complete a crossword puzzle, or remember how to get to a daughter's home. These changes can be devastating unless one has the resilience to accept the change and appreciate what he or she is still able to do. Self-esteem need not, however, decline with age despite the commonly experienced physical and mental changes that occur such as declines in strength and memory. Rather, self-esteem can be strengthened by helping older adults to recall prior successes and by exposing them to situations in which they can exceed their expectations and excel.

Determination; Grit

Determination, also described as grit or hardiness, which may in part be a personality trait, can be strengthened by helping the older individual to focus on his or her abilities, current opportunities, and use of environmental resources. Determined individuals tend to be more confident in their ability to cope and to take advantage of the resources, internal and external that help them to adjust, accept, and cope with the challenges encountered in life. Strengthening determination and hardiness can be done by helping the individual to problem-solve and stay focused on the positive rather than the negative—the "I can" versus "I can't" perspective. It is also helpful to remind the older adult how he or she handled stressful situations in the past and reinvigorate those prior strengths and abilities.

Optimism, Positivism, and Keeping Things in Perspective

Repeatedly it has been noted that focusing on positive outcomes and avoiding a focus on negative facts is critical to resilience (Boardman et al., 2008; Bolton & Osborne, 2016; Bonanno et al., 2007; Brown-Yung et al., 2017). Positive emotions and the use of humor are recommended as a way to help eliminate, or cancel out, the impact of negative emotions. Older adults can be helped to manage negative emotions and negativism in the face of challenges, and to stay focused on positive events and feelings that may be occurring at the same time. Finding joy in each day and appreciating the day despite ongoing challenges are difficult but important aspect to resilience.

Meaningfulness, Goal Setting, Altruism

Establishing a sense of purpose and meaningfulness is important to resilience as is maintaining a focus on and concern for others. Goals can be established that are short term and realistic to help stimulate resilience. The goals might focus on activities that result in connections to others and reflect a purpose for being such as participating in a march for world peace, volunteering within one's living setting or outside, bringing in a neighbor's mail, or caring for a pet, garden or other individual. Alternatively, the goals might reflect creative endeavors such as playing music for nursing home residents, attending an art class, or joining a knitting group.

Motivation

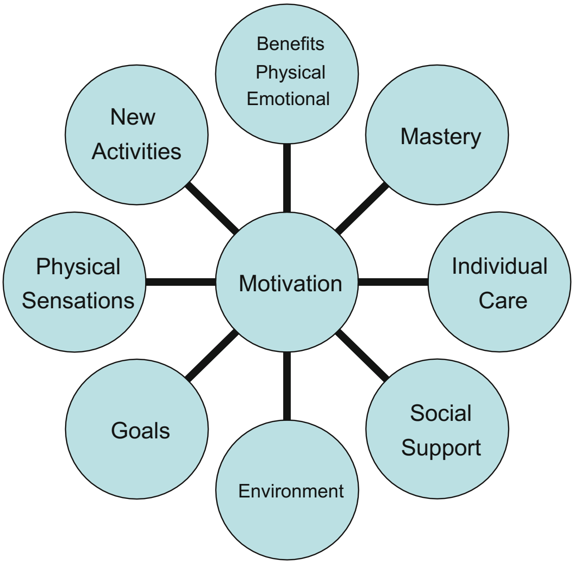
Motivation is different from resilience but critical to the process of being resilient. Motivation is based on an inner urge rather than occurring in response to adversity or challenge as is the case with resilience. Motivation refers to the need, drive, or desire to act in a certain way to achieve a certain end. Motivation is generally behavior or activity specific. An older adult may be motivated to spend the day lying in bed or to engage in physical activity, to learn a new language or creative skill, to take a prescribed medication or to skip the medication. Similar to resilience motivation is influenced by genetics, intrinsic characteristics, and environmental factors such as the social environment and social supports, the physical environment and policies.

Factors that Influence Motivation

To comprehensively consider the many factors that influence motivation in older adults, it is helpful to use a model of motivation (Fig. 2). As with resilience these factors include traits of the individual as well as external resources that can be used to strengthen motivation in any given area. This model is based on social cognitive theory as well as empirical findings (Albright, Pruitt, Castro, Gonzalez, Woo, & King, 2005; Bandura, 1977; Damush, Perkins, Mikesky, Roberts, & O'Dea, 2005; Netz & Raviv, 2004; Wilcox, Oberrecht, Bopp, Kammermann, & McElmurray, 2005). According to social cognitive theory (Bandura, 1977), human motivation and action are regulated by forethought. This cognitive control of behavior is based on two types of expectations: (1) self-efficacy expectations, which as described above are the individuals' beliefs in their capabilities to perform a course of action to attain a desired outcome and (2) outcome expectancies, which are the beliefs that a certain consequence will be produced by personal action.

Beliefs, both in relationship to outcomes (outcome expectations) and with regard to what older adults believe they are capable of doing (self-efficacy expectations), have been noted to influence motivation to engage in health-promoting behaviors (de Souto Barreto et al., 2016; Kosteli, Williams, & Cumming, 2016; Maher & Conroy, 2016). The benefits experienced by the individual such as improvement in blood pressure, ability to walk a longer distance without getting short of breath, or the improvement in mood associated with physical activity or adherence to a medication are critical to motivation in older adults. Pleasant or unpleasant physical sensations experienced by older adults are particularly relevant to motivation as with age there is a tendency to focus on immediate benefits (e.g., feeling good after

Fig. 2 A model of motivation



exercising) associated with a behavior rather than remaining motivated to engage in the behavior for a long-term benefit (e.g., weight loss, decreased cardiovascular disease). Conversely, pain associated with an activity such as walking or climbing the stairs, or the belief that performing these activities will result in pain, will decrease the older adults motivation to engage in the activity. Alternating these beliefs and/or eliminating the negative sensations associated with the activity are critical to strengthening motivation and engaging the individual in the given activity.

Successful completion of an activity, particularly if this is done without experiencing unpleasant sensations, is one of the most effective ways to strengthen older adults' beliefs in their ability to perform the behavior and thereby increase motivation to continue to engage in the behavior. Being able, for example, to walk for 30 min or complete a dance class will increase the likelihood that the individual will return to the class another time and continue to engage in the activity. Likewise believing that a pain intervention will decrease pain will increase the likelihood that the individual will adhere to the pain-relieving behavior.

Enhancing Motivation

Individualized care and demonstrating caring has an important influence on the older adults' motivation to perform a given activity. Individualized care includes recognizing individual preferences and needs, using kindness and humor, and empowering older adults to take an active part in their care, providing gentle verbal persuasion to perform an activity, positive reinforcement after performing, and knowing when to confront the individual about his or her harmful health behaviors (e.g., not taking prophylactic medication or engaging in regular activity) (Brunet & St-Aubin, 2016; Hansen, Landstad, Hellzén, & Svebak, 2011; Hung, Chaudhury, & Rust, 2016). An essential component of individualized care is letting the individual know exactly what it is recommended. This may be simple written instructions about what exercise program to engage in or what medication to take, why it is important, and exactly how the activity should be done or the medication should be taken. At each care interaction, it is critical to re-evaluate how the individual is doing with the behavior of interest. Checking with the individual and re-evaluating progress demonstrate that the provider cares about whether or not the activity is performed. Individualized care may initially be effective because the older adult simply wants to reciprocate for the care given to him or her by doing what the healthcare provider or family member requests (e.g., doing a certain exercise). Once the behavior is initiated, however, it is likely that the older individual will experience the benefit(s) associated with the behavior and thus continue to adhere for reasons beyond initial reciprocity for care received.

Social support networks including family, friends, peers, and healthcare providers are important determinants of behavior (Kosteli et al., 2016; Meshe, Claydon, Bungay, & Andrew, 2017). Repeatedly, motivation to exercise, for example, has been found to be influenced by the social milieu of the individual and/or the care setting. Social interactions can alter recovery trajectories by disrupting the progression of functional limitations to disability. The influence of any member of the individual's social network, however, can have a positive or negative influence depending on his/her philosophy and beliefs related to activity of interest. Social supports can directly serve as powerful external motivators by: (1) providing encouragement, (2) helping the older adult feel cared for and cared about, and (3) helping to establish goals such as regaining self-care abilities and being able to return home alone. Social supports can also indirectly impact motivation by strengthening the individual's beliefs in his or her ability to participate in rehabilitation activities, for example, or engaging in a regular exercise program.

The environment can also influence motivation. Environments that offer opportunities for physical activity (e.g., parks or wide-open clutter-free hallways), access to staircases, or heart-healthy food options can increase motivation to adhere to the recommended activity (Greenwood-Hickman, Renz, & Rosenberg, 2016; Meshe et al., 2017). The ability to develop personal goals and evaluate one's performance toward that goal can influence motivation to engage in a given behavior (Cornish, McKissic, Dean, & Griffith, 2017). Articulated goals give older adults something to work toward and help motivate them to adhere to a specific health-promoting activity. Short-term goals provide the older individual with exactly what he or she should do on a daily basis (e.g., walk for 20 min, do 10 sit to stands). Long-term goals focus on what the individual wants to achieve such as being able to ambulate without an assistive device, being able to care for oneself, being able to walk to the grocery store, or to go on a trip. Goals are most effective when they are: (1) related to a specific behavior, (2) challenging but realistically attainable, and (3) achievable in the near future (Bandura, 1997; Roberts, Desbrow, & Chaboyer, 2016).

Exposure to new and different activities, such as Tai Chi classes or creative art classes, tends to motivate older adults to adhere to these classes and be willing to expand and try additional new activities (McHugh, 2016; Resnick, 1994). Lastly, the individual's personality and self-determination have an important influence on motivation. Older adults report that it is their own personality, i.e., determination, and their own firm resolutions and adherence to those resolutions that motivates them to perform specific tasks (Reifegerste & Rossmann, 2017).

Relationship Between Motivation and Resilience

There are some similar factors that are associated with both resilience and motivation such as determination, self-efficacy, being open and willing to experience new things, and social supports. The capacity to be resilient and/or motivated is present in everyone and choices are made in the face of routine and challenging situations to be motivated and/or resilient. Motivation related to engaging in physical activities is high in some people while others are highly motivated to sit in a chair or lie in a bed. Conversely, some older adults are motivated to take classes in a senior center while others refuse to even consider this and are motivated to sit daily and watch television alone. Some individuals are resilient with regard to physical challenges but cannot cope with challenges associated with finances or cognitive changes. Strengthening motivation to engage in a specific behavior facilitates resilience with regard to identified challenges. For example, motivating older adults to engage in behaviors that help them manage urinary incontinence strengthens their resilience to being incontinent (Takahashi, Sase, Kato, Igari, Kikuchi, & Jimba, 2016). Similarly, motivating older adults to participate in bereavement counseling helps them to be more resilient with regard to the loss of a loved one (Germain, Mayland, & Jack, 2016). Thus, there are traits and characteristics of individuals associated with resilience and motivation as well as external factors that can impact motivation and resilience as individuals respond to challenges or activities within their lives.

Differences Between Motivation and Resilience

Resilience, unlike motivation, relies on the individual experiencing a life challenge or some type of adversity. These challenges may be developmental challenges such as those associated with normal aging (e.g., vision changes), or they may be social and/or economic challenges such as those experienced by the loss of employment, the loss of a spouse, or a move into an assisted living facility. Conversely, motivation is not dependent on an adverse event or challenge; rather motivation is a necessary component for all activity. Routine personal care activities such as bathing and dressing require motivation, as do making plans to have dinner with a friend or play cards. It is only when an activity does not occur that questions are raised as to the level of motivation of the individual. Conversely, resilience is required, however, when the individual is faced with bathing and dressing challenges following a wrist fracture.

Resilience is a process of coping with stressors, adversity, change, or opportunity. The individual is forced to pass through stages of biopsychospiritual homeostasis (i.e., adaptation physically, mentally, and spiritually to a set of circumstances), disruption, and finally reintegration. Resilience, or successful reintegration, involves coping with the adversity such that there is personal growth, an increase in knowledge and self-understanding and an increased strength of his or her resilient qualities. Unfortunately, resilient reintegration does not always occur. Some individuals may recover from a challenge with a permanent loss, such as the loss of function due to a stroke. These individuals may give up hope of recovery and may not return to a state of optimal homeostasis. There is also the possibility that dysfunctional reintegration will occur and the individual might resort to use of alcohol or other destructive behaviors, become depressed, and isolate him or herself as a way to cope with the challenge.

Interaction of Motivation and Resilience

It is believed that all individuals have the innate ability to be resilient but that there are choices made in the face of challenges that may or may not result in resilience. When faced with a challenge the individual must summon the motivation, in the face of adversity, to be resilient. As delineated in Fig. 1, if not motivated to be resilient the individual may not even return to homeostasis but he or she may become dysfunctional and depressed and not able to cope appropriately with the situation. When motivated to engage in the behaviors necessary to be resilient the individual is more likely to experience resilient reintegration and end up stronger mentally and physically following the challenging event experienced.

Empirical Evidence of the Relationship Between Motivation and Resilience

Prior research has repeatedly demonstrated that motivation is needed as a stimulus for resilient reintegration to occur. In a recent study, testing the use of positive mental training (PosMT) as a tool to assist stroke survivors with poststroke psychological problems to participate in rehabilitation, it was noted that those who were motivated to complete the 12 audio tracks associated with PosMT and engage in the recommended activities were more resilient with regard to overall recovery poststroke (Mavaddat, Ross, Dobbin, Williams, Graffy, & Mant, 2017).

In a qualitative study, exploring the experiences of older women with urinary incontinence it was noted that those who were motivated to remain socially engaged were more resilient with regard to managing and coping with their incontinence (Takahashi et al., 2016). Similarly, in another qualitative study exploring the experience of older adults' occupational adaptation following a stroke it was noted that motivation and effort were required to overcome the anger, apprehension, and fear associated with coping with a stroke. The individuals who were motivated to achieve occupational mastery and used humor, self-talk, and maintained a positive attitude that achieved resilient reintegration following their strokes (Williams & Murray, 2013).

There is also empirical evidence that motivation serves as a mediator for resilience in older adults. As part of the KNEE study (Wright, Zautra, & Going, 2008), a longitudinal intervention study aimed at reducing levels of pain and disability in a sample of community dwelling older adults with knee osteoarthritis, participants completed a comprehensive baseline survey including multiple psychosocial measures such as negative and positive effects, self-efficacy, and health status as well as reports of physical activity. The sample included 275 older adults with degenerative joint disease. Resilience was conceptualized in this study as positive affect, vitality, and extraversion. Motivation was conceptualized as self-efficacy and measured using the arthritis self-efficacy scale which addresses self-efficacy for function, pain management, and the ability to control other arthritis symptoms. The relationship between resilience, motivation, and physical activity was tested using structural equation modeling. As hypothesized, resilience was mediated by self-efficacy and thus resilience was indirectly related to function through self-efficacy. Similarly, self-efficacy was strongly predictive of resilience among a group of patients post spinal cord injury as they transitioned from rehabilitation to living in the community (Guest, Craig, Tran, & Middleton, 2015).

These studies provide some empirical support that when faced with a challenge one must be motivated to engage in the behaviors that will help assure positive resilience occurs. Both resilience and motivation are necessary for optimal recovery to occur. Understanding the similarities and differences between these two concepts and their relationship provides important background for the development of interventions to motivate older adults to be resilient and thereby improve recovery across a variety of psychosocial and physical challenges.

Practical Applications of Resilience

Assessment of Resilience

Older adults, by virtue of surviving through decades of life experiences, tend to be resilient (Resnick et al., 2011a; Resnick & Inguito, 2011). These individuals have experienced multiple losses including physical changes such as declines in vision, hearing, or physical abilities, social losses such as loss of parents, siblings, spouses, and in some cases children, and role-related losses. Although they may not have been successfully resilient in all of these experiences, they have accrued some positive experiences in which they were resilient and motivated and thus recovered from the challenge experienced. When working with older adults, it is particularly helpful to explore prior challenges and establish strengths with regard to recovery that suggest resilience and motivation.

Talking with individuals about past experiences may be the most comprehensive way to establish prior evidence of resilience. However, the stories provided may be difficult to interpret. As an alternative to a qualitative assessment of resilience, scales reflecting individual correlates of resilience such as self-efficacy, coping, optimism, vitality, or self-esteem can be utilized. Table 2 provides examples of some of the more commonly used direct measures reflective of resilience. Several of these measures focus on specific types of resilience including dispositional resilience, physical resilience, or psychological resilience. These measures can be completed during a clinical assessment of a patient to gain insight as to the strength of his or her resilience.

Table 2 Measures of resilience used among older adults

Measure	Description
The 25- and 14- Item Resilience Scale (Wagnild & Young, 1993; Wagnild, 2009)	The 25- (and 14-) Item Resilience Scale was developed as a general measure of resilience for adults across the life span. Initially, the measure included 25 items reflecting five interrelated components that constitute resilience: Equanimity reflecting the ability to "go with the flow"; perseverance or determination; self-reliance reflecting a belief in one's ability to manage; meaningfulness or a belief that life has meaning; and existential aloneness or a sense of uniqueness. Participants respond by either agreeing or disagreeing with the statements on a scale of 1(disagree) to 7 (agree). The responses are summed and a higher score reflects stronger resilience. Prior research has demonstrated evidence of internal consistency (alpha coefficient of 0.91), test–retest reliability, and construct validity of the measure based on a significant correlation between resilience and life satisfaction, morale, and depression when used with older adults (Wagnild & Young, 1993; Wagnild, 2009)
The Resilience Scale (Hardy et al., 2004)	To complete the Resilience Scale participants identify the most stressful life event they experienced in the past 5 years and respond to a series of nine questions about their response to that event. There was evidence of internal consistency with an alpha coefficient of 0.70, and test–retest reliability with an intraclass correlation of coefficient of 0.57. Validity was based on a significant correlation between resilience and having few depressive symptoms, and good to excellent self-rate health (Hardy et al., 2004)
Dispositional Resilience Scale (Rossi et al., 2007)	The Dispositional Resilience Scale (DRS) is a 45-item questionnaire that includes 15 commitment, 15 control, and 15 challenge items. There is a 4-point scale response used to rate participant agreement with items ranging from 1 (Completely true) to 4 (Not at all true). A total dispositional resilience score is created based on responses. The original DRS was modified to be appropriate for older adults. There was evidence of internal consistency with an alpha of 0.83, and validity based on a statistically significant relationship between Sense of Coherence and Hopkins Symptom Checklist, and a statistically significant difference in Dispositional Resilience among patients and healthy volunteers (Friborg, Hjemdal, Rosenvinge, & Martinussen, 2003; Rossi et al., 2007)

(continued)

Table 2 (continued)

Measure	Description
Ego Resiliency Scale (Block & Kremen, 1996)	The ego resiliency scale was developed initially for young adults. Respondents were asked to answer 14 items using a 4-step continuum: 1 = does not apply at all; 2 = applies slightly if at all; 3 = applies somewhat; and 4 = applies very strongly. The items include statements such as: I am more curious than most people; I like to do new and different things; I enjoy dealing with new and unusual situations; and I get over my anger at someone reasonably quickly. When used with young adults the Cronbach's alpha reliability was 0.72–0.76 (Block & Kremen, 1996)
The Resilience Appraisal Scale (Johnson, Gooding, Wood, & Tarrier, 2010)	This is a 12-item measure of psychological resilience. Participants are asked to indicate to what extent each statement applies to them using a five-point Likert scale. There are three subscales reflecting social support, emotional regulation skills, and problem-solving ability. Prior use established evidence of internal consistency for each of the subscales as well as the full measure (Johnson et al., 2010)
The Resilience Scale for Adults (Friborg et al., 2003)	This is a 37-item measure that addresses psychological resilience and uses a five-point semantic differential scale format in which each item has a positive and negative attribute at each end of the scale continuum. Prior research has supported the internal consistency and validity of the tool in mostly Norwegian samples (Hjemdala, Friborgb, Braunc, Kempenaersc, Linkowskic, & Fossiond, 2011)
Brief Resilient Coping Scale (Sinclair & Wallston, 2004)	This is a short assessment aimed at identifying one's ability to cope with stress. There are only four items and responses that are driven by a 5-point Likert scale. The focus of the measure is on adaptive coping (Sinclair & Wallston, 2004). There is evidence of internal consistency and test–retest reliability and convergent validity among adults (Sinclair & Wallston, 2004) and Spanish speaking older adults (Tomás, Meléndez, Sancho, & Mayordomo, 2012)
The Resilience in Midlife Scale (Ryan & Caltabiano, 2009)	This scale is 25-item measure that uses a 5-point Likert response and addresses 6 concepts: self-efficacy, family/social networks, perseverance, internal locus of control, coping, and adaptation. Prior use provided evidence of reliability and validity ((Ryan & Caltabiano, 2009)
The Connor–Davidson Resilience Scale (Connor & Davidson, 2003)	This is a general resilience measure and includes 25 items with higher scores indicative of higher levels of resilience. Prior use supported evidence of internal consistency and validity (Connor & Davidson, 2003)

(continued)

Table 2 (continued)

Measure	Description
Baruth Protective Factors Inventory (Baruth & Carroll, 2002)	This is a 16-item scale using a 5-point Likert response format. Four factors are addressed including adaptable personality, supportive environment, fewer stressors, and compensating experiences. The measure was validity on adults ages 19–74 (Baruth & Carroll, 2002) with mostly female Hispanic and Anglo-American participants
The Brief Resilience Scale (Smith, Dalen, Wiggins, Tooley, Christopher, & Bernard, 2008)	The brief resilience scale (BRS) evaluates the ability to bounce back or recover from stress. There are 6 items half of which are negatively focused and half positively focused with regard to being able to bounce back after stressful experiences. Prior testing of adults provided evidence of reliability and validity as this measure was predictably associated with personal characteristics, social relations, coping, and health (Smith et al., 2008)
The Physical Resilience Scale (Resnick et al., 2011a)	The Physical Resilience Scale is a 17-item measure that focuses on aspects of resilience associated with recovery following acute physical events/challenges such as a hip fracture or neurological event or in response to exacerbations of chronic illnesses such as inflammatory arthritis or chronic obstructive pulmonary disease. Items include such things as, “I was determined to recover”, “I adjusted to the new changes”, “I believed I could recover”, and “I accepted the new challenges”. Participants were asked to identify the most difficult physical challenge they encountered associated with aging (e.g., vision changes, arthritis, hip fracture, pneumonia, stroke, etc.) and agree or disagree with each item. The items were summed with a point given for each affirmative response. Scores ranged from 0 to 17 with higher scores reflecting greater resilience (Resnick et al., 2011a)

Interventions to Strengthen Resilience

Interventions to stimulate and build resilience are focused in three areas: (1) developing disposition attributes of the individual such as vigor, optimism, and physical robustness; (2) improving socialization practices; and (3) strengthening self-efficacy, self-esteem, and motivation through interpersonal interactions as well as experiences.

These three areas are not necessarily mutually exclusive and the interventions that can strengthen physical robustness may improve socialization practices and strengthen self-efficacy. For example, encouraging an older adult to participate in a dance class because he or she enjoys dance and has previously excelled in this activity, may also increase socialization and strengthen self-efficacy and self-esteem.

It is important not to oversimplify interventions to strengthen resilience or ignore the larger context in which the individual lives. For example, recommending participation in a dance class for an individual who lives in a community in which such activity is considered frivolous or an insufficient source of physical activity may result in decreasing self-esteem and can have a negative impact on resilience. Thus, multifaceted approaches to optimizing resilience are needed. Risk-oriented strategies should be considered with all interventions to help to assure that older adults are not exposed to experiences that might decrease resilience. Environmental interventions such as chairs, beds, and toilets that facilitate successful transfers are needed to assure that resilience is not undermined. Social networking systems that help disseminate opportunities for successful activities and increase reach to older adults are likewise important and useful interventions to consider when trying to strengthen resilience.

The strength-focused and meaning-oriented approach to resilience and transformation (SMART) intervention is another example of a multifaceted approach to strengthen resilience that incorporated Eastern spiritual teaching, physical techniques such as yoga, and psychoeducation that promoted meaning reconstruction. Likewise, the APA has a resilience toolkit which recommends approaches that include maintaining strong relationships and social support, becoming active in the community, thinking positively, and maintaining hopefulness (American Psychological Association Help Center, 2004). A more recent intervention, the Resilience Program, was tested with a group of older adults in a day care program. The Resilience Program was a 9-week curriculum that was delivered in a group format, was participant centered, and was intended to influence the participants' self-concepts (Fullen & Gorby, 2016). Topics discussed included resilience and psychological, social, physical, intellectual, and spiritual wellness. At the end of the 9 weeks, there was an increase in the participants' resilience, physical wellness, and emotional wellness although there was a decrease in social and intellectual wellness.

Interventions to Strengthen Motivation

Motivation is necessary for resilience to be activated following a challenge. Although it may be difficult to motivate older adults to engage in certain activities (e.g., exercise, medication adherence), there is evidence to support that interventions, particularly those based on the theory of self-efficacy, are effective (Clark et al., 2015; Cromwell et al., 2015; Guest et al., 2015). Likewise, effective interventions include those that are guided by a social ecological model (Baert, Gorus, Guldemont, De Coster, & Bautmans, 2015; Resnick, Galik, Gruber-Baldini, & Zimmerman, 2011b) which incorporates intrapersonal factors, interpersonal factors, environmental factors, and policy.

Table 3 describes specific interventions that can be used to motivate older adults to engage in specific activities. First and foremost, it is critical to establish whose motives are being addressed in the motivational interaction. If goals are established without the input of the older individual, it is not likely he or she will be willing to participate in the activities needed to achieve the goal. For individuals who are cognitively impaired and cannot articulate goals, it is useful to review old records and speak with families, friends, and caregivers who have known the individual previously. Goals can then be developed based on their prior life and accomplishments (Galik, Resnick, Gruber-Baldini, Nahm, Pearson, & Pretzer-Aboff, 2008; Galik, Resnick, Hammersla, & Brightwater, 2014; Galik, Resnick, & Pretzer-Aboff, 2009). Further, it is important that the goals established be realistic and achievable so as to assure feelings of success.

Demonstrations of caring on the part of the interventionist are central to motivating older adults. Care can be demonstrated by behaviors and activities perceived by the individual as expressions of love, attention, concern, respect, and support (Canzan, Heilemann, Saiani, Mortari, & Ambrosi, 2014; Koskenniemi, Leino-Kilpi, & Suhonen, 2015). Another important aspect of caring is setting some guidelines or limits with regard to behaviors. This does not relate to punishment or threats. Rather, it is focused on being firm and informing the individual of the activity they need to do and why they need to do it. For example, an older individual may need to get up and walk to the bathroom to prevent skin breakdown, optimize continence, and regain strength and function. In addition, individualized care includes recognizing individual differences and needs, using kindness and humor, empowering older adults to take an active part in their care, providing gentle verbal persuasion to perform an activity, and positive reinforcement after performance (Resnick, 1994; Resnick et al., 2008).

Examining the setting in which behaviors are expected to occur is also important to motivation. Simple interventions such as eliminating background noise and speaking slow, low, and loud can help with the communication that is needed between an older adult and the interventionist. Altering the physical environment so that the older individual can perform successfully is an important first step in motivation. Continued alteration in the environment may be needed, however, to assure that physically the individual is challenged in such a way so as to optimize

Table 3 Interventions to strengthen motivation

Focus of intervention	Examples of intervention techniques
Beliefs	Interventions to strengthen efficacy beliefs: 1. Verbal encouragement of capability to perform 2. Expose older adult to role models (similar others who successfully perform the activity) 3. Decrease unpleasant sensations associated with the activity 4. Encourage actual performance/practice of the activity 5. Educate about the benefits of the behavior and reinforce and underline those benefits 6. Teach realistic beliefs 7. Related behavior to outcomes (e.g., exercise reduces blood pressure, causes weight loss)
Elimination of unpleasant sensations (e.g., pain, fear)	1. Facilitate appropriate use of pain medications to relieve discomfort 2. Use alternative measures such as heat/ice to relieve pain associated with the activity 3. Cognitive Behavioral Therapy: • Explore thoughts and feelings related to sensations • Help patient develop a more realistic attitude to the pain, i.e., pain will not cause further bone damage • Relaxation and distraction techniques • Graded exposure to overcome fear of falling
Individualized care	1. Demonstrating kindness and caring to the patient 2. Use of humor 3. Positive reinforcement following a desired behavior 4. Recognition of individual needs and differences such as setting a rest period or providing a favorite snack 5. Clearly and simply write out/inform patient of what activity is recommended
Social supports	1. Evaluate the presence and adequacy of social network 2. Teach significant other(s) to verbally encourage/ reinforce the desired behavior 3. Use social supports as a source of goal identification
Goal identification	1. Develop appropriate realistic goals with the older adult 2. Set goals that can be met in a short time frame—daily or weekly as well as a long-range goal to work toward 3. Set goals that are challenging but attainable 4. Set goals that are clear and specific 5. Identify and use rewards that have meaning to the individual
Successful performance	1. Review prior times challenges were overcome and what skills and techniques were utilized 2. Expose the individual to activities in which he or she can be successful 3. Continue to build challenges into the activity so that new successes can be incorporated

function and provide the ongoing goals for motivation. For example, initially motivating an older adult to be independent with toileting might mean putting a commode chair right by the bedside. Once successful, the distance between the bed and commode could be extended with an ultimate goal being to walk all the way to the bathroom.

Addressing outcome expectations associated with an activity, particularly the immediate unpleasant sensation that may be occurring is critical to motivation in older adults. Sensations such as fear of falling or fear of exacerbating underlying medical problems, pain, and shortness of breath or fatigue associated with an activity are likely to decrease motivation to engage in the activity. Interventions to overcome these sensations such balance training or focused exercise programs (Katrancha, Hoffman, Zullo, Tuite, & Garand, 2015; Tatsuya, Shigeru, Nobuou, & Minoru, 2015) are ways in which to decrease fear of falling, for example, and thereby increase participation in physical activity.

Managing Apathy

Apathy, or a lack of interest, concern, or emotion has been conceptualized as the opposite of motivation (Marin, 1991; Marin, Biedrzycki, & Firinciogullari, 1991). Although not pervasive among all older adults, apathy is common particularly among those with dementia and depression (Marin, 1991; Marin et al., 1991). Interventions include the use of pharmacological agents including amantadine, amphetamine, bromocriptine, bupropion, methylphenidate, and selegiline (Marin, Fogel, Hawkins, Duffy, & Krupp, 1995), cholinesterase inhibitors (Whyte et al., 2008), and selective serotonin reuptake inhibitors (Padala, Burke & Bhatia, 2007), use of muscle relaxation (Ikemata & Momose, 2017), dietary interventions (Hashimoto et al., 2017), and other non-pharmacological interventions such as cognitive behavioral therapy or music (Goris, Ansel, & Schutte, 2016). It may be necessary to persistently encourage and actually accompany the apathetic individual to an activity and provide one-on-one encouragement to keep them engaged.

Conclusion

Resilience and motivation are related but separate concepts and together serve as keys to successful aging and recovery following an acute medical event or psychosocial challenge. Resilience emphasizes the older individual's capacity to respond to a challenge or adversity and motivation provides the impetus to engage in the behaviors needed to recover. A focus on resilience and motivation is an innovative way to optimize aging and buffer many physical and psychosocial losses. Helping older adults develop and/or strengthen resilient characteristics and implementing motivational interventions in times of physical, emotional, social, or economic crises can result in helping the individual through the challenging situation and facilitating personal growth beyond the immediate event through the post-traumatic or post-challenge period.

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Fostering Resilience in Dementia Through Narratives: Contributions of Multimedia Technologies

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Abstract This chapter brings together innovative uses of multimedia tools to explore narratives of people living with dementia. The three projects described here share an understanding of the role of narrative-based reminiscing in fostering resilience, particularly as applied to people with dementia. This collective work focuses on supporting people living with dementia, their families, and their communities to sustain resilience and promote well-being. We begin with a discussion of the conceptual foundations underpinning this research.

Keywords Dementia · Technology · Resilience · Narrative · CIRCA

The concept of resilience has a long history in the study of human development, emerging initially from research on child development and arriving more recently in gerontology. While various definitions of resilience can be found in the literature on aging, central features include negotiating "hardship and adversity over the course of one's life, in a manner that promotes well-being and enhances quality of life" (p. 703; Manning, 2015). An understanding of resilience in the context of living with dementia requires an understanding both of the concept of well-being and of the challenges—or adversity—posed by dementia.

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Our starting point is the six dimensions of well-being proposed by Ryff and Singer (1998, 2008). They based their definitions on theoretical concepts of well-being articulated in Aristotle's descriptions of eudaimonic (versus hedonic) happiness, in the work of philosophers such as John Stuart Mill and Bertrand Russell, and also in the work of twentieth-century humanistic psychologists such as Frankl, Rogers, and Maslow (Ryff & Singer, 2008). Drawing on these foundations, Ryff and Singer proposed the following dimensions of psychological well-being: (1) self-acceptance, involving awareness and acceptance of one's personal strengths and weaknesses; (2) positive relations with others, acknowledged as a central feature of a positive, well-lived life; (3) personal growth, involving the continued development of personal potential; (4) a sense of purpose in life, including the search for meaning in adversity; (5) environmental mastery, involving the ability to find or create an environment that fits one's personal needs, including the ability to control and manipulate that environment; and (6) autonomy, arguably the most Western of all dimensions, which emphasizes qualities such as self-determination and independence (Ryff & Singer, 2008, pp. 20–23).

There is increasing evidence that persons with dementia continue to live meaningful lives with a sense of purpose and ongoing personal growth (Astell, Malone, Williams, Hwang, & Ellis, 2014). These accounts contain evidence of autonomy and environmental mastery (Groenewoud, de Lange, Schikhof, Astell, Joddrell, & Goumans, 2017), as well as positive relations with others (Astell, Ellis, Bernardi, et al. 2010). Growing numbers of autobiographical accounts of living with dementia (e.g., Mitchell, 2017; Swaffer, 2016), the rise of self-advocacy groups such as Dementia Alliance, and Dementia Alliance International, and several research studies (e.g., Harris, 2008; McKinlay, 2012), all indicate such resilience. Much of this evidence, however, relates to people at the earlier stages of dementia. Interpretation of what constitutes well-being becomes more complex with increasing dementia severity.

Kitwood (1997), who wrote extensively about well-being in persons with dementia, identified the crucial role of others to support their well-being, primarily through recognition and support of their personhood. His now-famous definition of personhood as "a standing or status that is bestowed upon one human being, by others, in the context of relationship and social being" (Kitwood, 1997, p. 8) is primarily a relational one, and as such, it is very consistent with Ryff and Singer's dimension of positive relations with others as a source of well-being. Indeed, Ryff and Singer (1998) suggest that while the relative importance of each of their six dimensions may differ culturally, the relational dimension of well-being may be the most universal. However, Kitwood's insistence on the importance of others in supporting the well-being of persons with dementia goes beyond envisioning positive relations with others as a single dimension of well-being. Rather, he suggests that it is through the informed intervention of others, creating a supportive social environment, that the person with dementia can realize and demonstrate other dimensions of well-being, even into more advanced stages of the condition. While Kitwood, who died in 1998, was criticized for a lack of direct evidence for his claims (e.g., Baldwin & Capstick, 2007), recent research provides supportive evidence for his basic premise (Brooker, 2012, Savundranayagam, Sibalija, & Scotchmer, 2016). For example, residents in long-term care settings responded positively to person-centered communication by cooperating with nursing staff and self-disclosing about their life histories, personal experiences, and desires (Savundranayagam et al., 2016). Additionally, persons with more severe dementia showed the capacity to seek meaning in their circumstances or to exploit opportunities for creative work (e.g., Basting, 2009).

While Kitwood proposed a relationally based concept of well-being in persons with dementia, he did not directly address well-being in others within their social networks. The concept of relational care arose from recognition of this gap (Baldwin & Capstick, 2007; Hellström, Nolan, & Lundh, 2005) and is important for understanding how resilience and well-being for persons with dementia is located in their social networks of family, formal carers, and community (Gaugler, Kane, & Newcomer, 2007; Ortiz, Simons, & Hinton, 1999). In this respect, narratives play a key role in making and maintaining connectedness in social networks (McKinlay, 2012).

Fostering Resilience Through Narrative

We are narrative beings, with our very selves constituted through the stories told by and about us. McKinlay (2012) proposed that "story goes to the core of what it means to be human" (p. 82). Our identity and sense of self are tightly linked to our story. Challenges, such as dementia that threaten our notions of ourselves in the world, test our resilience and well-being. It is not surprising, then, that narrative has been identified as a therapeutic tool to support resilience in individuals coming to terms with adversity (Caldwell, 2005; Neimeyer & Levitt, 2001). However, the cognitive decline associated with dementia presents particular challenges to both maintaining personal narratives and sharing them with others. When persons with dementia are supported to present narratives from their lives, their narratives retain the conventional format and structure and provide an opportunity for conversation and social connection (Fels & Astell, 2011; Moore & Davis, 2002).

Reminiscing is a popular approach to eliciting narratives from individuals with dementia (Kim et al., 2006; Tadaka & Kanagawa, 2007). Woods (1994) demonstrated that reminiscing offers persons with dementia opportunities for more successful social interaction. Such interactions not only provide positive experiences for individuals living with dementia (Gonzalez, Mayordomo, Torres, Sales, & Melendez, 2015), but also helps caregivers, particularly formal caregivers in institutional settings, to appreciate the unique experiences and life histories of the people for whom they care (Hagens, Beaman, & Ryan, 2003). However, delivering a successful reminiscing activity requires careful planning plus awareness of the needs of the individual(s) with dementia to avoid communication failure (Basting, 2003).

In the following pages, we describe three approaches that employ narrative as a positive and beneficial approach for people living with dementia in different, but linked ways. First, all three approaches acknowledge the importance of social relationships as a source of well-being by seeking to foster well-being both in persons living with dementia and those caring for them. Second, each of the three approaches draws in some way on narratives that are grounded by a sense of place and community, emphasizing narratives as joint constructions that maintain and strengthen relationships. Finally, each of the three approaches draws on multimedia technologies, capitalizing not only on their potential to create new ways of engaging in narrative constructions but also, as Caldwell (2005) suggests, their ability to generate legacies for families and communities.

Three Narrative Approaches

Fostering Resilience Within Families by Enhancing Personhood

Resilience requires an inner strength that can come from relationships that are affirming. This is especially true for families struggling to maintain relationships in the face of chronic illnesses, such as dementia, that affect cognitive and communicative abilities. As previously noted, a key approach to fostering resilience for persons with dementia involves supporting and enhancing their personhood. However, because personhood is a relational concept that necessitates consideration not only of persons with dementia but also those who care for them, it is important to examine *shared* activities that involve both family caregivers and individuals with dementia. Current research findings on shared activities suggest that although both parties may work together on activities, family caregivers tend to deal with their emotions alone, which consequently may hinder their own coping or adaptation (Hemingway, MacCourt, Pierce, & Strudsholm, 2014). Therefore, it is critical to identify ways in which collaborative activities promote the sharing of experiences and emotions for both parties.

One example of a collaborative activity that enhances personhood is StoryCorps' Memory Loss Initiative (https://storycorps.org/discover/memory-loss-initiative/), a national interviewing project that began in 2006 in the United States to gather oral histories of individuals with early-stage memory loss by encouraging participants to focus on emotion-based memories. The goal of the Memory Loss Initiative was to support and encourage people with illnesses such as Alzheimer's disease, vascular dementia, and mild cognitive impairment (MCI) to share their stories with family and friends. Since its inception, over 1800 interviews have been gathered. Conversations were recorded in a booth that was outfitted with equipment for producing a broadcast-quality CD, which was given to participants and also archived at the Library of Congress with participants' permission. Each booth was operated by a StoryCorps facilitator who received training on how to communicate with individuals with cognitive-communicative impairments. The training focused on memory and communication impairments, as well as language-based strategies that elicit communication, such as asking questions that were emotion- or experience-focused instead of questions that focused on specific dates or details (Kensinger, Anderson, Growdon, & Corkin, 2004; Small & Perry, 2005). StoryCorps facilitators completed the interview in situations where storytellers with memory loss did not have a family member to complete the interview with.

Savundranayagam and colleagues' (Savundranayagam, Dilley, & Basting, 2011) qualitative study examined the impact of participating in the StoryCorps' Memory Loss Initiative on storytellers with memory loss and their family members. The StoryCorps interviews took place at several sites in Milwaukee, Chicago, and New York City. Follow-up telephone interviews were conducted with 42 persons with memory loss, along with 25 family members who participated in the original interviews. The interviews were analyzed using the process of constant comparative analysis to identify themes that emerged from the conversations (Strauss & Corbin, 1990).

Findings revealed the StoryCorps experience was a meaningful activity that offered opportunities for feeling comfort and acceptance, for enjoying precious moments with one another, for crossing new avenues of communication, for reaffirming both the selfhood of individuals with memory loss and their relationships with family members, for leaving a legacy for future generations within families, and for being part of national history. Given that the purpose of the StoryCorps interview was to share stories and life histories, family members tended to choose personhood-affirming topics that addressed personal preferences, family and intimate relationships, and educational and occupational history. These topics were more likely to elicit conversations than questions that tested the individual with memory loss because the focus was on emotions surrounding the topics discussed (Kensinger et al., 2004). Moreover, the StoryCorps facilitators and family members created a positive social environment by perceiving the experience as an opportunity to showcase the stories of individuals with memory loss. This was especially apparent in the reflections on legacies. If individuals with memory loss did not experience a positive social environment, they may not have commented on the importance of the present moment or on the value of their legacies. Both the choice to interview and the act of interviewing acknowledged the worth of the person (Savundranayagam et al., 2011).

The study findings also illustrated that enhancing personhood, which has most often been viewed in terms of the *individual* with memory loss, is in fact about strengthening reciprocity in relationships. Relationships can easily be taken for granted, but even more so when the disease process and disease management threaten to take precedence. By reaffirming and validating the person with memory loss, family members were able to value their existing relationship (Savundranayagam et al., 2011). Unlike collaborative activities where the focus is solely on the person with memory loss, an emotion-based oral storytelling experience, such as StoryCorps, offers a meaningful way to collectively reflect on past memories and begin a personhood-affirming dialogue. This dialogue allows family members to share their emotions about caregiving directly with the individual living with memory loss, instead of processing them alone (Hellström et al., 2005). This dialogue also allows persons with memory loss a chance to share emotions based on family stories.

The StoryCorps approach, which focuses on emotion-based conversations, creates new possibilities for family caregivers to foster resilience using personhood-enhancing conversations. It teaches family members that communication is not about answering questions correctly. It is about experiencing shared activities that celebrate relationships. In doing so, the relationship identity of both the storyteller with memory loss and his or her family member is maintained. StoryCorps' Memory Loss Initiative is a powerful experience that acknowledges the personhood of both storytellers with memory loss and their family members (Savundranayagam et al., 2011). Both parties are actively involved in creating legacies that will impact their existing and future relationships as they began to appreciate the present moment in addition to past histories.

Fostering Resilience in Care Settings: Foregrounding the "Person" in Care Through Life Stories

Although the value of reminiscence and creation of life stories is well recognized in dementia care research, finding ways to work with resident narratives to enliven long-term care spaces and positively shape care requires careful consideration. The process of how to effectively use resident narratives is not as well understood. In fact, *how* practitioners integrate life stories into day-to-day care, to truly foreground personhood, improve quality of life, and foster resilience in an institutional setting remains a challenge in practice. Because a deep knowledge of the "person" in care is fundamental to person-centered practice, this gap needs to be addressed.

In a qualitative pilot study designed to explore effective ways to translate residents' life stories into practice, Kelson (2006) used personal photographs to facilitate reminiscence among residents with dementia and their families. This approach provided a means for residents to tell their "story" and, in so doing, to create a photo-based biographical tool that staff might use. The rationale for this narrative approach was to not only harness the power of the photograph to evoke memories but also to draw on the unique ability of pictures to convey to viewers unique meaningful details about the subject. This photo-based tool was designed to promote more person-centered practice by foregrounding the personhood of the individual, as well as understandings of the resident in a broader social context. Like many life story approaches, the creation of residents' *Visual Life Stories* (*VLS*) involved gathering and arranging photographs of personally meaningful events experienced over the life course in chronological order. The *VLS* was presented in the form of a 13-min DVD presentation of residents' stories.

This study was conducted in two phases. The first phase involved conversational interviews with each resident with dementia and his or her family members. These discussions were based on the viewing of their family photographs. As other researchers have found, the use of visual prompts supported residents' ability to recall and share their life stories (see Chaudhury, 2002a, b; Clarke, Hanson, & Ross, 2003; Sherman, 1995). Resident responses to viewing of their *VLS* revealed how the presentation allowed them the opportunity to reconnect with the emotions embedded in the photographs and to revisit aspects of their past selves. For example, resident Claire commented: "*You've taken me, taken me in my thoughts, deeply,*" "*Happy memories, happy memories,*" and "*I was lost when he went* [died], *but for the time we were married, we were very happy.*" Resident participant Jack also reflected on his life, "*You forget what a good life you've had,*" and recollected a piece of his identity: "*I like to tinker with machinery.*"

Following completion of the *Visual Life Stories*, Kelson conducted four focus groups involving 26 staff members in the two long-term care facilities. Participants viewed and discussed the feasibility and therapeutic value of the *VLS*. Content analysis of the textual data generated in these sessions led to the identification of the need for greater access to residents' biographical details. The majority of staff confirmed the fundamental importance of knowing the resident in order to provide person-centered care. Staff noted how they learned new information about the resident through the *VLS*, information that represented key aspects of the resident's identity, such as a favorite pastime, family structures, personal preferences, and other information that impacted the resident in the present. In one focus group, a nurse noted how *VLS* led to a shift in focus from the resident in the present to the resident over time:

> If you walked upstairs right now and you see Claire walking by you'll think of her more as the person she used to be instead of the person she is right in front of you and less of the dementia and more of her history.

Staff comments also revealed their enthusiasm for the potential of the *VLS* to support them in their specific roles within the care team and indicated an appreciation for the qualitative difference between *visual* presentations of residents' life stories versus the use of text-based documents (i.e., two-page summaries) left in resident charts. Care staff felt that a brief accessible tool like the *VLS* would effectively reduce some of the organizational barriers that existed in relation to access residents' stories and by implication, translating them into practice.

Kelson's (2006) work with *VLS* represents a relatively early exploration of this growing field of practice-based research. Information and technological advances have the potential to streamline the process detailed above, with digital platforms making residents' life stories easier to gather and apply in practice. This has led to the development of specific software such as "Portrait" to enable care home staff to quickly get to know individuals (Webster, Fels, Gowans, & Alm, 2010). Additionally, digital technologies including cameras, iPads, and mobile phones provide the means for the collection and sharing of biography (Cohene, Baecker, & Marziali, 2005; Thompson, 2011). Craig (2014), for example, gave care home residents digital cameras to document their personal narratives to share with family and staff.

Another technology-supported approach is that of Subramaniam and Woods (2016; Subramaniam, Woods, & Whitaker, 2014), who used digital technology to transform standard (non-digital, analogue) life storybooks for persons with dementia (including photographs, pictures, and text in chronological order) into a digital format. Augmenting life storybooks with digital technologies allowed for the addition of personally significant music, video clips, and other auditory memories to facilitate reminiscence. This type of process has been described as "digital storytelling," a broad term to describe the use of "new media technologies to create innovative narrative forms" (Stenhouse, Tait, Hardy, & Sumner, 2013, p. 136). Subramaniam and Woods' (2016) findings echo those of other studies: persons with dementia can enjoy reminiscence work and participate in the telling of their own experiences and stories. The finding that a "life story movie" helped care staff to recognize the person they were caring for is also an important part of this type of intervention and is reflected in initiatives such as the Life Story Network (http://www.lifestorynetwork.org.uk), a UK-based Community-Interest Company established to "encourage and embrace relationships built on empathy."

The ability to employ new technologies to further life story work for persons with dementia and those who care for them continues to develop. Looking forward, research suggests that care might be improved for residents living with dementia when family and staff are open to their life stories, or work to create what Baldwin (2008) refers to as a "narrative space" in care. Baldwin (2008) describes narrative space as occurring at the nexus of "personal, interpersonal, and the institutional/structural" (p. 224) aspects of care. When Matthews and Sunderland (2013) consider what purpose(s) the now large and growing repositories of digital life story narratives may be put to, they were speaking broadly about the corresponding need to *listen*. Not only did Matthew and Sunderland (2013) acknowledge the growth of digital materials, their work also posited an ethical relationship between individuals and access to their biographical details (stories and images). Grounded in critical disability studies, these researchers discussed the need for policy to reflect the experiences of others, particularly people who are too often overlooked and their stories not heard. Making room for digital life stories in practice and linking support for residents with dementia and care staff can help to move the marginalized person with dementia forward and assist staff in providing the best care possible for that individual, which is vital to improving quality of life. The quest then to transform life stories into an active part of care, appears to be advanced by new technologies that honor residents' identities as "narrative beings" (Baldwin, 2008) through the use of their personal stories in everyday practice. Such development is also dependent on a care culture that is empowered to attend to residents' psychosocial needs, one that actively supports relational practices.

Fostering Resilience Through Shared Stories (979)

Social reminiscing (Cohen & Taylor, 1998) refers to the activity of recollecting and sharing personal memories in a one-to-one or group setting. In dementia care, reminiscing is popular as a relatively simple group activity that takes advantage of the typically well-preserved long-term memories of older persons with dementia as their memory for recent events is progressively undermined. Old photographs, artifacts, and music are commonly used to prompt recollections among group members and provide an enjoyable way for them to pass the time.

Reminiscing also has the potential to facilitate and support communication and to support both the development and maintenance of relationships between persons with dementia and individuals who care for them. This may be particularly true when conversational topics are drawn from shared histories, relevant in some way to all participants. However, the extent to which group reminiscing activities as compared with individual sessions has the potential for building relationships remains an empirical question as it is unusual for reminiscing to take place as a one-to-one activity in most dementia care facilities. This may be due in part to staffing levels and limited time available for staff to find stimuli to support conversation on an individual basis. It could also be due to well-documented challenges caregivers experience in maintaining ongoing one-to-one conversation with persons with dementia (Ripich, Vertes, Whitehouse, Fulton, & Ekelman, 1991).

The Computer Interactive Reminiscence and Conversation Aid (CIRCA) project started in Dundee, Scotland, to provide an easy to use computer system to support one-to-one interactions between caregivers and persons with dementia (Alm, Astell, Ellis, Dye, Gowans, & Campbell, 2004; Astell, Ellis, Alm, Dye, Gowans, & Campbell, 2005). CIRCA contains a database of approximately 1600 media files, including digitized photos, music, and film clips. It incorporates touch screen technology, making it easy to use both for individuals with dementia and their caregivers. The conversation partners sit together in front of the computer and either conversation partner can select an item that may prompt a recollection or comment. Their response to the selected item forms the basis of conversation as they share their stories and experiences.

CIRCA requires no previous computing experience; there is no mouse or keyboard, and no training is required to start using the program (Astell, 2015). Upon starting CIRCA, the users are offered three themes to choose from, such as Entertainment, Recreation, and People and Events. Users make a selection by touching one of the three themes appearing on the screen. Within this theme, users are then offered a further choice between photographs, videos or music. A key feature of CIRCA is that each time it is opened, media are randomly accessed from the database files, so that only a subset of files are available (for example, only three of seven possible themes will be available in any one session). This feature ensures greater equality between the conversation partners as neither participant can predetermine what media will be accessed.

A second feature of the CIRCA program is that the files draw on generic rather than personal media from a time period associated with long-term memories, thus highlighting the shared history of a community. The CIRCA program developed in Dundee was designed primarily for Dundee seniors, either locally (e.g., photographs of a typical Dundee street scene from the 1950s) or more globally (e.g., short film clips from mainstream movies such as *Casablanca*, or popular songs from the 1940s such as *Siegfried Line*). In fact, the original program captured the shared history of Dundee so well that the local Science Centre included CIRCA as a kiosk exhibit intended to promote intergenerational activities for a target audience of primary school students who frequently attend with their grandparents.

Since its development, CIRCA has proved to be easy to use and provides an enjoyable shared activity that can promote well-being both for persons with dementia and their caregivers. Analysis of the interactions during CIRCA sessions (compared with interactions during traditional reminiscing sessions) showed that for persons with dementia with differing amounts of cognitive difficulties, CIRCA provides the opportunity to make choices and engage as an equal partner in a one-to-one conversation with a caregiver (Astell et al., 2008). Such opportunities are consistent with dimensions of well-being including autonomy, environmental mastery, and positive relations.

Evaluation of CIRCA suggests three major outcomes for care staff: (1) staff see persons with dementia in a new light; (2) staff reevaluate their perceptions and expectations of their interactions with persons with dementia; and (3) using the computer to run one-to-one sessions improves staff feelings of competence as caregivers (Astell, Alm, Gowans, Ellis, Dye, & Vaughan, 2009). CIRCA also provides opportunities for enhanced well-being, for both staff members and persons with dementia, through improved positive relations (Astell, Ellis, Bernardi, et al., 2010).

Further exploration has demonstrated the efficacy of CIRCA at accommodating diversity and eliciting different perspectives from across cultural groups by acting as a third party in a conversation (Purves, Hulko, Phinney, Puurveen, & Astell, 2014). This has led to two new developments of CIRCA. The first is the creation and evaluation of a multi-session group-based activity for delivering cognitive stimulation to people living with dementia (Smith & Astell, 2017). Second is the development of a web-based version of CIRCA that can be populated with contents from different cultures and languages that is currently being tested in Sweden, the Netherlands, and Spain.

Together these findings support the use of social reminiscing as an engaging activity for persons with dementia and caregivers. They both enjoy participating in CIRCA sessions and the evidence suggests that this engagement facilitates communication and strengthens relationships. Additionally, the findings from the CIRCA project highlight the utility of generic (as opposed to personal) materials as prompts for reminiscing as the CIRCA contents successfully elicit more autobiographical recollections and sharing of personal memories by persons with dementia and caregivers than personal ones (Astell, Ellis, Alm, et al., 2010).

Discussion

In this chapter, we considered the question of how narrative can be leveraged as a tool to support resilience for people affected by dementia, their families, and communities. Through StoryCorps, persons with dementia and their family members were supported to engage together in meaningful conversations through which they co-constructed stories from the past. Through this process, they were also sustaining and strengthening their relationships in the present and contributing to the collective stories of the nation. *Visual Life Stories* also provided an opportunity for persons with dementia and their families to work together toward the construction of a personal history narrative, but with the intent of sharing it within a residential community. By providing a basis for understanding the person with dementia, this tool potentially enables better person-centered care, thus supporting well-being and quality of life for everyone involved—residents, family members, and care staff alike. CIRCA is also designed for use primarily within a care environment but draws more on the narratives of a community than on individual life stories to support meaningful conversation between persons with dementia and their caregivers.

While each of these tools brings something unique to an overall project, there are important similarities to consider as well. The most obvious of these is that each one is made possible in part because of the opportunities afforded by digital media. The technology itself should not be overlooked for its role in supporting resilience through narrative. There is a very real sense in which history is brought to life through the recorded voice, through photographs, film, and music. So much of one's life's narrative is beyond language (Baldwin, 2009), and with these technologies, individuals are better equipped to harness the power of personal stories. With these and other technologies, researchers and practitioners have better ways to elicit and convey narratives, overcome some of the barriers posed by illness such as dementia, and have better ways to share these narratives with others, over time and across place.

Of course, just because narratives from persons with dementia and their caregivers can be recorded, does it mean that they should? Dawn Brooker was very astute in her observation that "filing cabinets in care facilities around the world are full of information about people's lives, but still care staff will not know even the rudimentary facts" (Brooker, 2004, p. 220). If these sorts of tools are to be just one more depository of information that is stored away, never to be used in any meaningful way, then why make the effort? As narrative researchers and authors of this chapter, we argue that these kinds of tools are different in more than merely technical ways. They are not just different ways of getting at and sharing the information, but rather they rely on technology that is supporting a different way of engaging around these narratives, and it is this question of how we might engage around the narrative that makes a difference.

First, these technologies are not offering narrative as a simple strategy to be taken up by family members and care providers to help support the person with dementia, but rather are offering a way of creating an *interactional environment* (O'Connor et al., 2007) that itself supports the well-being of everyone involved. The findings of Kelson's pilot study regarding how care staff responded to *Visual Life Stories* suggest that the focus groups were in and of themselves an important part of the tool. The benefit was not just in the information conveyed through the *VLS* but was also in the opportunity to talk about it together as a community of practice who share the goal of providing better person-centered care. Similarly, CIRCA is a tool whose primary purpose is to create an environment for supporting meaningful interactions between persons with dementia and their care partners. This is established through empowering both parties as equal participants in the interaction, which improves the satisfaction of persons with dementia and the confidence and competence of caregivers (Astell, Ellis, Bernardi, et al., 2010).

Second, the matter of history is obviously an important thread in all of this work. In some way, each of these projects takes on the task of drawing out stories from the past. But in each case, it is not just the individual narratives that are important, but also the shared histories that have shaped both *who* we are and *how* we are in the world. Engaging around shared histories is made possible in part because of the opportunities afforded by the different media. The significance of the technology itself should not be overlooked. These digital tools seem to have some way of extending the reach of these stories—they are no longer "merely" personal, some kind of possession of the individual, but rather are something to which we all belong in some way. StoryCorps is perhaps the best example of this, with its goal of not only creating stories for families to share but also bringing together these stories of a nation into a collective whole. In different ways, all three projects described in this chapter demonstrate how history can be brought into a communal space where people can engage with each other, sharing common histories and bridging the cultural and generational divides that separate us.

Next Steps

When it comes to technology, questions about next steps are often of the technical sort, for example, "How do we make it (device or app) better?" But as health and social scientists, our priority should be to ask: "What counts as better?" To consider this question from an individual perspective, Ryff and Singer's (2008) framework of resilience provides some important direction. While these kinds of multimedia-based tools have not been subjected to exhaustive research, there is evidence in these preliminary studies to suggest that they may support particular aspects of resilience both for persons with dementia and those who care for them by sustaining positive relations with others, sense of life purpose, and environmental mastery. Further research to explore the application of multimedia tools in greater depth would contribute to a more nuanced understanding of the relationship between narrative and resilience in the context of dementia.

While it is important to consider the benefits of such tools for the individuals involved, this early work suggests that the need to further understanding of the context in which these kinds of technologies emerge and are used in everyday practice, as well as the impact they might have on the broader community. For example, how does the sociopolitical milieu of residential care (or the broader healthcare system) affect the potential of these kinds of technologies? Kelson's findings suggest that the need for something like *VLS* emerges with the shifting sociopolitical climate of residential care that has made it more difficult to get to know residents. Is it possible that as health care environments become increasingly depersonalized and fast-paced, there will be increased pressure to produce technologies that support social engagement? This broader contextual view highlights the importance of moving beyond the individual level to ask how narrative, especially given the opportunities afforded by new technologies, can be leveraged to support something we might rightfully call *community* resilience. These three projects have each, in different ways, directed us to consider the idea that communities can be strengthened to better accommodate the challenges of aging and dementia. Further research will be needed to explore how emerging technologies can build on ideas of narrative to help create these possibilities.

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Building Resilience in Persons with Early-Stage Dementia and Their Care Partners

Bobbi G. Matchar, Lisa P. Gwyther, Elizabeth Galik and Barbara Resnick

Abstract The benefits of an early diagnosis of dementia are well documented. According to a 2015 Alzheimer's Association policy brief, early detection and diagnosis offers a number of benefits for affected individuals and their families (Alzheimer's Association, 2015). Early detection and diagnosis allows people living with dementia to access available treatments when they are more likely to provide some benefit, build a care team, participate in support services, complete appropriate advanced directives, and enroll in clinical trials or engage in experimental types of treatment options. Further people who know they have the disease and their care partners can make additional financial and legal arrangements before they are deemed unable to do so. Early detection means that people may be diagnosed while still working or just as they are beginning to enjoy retirement and a period in life when their children have moved out of the home. Despite some of the advantages of an early diagnosis, knowledge of this diagnosis is still devastating to individuals and requires significant coping, resilience and support.

Keywords Caregiving · Resilience · Dementia · Support · Early diagnosis

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Increased public awareness and advances in detection of dementia have led to a cultural shift toward earlier diagnosis. Consequently, an increasing number of people now live longer with a diagnosis of Alzheimer's disease in the early stage (Matchar & Gwyther, 2014). While early stage covers a wide range of symptoms and a fairly broad spectrum, the following definition of early-stage dementia is most commonly used (Alzheimer's Association, 2015):

> Early Stage refers to people irrespective of age who are diagnosed with Alzheimer's disease or a related cognitive impairment disorder and are at the beginning stages of the disease. People in Early Stage will experience some forgetfulness, mild problems with language, and problems making decisions, but are generally able to function normally during day-to-day activities without assistance.

The benefits of an early diagnosis of dementia are well documented. According to a 2015 Alzheimer's Association policy brief, early detection and diagnosis offers a number of benefits for affected individuals and their families (Alzheimer's Association, 2015). Early detection and diagnosis allows people living with dementia to access available treatments when they are more likely to provide some benefit, build a care team, participate in support services, complete appropriate advanced directives, and enroll in clinical trials or engage in experimental types of treatment options. Further people who know they have the disease and their care partners can make additional financial and legal arrangements before they are deemed unable to do so. Early detection means that people may be diagnosed while still working or just as they are beginning to enjoy retirement and a period in life when their children have moved out of the home. Despite some of the advantages of an early diagnosis, knowledge of this diagnosis is still devastating to individuals and requires significant coping, resilience and support.

Impact on Care Partners for Individuals with Early-Stage Dementia

Care partners, whether friends, family or formal care partners of individuals with early-stage dementia are faced with physical, psychological, emotional, financial and social burdens associated with knowing that their family member or care recipient has been diagnosed with dementia. Care partners of individuals with dementia, when compared to care partners with other medical conditions, are noted to spend more time in caregiving and are at risk for negative mental and physical health problems such as depression, anxiety, and physical illnesses (Clark & Diamond, 2010; National Academies of Sciences, 2016; Ornstein & Gaugler, 2012; Schultz, Boemer, Shear, Zhang, & Gitlin, 2006). Further, care partners experience high levels of burden, stress, distress, and suicide (Schultz et al., 2006; Scott, 2013). There are, however, care partners who do not experience negative consequences associated with caregiving, remain free of physical and psychological distress and experience positive outcomes associated with being a care partner (Bekhet & Avery, 2018; Deist & Greeff, 2015; Hui & Huimin, 2017; Scott, 2013). Approximately, 35–43% of care partners of individuals with early-stage dementia experience the positive outcomes associated with caregiving and are noted to be resilient (Joling, Windle, Droes, Huisman, Hertogh, & Woods, 2017). Understanding the factors that influence resilience and considering ways to strengthen resilience among care partners is essential to optimally support the growing number of older adults with dementia. Strengthening resilience among care partners can help to decrease the associated depression, anxiety, psychoactive drug use, perceived burden of caregiving, and impact on health and well-being of care partners (Jang & Yi, 2013; Scott, 2013). In addition, strengthening resilience among care partners can help assure that the individual with dementia can be cared for in the least restrictive setting and minimizes the risk for abuse (Serra et al., 2018).

Resilience in Care Partners

Although resilience has generally been conceptualized from an individual psychological perspective, resilience in care partners is expanded to include a link between psychological resilience, community resilience, and social resilience. From this broader perspective, resilience has been defined as "the process of effectively negotiating, adapting to, or managing significant sources of stress or trauma. Assets and resources within the individual, their life and environment facilitate this capacity for adaptation or 'bouncing back' in the face of adversity" (Windle, 2011). Further, resilience in care partners was operationalized to include evidence of the following: a significant challenge, no obvious sign of distress, maintenance of a life of meaning and satisfaction, active participation in life, and current life must be seen as positive. All of these factors indicate evidence of managing the situation, bouncing back, and accepting and adapting which are all key characteristics of resilience. This broader conceptualization of resilience in care partners is important as it means that resilience can be fostered and developed within the individual and also their immediate surroundings and wider social network. Care partners draw on their own inner strengths, knowledge, beliefs, and optimism, and interact with their environment and the community and available social resources. The ultimate goal in caregiving, as with any challenging situation, should be for growth to occur and the care partner to become stronger with regard to their self-efficacy and self-esteem, more flexible and healthier (Hui & Huimin, 2017; Jang & Yi, 2013; Scott, 2013).

Although it is not always the case, individual care partners are often housed within families and family resilience should also be acknowledged. Family resilience is defined as "…the positive behavioral patterns and functional competence individuals and the family unit demonstrate under stressful or adverse circumstances…" (McCubbin & McCubbin, 1996). Families are believed to go through phases of resilience that include adjustment and adaptation to the diagnosis of dementia. During the adjustment phase, the family makes adjustments in an attempt to manage the demands of daily care or orientation and guidance of the individuals with early-stage dementia. The adaptation phase results in changes in the family's structure to restore balance and harmony within the family. The family may reach out to the community and other social supports to get help with achieving this balance (Deist & Greeff, 2015). Family beliefs that are helpful to families give meaning to a crisis, encourage optimism, provide spiritual support, and help to build resilience as well. Further family rules, roles, and patterns of functioning also influence resilience. Flexibility, acceptance of the diagnosis, family cohesion, family connectedness, open communication, the effective management of symptoms, and social and economic resources all influence the family's response to the challenge of caregiving and influence resilience (Deist & Greeff, 2015; Walsh, 2002).

Benefits of Resilience Among Care Partners

There are specific physiologic benefits associated with resilience, or the behaviors and beliefs of individuals who are resilient which include personal mastery, self-efficacy, and coping styles of care partners. Care partners that exhibited personal mastery, defined as a belief that life circumstances are under one's control, were noted to have reduced plasma norepinephrine and reduced plasma levels of plasminogen activator inhibitor antigen, both of which are associated with a decreased risk of cardiovascular disease (Mausbach et al., 2008; Roepke et al., 2008). Self-efficacy expectations, specifically self-efficacy associated with coping, was noted to have a protective effect on the relationship between caregiving stress and the proinflammatory cytokine interleukin-6, also associated with cardiovascular disease (Mausbach et al., 2011). In addition to physiological findings from personal mastery and self-efficacy among care partners, there was a noted relationship between coping, conceptualized as problem-solving strategies associated with dementia caregiving, and D-dimer coagulation stress response. The hypercoagulability biomarker D-dimer is a fibrin degradation product that is a measure of hemostatic functioning. Individuals that reported greater levels of approach, rather than avoidance and utilized problem-solving strategies had lower levels of D-dimer (Aschbacher et al., 2005).

Factors Influencing Resilience of Care Partners

Numerous factors have been associated with resilience among care partners for individuals with early-stage dementia. Assets and resources within the individual, the environment and community support may all impact resilience. Some of these factors are modifiable and some are non-modifiable. Being a male care partner, caring for a female, living apart from your relative, and having low care partner burden were all non-modifiable factors associated with being resilient (Joling et al., 2017). General self-efficacy and positive coping ability were both factors that also were associated with resilience in care partners (Hui & Huimin, 2017). Self-efficacy for obtaining respite care and utilizing strategies to control upsetting thoughts were also modifiable factors associated with resilience and resilient behaviors (Rabinowitz et al., 2007). Self-efficacy for dementia symptom management and for use of community support services was associated with less depression and fewer health-related symptoms among care partners (Fortinsky, Kercher, & Burant, 2002). Religiosity and religious coping styles have been associated with resilience in caregiving. Specifically, care partners who had more negative coping styles and felt that they were abandoned by God tended to be less resilient (Rabinowitz et al., 2010). The availability of friend networks is particularly important for resilience, even more so than the availability of family. Family members can actually hinder resilience if they create feelings of over dependence and judgement. Support from children, for example, is appreciated if the child allows the care partner to maintain independence (Donnellan, Bennett, & Soulsby, 2015). Conversely, friendships, particularly those with others who were also care partners, provided critically important social, informational, and emotional support to care partners.

Interventions to Strengthen Resilience Among Care Partners

Despite the importance of resilience among care partners of individuals with dementia, little work has been done testing interventions to strengthen resilience among these care partners. Instead, the majority of research on care partners of individuals with dementia has focused on exploring care partner burden and testing care partner psychoeducation interventions and improving care partner performance of effective management of neuropsychiatric/behavioral symptoms. This work was designed to improve outcomes for individuals with dementia and decrease care partner burden, but not necessarily strengthen care partner resilience.

As noted above, there are many factors that can influence resilience including biological, personal, social, cultural, and environmental issues. Some interventions have been tested to address concepts related to resilience such as coping, mastery, self-efficacy, stress reduction, perceived burden, depression, or anxiety. A prior meta-analysis (Pinquart & Sorensen, 2006) addressed interventions for family care partners for people with dementia and found that psychoeducation interventions that required active participation from care partners had the best effects. Further cognitive behavioral therapy and other counseling interventions reduced depressive symptoms and care partner burden. In a systematic review of interventions focused specifically on building resilience among care partners of individuals with dementia only two studies were identified (Petriwskyj, Parker, O'Dwyer, Maoyle, & Nucifora, 2016). One was a drug trial testing the use of escitalopram for resilience among family dementia care partners (Lavretsky, Siddarth, & Irwin, 2010) and the other was an intervention implementing poetry writing (Kidd, Zauszniewski, & Morris, 2011). Neither the drug trial nor the poetry writing trial resulted in a significant improvement in resilience among those treated.

Following the systematic review, a more recent study tested the impact of the Family Resilience Reinforcement Program (Bang & Kim, 2016). The Family Resilience Reinforcement Program focused on increasing resilience for family care partners of older adults with dementia (Bang & Kim, 2016). The program was implemented for 60 min each week for a period of 8 weeks and was guided by Walsh's Family Resilience theory. This theory combines ecological and development perspectives in defining family resilience. The family is conceptualized as an open system that develops over a multigenerational life cycle and is influenced by the society and culture. Three family domains are noted to build resilience. These include family beliefs that help families identify meaning in crisis situations, encourage optimism, and provide spiritual support which thereby helps with healing, growth, and problem-solving. Second, there are the rules, roles, and family patterns which bring about changes in the organizational patterns of the family. Flexibility, family cohesion, and social and economic resources all help to influence the family's response to the crisis of caregiving. Third, there are communication processes that help bring clarity to unclear situations and encourage emotional expression and collaborative problem-solving within the family. The Family Resilience Reinforcement Program included two sessions that redefined the family belief system, sessions three to five focused on the organizational pattern of the family and sessions six to eight focused on enhancing communication processes. A total of 36 participants were randomized to treatment or no treatment control. The Family Resilience Reinforcement Program group showed a significant improvement in family resilience, care partner burden, family adaptation, and health status. There was no difference in depression.

Although this was a small pilot study, the findings suggest that education sessions and skill building across the areas of beliefs, organizational patterns, and communication may be helpful to strengthen resilience in family care partners. Other researchers have noted that individuals with early-stage dementia and care partners of individuals with dementia likewise needed, and benefited from, education and information about resources related to safety, health, meaningful activities, and advanced care planning (Black, Johnston, Rabins, Morrison, Lyketsos, & Samus, 2013; Logsdon et al., 2010; Matchar & Gwyther, 2014; Snyder, Jenkins, & Joosten, 2007).

Individuals with early-stage dementia and their care partners expressed other areas in which there was a need for education and/or support. Examples of these areas included such things as role changes in relationships, helping with communication about the diagnosis in early-stage dementia, ability to express needs in terms of help and type of help needed, trusting their own caregiving decisions, difficulty managing social situations, loss of family and friends, difficulty with management of legal and financial issues, concern about the safety of the individual with dementia, and difficulty performing daily routines among others. In response to these unmet needs, in the winter of 2012, a partnership was formed between the Duke Family Support Program (DFSP), the Duke Neurology Memory Disorders Clinic, Jewish Family Services of Durham-Chapel Hill, and the Alzheimer's Association Eastern North Carolina Chapter and the first 8-week education and

Table 1 Participant characteristics of 170 family units (166 persons with ESML[a]; 178 caregivers) in 16 Memory Makers early-stage memory loss educational support groups

Variable	Range	N (%)
Demographics of person living with ESML		
Age range	49–93	
Men, n (%)		90 (54%)
White, n (%)		156 (91%)
Care partner characteristics		
Age range	32–93	
Spousal or partner care partner, n (%)		151 (85%)
Adult child care partner, n (%)		22 (12%)
Other, n (%)		5 (3%)
Female, n (%)		114 (64%)
White, n (%)		158 (89%)
Range of size of 16 groups—total number of family units (person living with ESML and care partner/partners)	5–13	

[a] *ESML* Early-stage memory loss

support group for individuals living with early-stage memory loss and their care partners was developed. The group, called Memory Makers: An Early-Stage Memory Loss Educational Support Group, has served 170 participants over 16 cohorts between 2012 and July 2018 (Table 1).

Memory Makers is grounded on an evidence-based model (Logsdon et al., 2010) from work at the Alzheimer's Association Western and Central Washington State Chapter. The program is a structured, closed group that meets three hours per week for four or eight consecutive weeks. Participants are individuals diagnosed with early-stage Alzheimer's or a related disorder and their care partners, all of whom were screened in person to be sure they met eligibility criteria (Table 2). Group size has ranged from the first group consisting of five dyads to the now steady size of 12–13 dyads. Each group includes two mentor couples. These mentors are members

Table 2 Eligibility criteria for participation in Memory Makers early-stage memory loss education and support group

Person with memory loss has been diagnosed with early-stage Alzheimer's, a related dementia or MCI
Person with memory loss has been told about their disease diagnosis
Both the person living with ESML and the care partner are interested in participating with a group of peers on issues relating to Alzheimer's and related disorders
Person living with ESML is able to participate in group discussion and express thoughts and feelings
No difficulties beyond the diagnosis of a behavioral, psychiatric, or medical nature that would become disruptive in the group setting, interfere with participation in the group, or put other members at risk
Capable of attending the majority of meetings as scheduled

Table 3 Weekly topics for Memory Makers: an early-stage memory loss educational support group

	Topic	Presenter
Week 1	Introductions and overview	Facilitators
Week 2	Basics of memory loss	Neurologist
Week 3	Disclosure and changing relationships	Social worker
Week 4	Legal and financial planning	Elder law attorney
Week 5	Handling the Day-to-Day	Occupational Therapist
Week 6	Balancing safety and autonomy	Neuropsychologist
Week 7	Emotions and communication	Social worker
Week 8	Advocacy and staying connected	Facilitators

of a previous cohort who repeat the group with the goal of being role models for the new families and providing reassurance that it is possible to manage months or years after first participating in Memory Makers.

Weekly sessions start with introductions and updates from the persons living with early-stage dementia, their care partners, and the facilitators. The full-group discussions then range from commonplace subjects any friends would share, such as updates about family events, to issues specific to cognitive impairment, including new coping strategies, recent disappointments from family and friends, and new-found resources (Matchar & Gwyther, 2014). Each week the facilitators or outside speakers cover a different topic (Table 3). The presentation is made to both those living with early-stage dementia and their care partners, and the speakers allow time for questions during or after their presentation. After a short break, the group reconvenes into two separate support groups for the last 75 min: one group for those with early-stage dementia and the other for the care partners. Each support group is facilitated by two social workers, allowing for adequate facilitation and identification of resilience, or lack of resilience, among participants. Qualitative analysis indicated beneficial outcomes in several domains, including increased self-confidence, communication, social engagement, and decreased stigma (ref).

In addition to quantitative findings, qualitatively a number of themes were identified that are consistent with resilience among the individual diagnosed with early-stage dementia and his or her care partner. Themes noted from the care partners (Table 4) included celebrating small victories, reframing, disclosing the diagnosis, finding support and relying on connections made within the support group, finding humor, taking a good enough approach, accepting what they can't control, being flexible and creative, taking breaks, love, and recognizing strength. Themes identified from the individual with early-stage dementia (Table 5) included acceptance, disclosure, significant others, sense of purpose, routines and familiar environments and memory aids, showing up, and faith.

Table 4 Resilience themes from care partners

Theme	Supportive quotes from care partners
Celebrating small victories	• "It is what it is. It ain't fun, it stinks, it sucks sometimes. But we can still have a few good minutes." • "When I come home from the gym, she is showered and in clean clothes. I am grateful. Very grateful." • "Then a generosity prayer. *I hope you are well and happy, no fear or sorrow, health and no illness, calm and peace*. I then consider false pride, the need for patience, and other Zen principles. It keeps me calm for at least 3 h." • Appreciate their family member's retained capacities
Reframing	• "We tailor our travels to what she likes." • "With things being so awful, things are pretty good." • One man changed his annual family trip to Aruba to a more manageable road trip to Williamsburg, VA • "Pick your battles. If it doesn't really matter, let it go." • "Redefining roles has been one of the most unexpected and positive things I see."
Disclosing the diagnosis	• "Now that it's (Alzheimer's) on the table for us, it's easier." • "It's a relief to have it (diagnosis) out in the open and not have to hide it." • "It was so much easier when Frank was willing to share his diagnosis."
Finding support and relying on connections made in the support group	• "It's a hell of a lot easier with support (support group)." • When care partners can't talk to their spouses anymore, they rely on others • "Then educating care partners that your life is tough and welcome to a club that you really don't want to join." • "Also in the support groups, learning everyone is frustrated, angry and falls apart some of the time. We are not failures when we yell and bang our heads on the wall." • One woman hosted dinners for other couples from her support group after socializing with longtime friends became more difficult • A husband, perplexed by bra shopping, accepted another care partner's offer to take his wife shopping. After his wife came home with a bra she was willing to keep on, he nicknamed that other care partner the "bra whisperer." • Another spouse organized group dinners out with support group members after former friends withdrew • Attend Memory Cafes together • Use the same adult day programs to provide continuity for their spouses with dementia • Exchanging resources and ideas – Cornelia left a stuffed bear for Linda – Jane shared her Dammit Doll – Share books and exchange online – Teach each other how to ask adult children for help

(continued)

Table 4 (continued)

Theme	Supportive quotes from care partners
Finding humor	• One husband would send out silly emails in his darkest moments • When asked how one man responded to his wife's anger at his offer of help, he said, "I shut the hell up!" • Care partners could laugh at themselves and their frustrating circumstances • Laughing at wet beds and piles of laundry • One husband, whose wife with memory loss snapped at him regularly said, "I bite my tongue. Sometimes I worry that I don't have enough tongue left."
Taking a "good enough" approach	• "Care partners learn that the concept of what is really important changes drastically." • Let go of perfectionism—having their family member with dementia wear two different shoes is okay • "To help me get through each day I have developed a real "So what" philosophy. If it's not a safety issue, then SO WHAT? If her words ramble and don't make sense, then SO WHAT? If her clothes aren't color coordinated, then SO WHAT? If it involves her safety, or threatens her safety, then I do whatever needs to be done to protect her." • "Is a daily shower really necessary? Cleanliness is important, but there are multiple ways to reach that goal." "You do what you gotta do and you do your best."
Accepting what they can't control	• "We have to learn to accept the way things are. It's OK if she puts on 2 pair of underpants, or if her shirt is on backwards." • "It wasn't my fault and it wasn't his fault. Railing against it (Alzheimer's) didn't work." • "There is no such thing as 'hurry up' in our house. She moves at her pace and running late is something she doesn't understand." • "Do you have a choice?" • "Her mood swings go between nice and snarky, and can happen without any notice. I've learned to let her be." • "This is a change. We might not have chosen it, but we adjust."
Being flexible and creative	• Jan used to keep Peter busy and happy in the kitchen—"He likes to dry dishes, so I wash a lot of dishes that I would normally put in the dishwasher." • Sandy told her husband that the newly hired companion was a fitness trainer (something more acceptable to the husband) • Cindy, an adult daughter with young children, involved her mother Karen with dementia in the grandchildren's lives in such a way so that Karen thought she was helping watch the children. Similarly, Francine had Elaine participate in craft activities with her young son so Elaine thought she was entertaining her grandson • Peggy placed the sofa (where she slept) in front of the bedroom door to prevent her husband from leaving the room at night

(continued)

Table 4 (continued)

Theme	Supportive quotes from care partners
	• At one support group, Jane told the care partners about a difficult moment with her mother where she (Jane) "called an audible." For those, including we authors/group facilitators, unfamiliar with this football term, "calling an audible" refers to the quarterback changing the play at the last minute. But the care partner group embraced the term and others began to use it when they needed to suddenly change plans because of some unanticipated reaction from their family member • Frances was very uncomfortable when Memory Makers split into two separate support groups and she was in a room across the hall from her daughter Barbara. So Barbara wrote a note for her mother to keep in her purse that read, "I'm across the hall and will come back for you at 4:00." Similarly, Harvey stuck a photo of himself in his wife Anne's pocket, so when she felt anxious at her day program, she could look at him • Recognizing a need for a break, Bill hired someone to be a driver and companion for his wife; and he referred to this aide as his "personal assistant." Hiring a "personal assistant" was much more palatable to his wife who didn't see the need for any help
Taking breaks	• "I work half a day at the hardware store to get a break." • "If I get the breaks I need, then I do okay." • "I take time usually in the morning quiet, I am not sure what to call it meditation/religion to decompress and reorient my thinking from frustration and anger to more productive pursuits. My litany is to recite several Zen prayers." • Several of our care partners arranged to have an adult child (or sibling when the care partner is a son or daughter) fly into stay with their spouse so they could get a break
Love	• Because of their belief in the sanctity of marriage as a sacred institution, as well as a personal obligation to honor their marriage vows • For many, caring for a spouse with dementia is an obligatory way of honoring their marriage vows, "in sickness and in health." In our ESC, we see caregiving that is less out of duty and more due to a loving relationship. As Harold said, "If you don't love your spouse, this is impossible." For some it's a feeling of reciprocity—"I do nice things for my wife because that's what she'd do for me." • "There is no choice. I love him." • "It's a different kind of love I never knew I could experience." • Ken, an 86-year-old New Englander, moved to a North Carolina retirement community with his wife of 62 years soon after she was diagnosed with early-stage Alzheimer's—to be closer to their supportive daughter. When we first met, 18 months after the move, Ken complained bitterly about North Carolina's summer heat and humidity and how he fiercely missed their New England home. Not a fan of air conditioning, he explained, "God created fresh air," but he vehemently said, "as long as I have a relationship with Ellie, I'll be where she needs to be."

(continued)

Table 4 (continued)

Theme	Supportive quotes from care partners
	• Some of the care partners in our group attribute their ongoing caregiving stamina to remembering their spouses as the individuals they had fallen in love with years ago • Many of the care partners we work with talk about the person they fell in love with years before and that remembering what their spouses were like years ago seems to make caregiving easier. Larry, now a 75-year-old retired professor and care partner, likes to tell the story of how he met his wife through a chance encounter on a New York subway years ago. He thinks it's important for people to understand who the woman is that he sees—the woman who makes all his efforts worthwhile *You see, when I wake up next to her each morning I don't see the woman who may put her bra on backward, or can't tell me in words that make sense what she would like for breakfast. I don't see the woman who asked me, "I wonder if my parents were married," or "I wonder if my mother is Jewish," or my favorite when she asked, "Are you my brother?"* Larry went on to explain in great detail the resourceful, brilliant and independent woman he fell in love with years ago *This is the woman that I see every day, and why caring for the most independent woman I have known and who needs me now, is made easier and is my pleasure*
Recognizing strengths	• Recognizing strengths they didn't realize they had • Acknowledging their own and their fellow care partners' strengths and abilities • "A lot of people can't do this. I didn't think I could!" • Caring like we do "sets you so far above." • "I never thought I could manage incontinence, but now I am."

Table 5 Resilience themes from individuals early-stage dementia

Theme	Quotes from individuals supporting the theme
Acceptance	Acceptance refers to some recognition of memory loss and the concomitant limitations. Clare explained that acceptance, “could take place on a number of different levels, and might be an ongoing process of deepening realization.” Many have expressed a sense of resignation—accepting something they can’t change and so they won’t worry about. Weeks after his diagnosis, Sam, a very spry 80-year-old, stated, “It is what it is. There’s no changing it. I’m just rolling with it.” • “There is no cure. I’m accepting that. I want to find some strategy to best function with Alzheimer’s and not feel like a fool all the time.”
Disclosure	• “I don’t regret telling people, it makes our lives easier.” • By sharing her diagnosis with friends, a bookkeeper forced to retire because of her diagnosis, was able to continue to play golf because her friends now knew they needed to keep score for her. Another woman was able to rejoin her church choir after she told the members she needed help following the music • One Memory Makers participant decided she wanted to tell her Sunday school class about her diagnosis before they noticed. She carefully crafted a letter to read to the class which is excerpted below: – *I am now in early-stage Alzheimer’s and decided recently that I would like to share this with all of you, before it becomes too obvious. There are some things I can’t do as well as before, but right now I am still able to cook, clean house, etc. I can drive to a few places that I go to on a regular basis, but that may not last much longer. It won’t be too long before I will be relying totally on someone else to do the driving, and Dan will be learning to cook. … I’ve asked Tim (minister) not to put my name on the prayer list just yet. He will know when that needs to happen. Thank you for hearing me tonight, and please don’t be feeling sorry for me…I’m looking forward to some good times ahead*
Significant others	Individuals living with early-stage dementia who were coping well after learning they had a diagnosed memory disorder all had supportive people in their lives. There was generally one person who played the role of primary care partner—mostly a spouse, sometime a partner, an adult child or a friend
Sense of purpose	When Stan, a retired academic could no longer participate in local political activities, he turned to Meals-On-Wheels as a way to make a contribution to his community. When driving the route became too challenging, his wife hired a companion to drive, allowing Stan to continue to have a meaningful activity and stay socially engaged • Sylvia, a retired elementary school teacher, cherishes her volunteer work rocking and cuddling babies in a neonatal intensive care unit. She was able to continue volunteering long after giving up driving because her husband was willing to drive her there and eventually began volunteering with her • Phil wore a pin from the Alzheimer’s Association that says, “The End of Alzheimer’s Starts with Me.” Phil wore the button in part to help explain to strangers some of his potentially embarrassing difficulties, such as having trouble making change at the grocery store. But more importantly, this retired public health Ph.D., wanted to continue his lifelong passion of teaching and helping others

(continued)

Table 5 (continued)

Theme	Quotes from individuals supporting the theme
	• Walt, a retired college professor, was forced to stop teaching because of his memory problems. Since he was used to being busy, he began helping a local hunger-relief organization gather, sort and distribute food donations. And because Walt can still drive, he has started bringing along Len, a friend from Memory Makers who can no longer drive. So Walt recognizes that he is making a contribution in two ways—both in helping feed at-risk families and providing his friend with transportation needed to volunteer • Many of our participants have wanted to volunteer for research studies, not because they thought it would help them in any meaningful way, but rather to possibly help others or future generations
Routines, familiar environments, and memory aids	A year after his diagnosis, Keith, a 69-year-old health policy guru, continued to participate in weekly conference calls with some of his professional organizations. Not only was this a familiar rhythm, but it also provided him with a meaningful activity and sense of purpose. His wife worried Keith would embarrass himself and anticipated getting a call from one of his colleagues Other, less academic routines we observed among group members included Bert training for 5 K races, with the help of his daughter; Christine continuing to read the morning newspaper even though comprehension and retention were failing, and Stuart having lunch out with the guys, but where the friends now helped with calculating the tip Group members shared strategies that work for them, such as keeping their keys and wallets in the same place, going to the same class at the gym daily
Showing up?/the value of a support group	• From fall 2015 Memory Makers poem: “And remember that memory is fleeting, but friendship is forever.” • Susan drives monthly from the coast to attend a post-Memory Makers care partner support group, even now, a year after her husband died • Geri Taylor, a retired nurse diagnosed with mild cognitive impairment, participates in various groups and workshops at CaringKind, a New York City organization that supports individuals and families affected by Alzheimer’s. A New York Times article about Ms. Taylor’s journey, describes the sense of belonging that she felt by being with others who were like her *Ms. Taylor found renewed meaning by being among others like herself* *…the chumminess and the vibe among these strangers all hijacked by a ghastly disease — the retired software developer and the former lawyer and the bridge writer. They egged one another on. Joked around. It seemed inconceivable, but Ms. Taylor had never belonged to a group that was so much fun* *“It’s like a party,” she would tell others. “Everyone’s laughing. And everyone is happy they are with people just like them who can’t get the words out and can’t find the bus pass.”* *Sitting there in the bubbly ambience, she would sometimes think, We shouldn’t be this happy* *It was as if they were all high. High on Alzheimer’s.* (Kleinfield, 2016)
Faith	One African-American woman, no longer able to serve in a leadership position at her church, now serves at her church as an usher A retired preacher living with memory loss finds support and fellowship by attending church services

Moving Beyond the Support Group: Building a Resilient Community

At the request of, and with direction from Memory Makers graduates, a variety of social and educational programs were added for participants once they completed the eight-week educational support group. These programs, referred to as the Early-Stage & Beyond Community, allow participants to stay connected to the other group members and facilitators; to form new friendships with participants from other cohorts; and to continue to get support, learn and share resources. The goal of these post-Memory Makers programs, as with other dementia support groups, is to build resilience by developing a community of support. There are three programs offered monthly, others offered quarterly or as needed (Table 6). Clinically it was noted that this community serves as a way for families to support each other and build resilience together (Deist & Greeff, 2015). This occurs both within families and between families. Care partners see that they are not alone in having a family member with dementia, and those living with early-stage dementia feel "normal" when they are with others who also have cognitive impairment.

Table 6 Early Stage & Beyond Community programs

Program	Description	Frequency
Alpha Lunch	Saturday lunch gathering at Durham restaurant. Socializing and participant updates—no set agenda	Ongoing, monthly
Look, Listen, and Lunch	Nasher Museum of Art guided tours of current art exhibits followed by a hands-on art activity or live music. Lunch together at the Museum Cafe in between morning and afternoon groups	Ongoing, monthly
Person with dementia and care partner support group	Support group that divides into separate groups for person with dementia and care partner. Open group. Not limited to early-stage families	Ongoing, monthly
What's Next	Workshops offering educational, emotional and social support for care partners whose family members have progressed to moderate or severe stages. Simultaneous activity program for family members living with dementia	Series of 4 monthly workshops offered every 1–2 years
Kinship groups	Support groups for care partners that is an extension of What's Next	Monthly
Booster Club	Lecture series for dementia family care partners	Quarterly
One-off programs	Concerts, movie, education program	Random

Spending time with the group in non-stigmatizing environments, such as restaurants or the art museum, helps sustain this sense of resilience. The public can't tell who has memory loss and who doesn't. Grace, a spousal care partner, shared this story about heading out of the restaurant after one of the group lunches.

> When I walked into the front of the restaurant, a woman approached me and asked about what was going on with our large group eating together. She wanted to join us because she heard so much laughter and thought we must be having a lot of fun. When I told her, it's an Alzheimer's support group, she looked at Harry and me and said, "well you don't look like you have Alzheimer's!"

There continues to be evidence of ageism in the United States and stigmatization of older adults in general and particularly those with memory loss (Terrell, 2017). The friendships, supports, and activities of the Early Stage & Beyond Community provide a sense of normalcy and help overcome this enduring stigma of Alzheimer's. By doing things together, there is no "us and them" mentality that can undercut resilience. Members of the Early Stage & Beyond Community, both those with memory loss and their care partners, are treated with acceptance, kindness, and respect by each other and staff which helps to build and maintain resilience in both the individual with early-stage dementia and his or her care partner. The collection of support groups, educational programs and social gatherings provided by the community offers individuals living with early-stage dementia and their care partners the opportunity to get together for a minimum three facilitated activities each month. There are countless anecdotes demonstrating the benefits of the relationships formed, the comfort of being with others who "get it," and the joy at having a social life when longtime friends may have withdrawn.

Socializing and friendships are important to people with memory loss (Harris, 2011; Sabat, 2018) and these social connections form and grow in the groups and programs within the community. Social interaction is one of five domains that are central to maintaining a positive quality of life in people with dementia (Rabins, 2017), and it is also important for nurturing resilience (Sabat, 2018). Unfortunately, people living with dementia often withdraw from social situations because they are afraid of making a mistake and embarrassing themselves. The Early Stage & Beyond Community has provided a safe place for friendships to be developed and has helped individuals with early-stage dementia and their care partners to feel less alone with the diagnosis of dementia.

The value of the friendships and social interaction from the Early Stage & Beyond Community is demonstrated by the poem developed by one of the Memory Makers cohorts. One of the activities during the final session of Memory Makers is writing a group poem by suggesting prompts out loud and writing down the responses. One cohort's poem ended up being called *You Are Not Alone*, a title suggested by one of the individuals with early-stage dementia who rarely participated aloud because of speech difficulties associated with primary progressive aphasia, but who clearly "got" one of the group's goals—decreased isolation. One stanza from that group poem is:

You Are Not Alone.

I felt the group was a life saver

It brought a Life, empowering all of us

It was Transcendent

We shared a common thread and a common bond

We are all on the same page.

Conclusion

Resilience is critically important to the adaption and acceptance of the diagnosis of dementia for individuals and their care partners. Limited work has been done to strengthen resilience among these individuals. The Memory Makers and the Early-Stage & Beyond Community work provides a wonderful example for how resilience can be developed and supported over a progressive disease trajectory. The findings from these programs are *not* from a representative group of people living with early-stage dementia nor have they been tested in a randomized trial. Inclusion in Memory Makers is voluntary, and continued participation in the Early Stage & Beyond Community assumes a positive experience and cohesion with other families and staff. Participation also requires a certain amount of resolve, eagerness, and resources such as transportation. So it is possible that the Early Stage & Beyond Community attracts a group of already resilient individuals. Ongoing research is needed to continue to evaluate optimal ways in which to build resilience among individuals with early-stage dementia and their care partners.

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Resilience and Faith of African American Caregivers

Joseph G. Pickard, John-Paul R. Witt and Gina T. Aitch

Abstract African Americans comprise the largest group of older people of color, and like other groups, they are living longer than before. Of caregivers in the US, 13% are African American, and of the 1.3 million older African Americans who lived with a grandchild, 42% also provide care to an older person. To cope with the strain these responsibilities bring, many African American caregivers seek support and comfort from their faith traditions. This chapter describes that phenomenon and gives suggestions for ways that helping professionals might best utilize this natural source of caregivers' strength and resilience.

Keywords Faith · African American caregivers · Resilience · Religion Spirituality

African Americans, like other groups, are living longer than ever before, and make up the largest group of elders of color in the United States (U.S. Census Bureau, 2017a, b). At the same time, the growth of the population of African Americans over the age of 65 during the next half-century has a remarkable trajectory when contrasted with the change in the population of non-Hispanic Whites. In 2010, the proportion of African Americans among the population of those aged 65 and older was 9%. This percentage is projected to increase to 12% by 2050 (U.S. Census Bureau, 2010). By comparison, the proportion of non-Hispanic White Americans

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will decrease from 80 to 58% during the same time period (Administration on Aging, 2008, 2010, 2017).

The proportion of African Americans who are full- or part-time caregivers is large, and growing. Of caregivers in the U.S., 13% (over 5 million) are African American (Family Caregiving Alliance, 2017), and in 2015, 42.4% of the 1.3 million African American grandparents who lived with their grandchildren were also full-time caregivers for an older person (U.S. Census Bureau, 2017a, b) indicating that many provide care to both an older person and a child. Like most caregivers, African American caregivers suffer from the mental and physical strain of caregiving. In addition, African American caregivers bear many financial burdens, as they are less likely to have health insurance than Caucasian Americans (U.S. Center for Disease Control, 2015) and are more likely to be below the poverty level (U.S. Census Bureau, 2017a, b). African American caregivers also tend to have worse physical health than Caucasian caregivers, and they are more likely to utilize informal supports (Pinquart & Sörenson, 2005). When they seek formal aid for emotional issues, the primary source of support for African American caregivers is the clergy (Pickard, 2006, 2012; Pickard & Inoue, 2013). Given these characteristics, African American caregivers are best served by an alliance between clergy and mental health providers.

In the decade since this chapter was first published (Pickard & King, 2010), many seminaries of various denominations have begun to increase their requirements for counseling courses—or offer entire degree programs in counseling with a pastoral focus—often fulfilling the requirements for state licensure for counseling credentials. This presents the possibility for a renewed, collaborative focus on mental healthinterventions involving both African American clergy and mental health professionals. This chapter will note the relevance of the intersection of religious coping with the field of gerontology, highlight the importance of religious coping in the lives of African American caregivers, examine the relationship between African Americans and the Church in the United States, and point toward ideas for: improving the budding acceptance of the mental health profession by clergy serving the African American community, and fostering their collaboration.

Gerontology and defining religion. The field of gerontology takes a multidisciplinary approach to the study of aging and issues related to older adults by combining knowledge from the fields of biology, medicine, political science, psychology, sociology, social work, and other disciplines. The study of religion and spirituality in each of these fields has increased dramatically as evidenced by the upsurge of high-quality, peer-reviewed articles produced within each of these sub-disciplines in the past several years. The combination of the two fields of study —religion and aging—is a recognition that religiosity can help older people to cope with some of the less pleasant aspects of aging, such as an accumulation of losses and changes in physical condition (Shaw, Gullifer, & Wood, 2016).

The terms religion and spirituality are often used interchangeably and, indeed, difficulty exists in distinguishing between the two (Cohen & Koenig, 2003). Spirituality can be thought of as a relationship with the Transcendent—commonly referred to as "God"—and refers to the quest to deepen that relationship, to find meaning and purpose, and to make sense of complex life experiences. Spirituality is based on cultural influences that run deeply in individuals, families, and societies.

The term religion can include beliefs, attitudes, knowledge, rituals, personal and public behaviors, laws, and social organization. Religion can be understood best from a multidimensional point of view rather than as a single, all-encompassing term because it is so complex and wide-ranging in its manifestations and effects. Religion includes patterns of behaviors, ritual practices, music, membership in some form of community, sacred texts, beliefs, values, and attitudes. A review of Hill and Hood's (1999) book, *Measures of Religiosity*, reveals that the majority of scales developed to quantify and compare levels of religiosity include items that address behavioral, emotional, and experiential aspects of faith. Furthermore, this occurs in the context of social, emotional, and metaphysical experiences. Religion can be considered to be very personal or it can be public; it is often a source of strength and resilience to individuals, groups, families, and communities, particularly in the African American community.

For the purposes of this chapter, the term religion is defined as an institutionalized set of beliefs and behaviors, involving a sense of spirituality that provides meaning, direction, values, and support. Religiosity refers to the practice of religion and the salience of respondents' spiritual and religious beliefs in their lives. The term religion includes spirituality, unless a specific distinction is needed for clarity.

Importance of religion and spirituality to older adults. Religion appears to have a greater presence and influence in the lives of the current cohort of older adults than in the population in general. In one study of religious congregations in the United States, researchers found that 24% of all congregants were age 65 or older (Cnaan, Boddie, Handy, Yancey, & Schneider, 2002). Another study that estimated membership in mainline Protestant churches found that about 50% of members in these congregations are over age 60 (Brat, 2002).

Overall, older people appear more religious than younger people, a trend that is true for both Caucasian Americans and African Americans, with over 90% of Americans born before 1964 reporting that they believe in God, and over 60% reporting that they pray daily (Pew Research Center, 2015). A 2014 World Values Survey found that 77.6% of Americans 60 and older considered themselves to be religious (World Values Survey Association, 2014). Based on the General Social Surveys of 1974 and 1975, Cutler's seminal work (1976) found that among older adults belonging to voluntary associations, 49% belonged to groups affiliated with churches. The next most commonly reported associations were fraternal groups, which only claimed volunteer participation by 18% of older adults. Religiosity is a significant variable in predicting motivation to volunteer based on people's values (Okun, 2015), as volunteering is important in the lives of many caregivers (Shen, Pickard, & Johnson, 2013), and the most common form of volunteering by African

Americans was found to be in the context of their religious organizations, where 53% of those aged 65 and over attended services weekly. Older adults helping others within their religious congregations is associated with better health in late life, and the association appears strongest when the people are committed more deeply to their faith (Hayward & Krause, 2013; Koenig, 1992; Krause, 2009).

Nationally, 53% of Americans over age 18 report that religion is "very important" in their daily lives (Newport, 2016). This is down from 59% in 2004 (Carroll, 2004). A breakdown by age group highlights differences among age cohorts, as people tend to display more religious behavior as they age (Hayward & Krause, 2015a, b). Only 40% of younger adults aged 18–29 rate religion as "very important," whereas 59% of adults aged 50–64 and 65% of those over age 65 view religion as "very important" (Pew Research Center, 2015). More than half of the respondents among patients being seen at a geriatric assessment clinic reported that at least four out of five of their friendships were with people within their religious organizations, further accentuating the importance of religion for older adults as a socializing factor (Koenig, Moberg, & Kvale, 1988). Perhaps, the increasing significance of religious behavior with age is due to the social aspect of religious behavior, as religiosity has a positive effect on the self-reported quality of relationships that older people have with both friends and family (Cohen & Koenig, 2003; Yoon & Lee, 2004).

While it is unclear if the greater religiosity of older people as compared to younger people is a developmental or a cohort effect, support for the stable nature of religious practice as a coping mechanism was found in a 6-year longitudinal study that indicated little change in church activity during the early retirement years (Glamser, 1988). However, those who attended church regularly at a younger age seemed to attend church even more after retirement. It appears that the more religiosity one displays in early and middle adulthood, the more religiosity one will display when older (Glamser, 1988). Further, older adults are known to attend religious services more frequently than their younger counterparts. One study found that a 10-year increase in age was associated with a 40% increase in the predicted probability of weekly religious services attendance (Cornwell, Laumann, & Schumm, 2008). Among older people, church attendance tends to decline further with age (Ainlay & Smith, 1984; Wang, Kercher, Huang, & Kosloski, 2014), perhaps because of the onset of age-related disabilities, loss of ability to complete activities of daily living independently, reduction in mobility, and loss of ability to drive independently. In addition to age, being African American (as compared to Caucasian) is also associated with higher rates of religious service attendance (Cornwell, Laumann, & Schumm, 2008).

African American elders, religion, and spirituality. Based on their review of the literature, Taylor, Chatters, and Levin (2004) concluded that African Americans display some general religious characteristics. They suggest most (though clearly not all) African Americans feel the church is a valuable institution, are Protestant Christians (over half report that they are Baptist), tend not to participate in denominational switching, and have high levels of religious participation that often includes attendance at religious services and daily prayer. There is also a gender difference among African Americans as well as Caucasians in reports of religious importance. In the United States, religion is ranked as “very important” in the lives of women 59% of the time contrasted with 47% of the time for men (Pew Research Center, 2015). Perhaps, one of the reasons for statistical differences indicating that older adults appear more religious than younger adults has to do with the fact that so many more women than men live into late life. This is particularly true for African Americans. In 2013, the life expectancy of African American men who reached age 65 was 81.2 years; for African American women who reached age 65, life expectancy was 84.5 years (Centers for Disease Control, 2017).

African Americans tend to report greater religiosity than their Caucasian counterparts, and this is even more pronounced for older adults (Taylor, Chatters, and Levin, 2004). Regardless of age, over 90% of African Americans report that they have attended church services as an adult for services other than weddings or funerals, and about 70% report regular attendance at church services at least a few times per month. Some reasons for the importance of religion in the lives of older African Americans relate to historical feelings of oppression and having been marginalized, the express need to connect to others, and cultural traditions that emphasize a reliance on God (Black, 2012). In fact, one of the primary sources from which African American caregivers find social support for emotional problems is through their religious organizations (Pickard, Inoue, Chadiha, & Johnson, 2011; Wang et al., 2005).

Caregiver strain and religious coping. The burdens of caregiving, both physical and emotional, have been studied extensively and are well documented. The negative effects of caregiving are of particular concern to African American women, as they are more likely than their Caucasian counterparts to become caregivers for older adults (Dilworth-Anderson, Williams, & Gibson, 2002). Further, African American caregivers are more likely than White caregivers to rely on informal supports than to use formal supports (Dunlop, Manheim, Song, & Chang, 2002; Pickard, Inoue, Chadiha, & Johnson, 2011; Sun et al., 2009). According to the National Alliance for Caregiving and American Association of Retired Persons (2004), African American caregivers usually need to manage multiple tasks and are more likely to face financial difficulties, yet they bear the burdens of a cultural tradition that expects they will give back to those who had freely given to them (Collins & Hawkins, 2016).

Multiple sources of caregiver strain exist for African Americans who are in caregiving roles, which is compounded by the amount of time spent thinking about caregiving tasks and responsibilities over and above the actual time spent managing the older person’s symptoms or needs, and providing direct care. This stems from the fact that mental stress is often conceptualized as worry, and time spent thinking about caregiving is, in effect, worry. Further, the concerns of caregiving lead to a self-perpetuating cycle in which excessive thinking about one’s burdens becomes difficult to stop. Stress causes worry, which, in turn, leads to more stress. However, as African American caregivers’ burden increases, caregivers are less likely to seek out professional services, due in part to depression or downheartedness, a lack of access to services, and a distrust of service providers (Carr, Hayslip, & Gray, 2012).

When negative thoughts become overwhelming, these thoughts can be disruptive to an individual's ability to function effectively and live with serenity, leading to the need for African American caregivers to seek help, much of which is, sought from clergy.

The National Survey of American Life included a nationally representative sample of approximately 4,000 African Americans, 1,500 black Americans of Caribbean descent, and 1,500 non-Hispanic whites (Taylor, Chatters, & Levin, 2004). Surprisingly, lifetime prevalence rates of dysthymia, major depression, agoraphobia, social phobia, panic disorders, and generalized anxiety disorder were found to be lowest for African Americans despite the fact that they also scored lowest on most other indicators of positive social status and health (Sue & Chu, 2003). The source of this resilience may be found in the coping styles most often employed by African Americans—namely, religious coping. Coping refers to the manner in which a person makes sense of or masters stressful life events. Religious coping refers to coping methods that are specifically oriented toward the use of religious/spiritual-based methods such as prayer or talking to a clergy member. Religious coping is unique in that it is specifically of a religious or spiritual nature even if the effects are similar to other forms (Fetzer, 1999).

Religious coping has consistently emerged among African American caregivers as an important strategy for adapting to the challenges of providing care (Hayward & Krause, 2015a, b). The use of religion as a coping mechanism has been conceptualized as a resource called upon in times of stress to help people adapt to changing life circumstances. Moreover, religious involvement can be a determinant of well-being among African Americans. Religiosity has positive associations with life satisfaction, happiness, and congruence, and negative associations with distress. In a study of 303 African American caregivers, more than three-fourths of study participants reported that their spiritual beliefs help them in providing care (Dilworth-Anderson, Boswell, & Cohen, 2007). Clearly, religious participation is vital to the lives of Black Americans, particularly those in older cohorts (Taylor, Chatters, & Levin, 2004). Indeed, historical and present-day scholarship unmistakably documents the pivotal role of religion and religious institutions in the development of Black communities in America and their promotion of individual well-being.

When stress is present, people consciously and unconsciously mobilize their coping strategies. Many older African Americans look to their faith and images of God for comfort as a primary way of coping with the stress of caregiving. Cognitive appraisal of one's well-being is, in turn, affected by one's sense of spirituality or one's relationship with God. This form of coping is commonly expressed by saying such things as, "God will not give you more than you can handle," or "God has a plan." The concept that God has taken care of a person and will continue to take care of them has been found to be a positive cognitive method of coping for older African Americans (Coats, et al., 2017). When approached from this worldview, outside stressors are buffered, and the negative effects of life events are dampened.

The role of the church in African American communities. Churches are central institutions in African American communities. They generate positive community outcomes on a variety of measures and provide many types of support. The church occupies a special place that provides spiritual guidance, fellowship, a sense of shared purpose, and a political voice. While church attendance among mainstream, majority Caucasian American churches, has declined, membership in majority African American churches has remained steady. Historically, African Americans have been denied access to political participation and many of the social services that Caucasian Americans have had. For this reason, the church developed as a force for political activism and a voice of political change, an important provider of human services that might otherwise not be provided, and an institution that offered stability in often turbulent times. African American churches in inner cities have remained a source of shared community for congregations and continue to provide support to those lacking in affluence and influence.

Dating back to the era of slavery in the United States, African American churches spurred social, political, and economic improvements among congregants and their communities. The church was perceived as an institution that helped communities to survive, organize resistance, promote social change, and provide a sense of communal identity to people who were otherwise denied access to the institutions of political power. In addition, when formalized social services were not available, the church often functioned as a surrogate family and support system for African Americans by providing concrete assistance (e.g., food, clothing, money, education, and job opportunities) and psychosocial assurance, especially to older adults. Churches continue these roles today in African American communities (Giger, Appel, Davidhizer, & Davis, 2008; Taylor, Chatters, & Levin, 2004).

Help seeking from clergy. In the United States, clergy of all races are important in the provision of mental health services; they serve as gatekeepers as well as providers. Generally, clergy are considered to be any religious leaders who are ordained and/or have the mandate of those they serve to provide religious and spiritual guidance. Clergy often are congregational ministers who provide pastoral counseling, though they are not necessarily trained specifically as counselors or therapists. By contrast, specialized pastoral counselors and chaplains have in-depth training similar to that of clinical social workers or professional counselors. However, most clergy are neither certified nor licensed as mental health providers and do not normally charge a fee for their counseling services. The training they receive in counseling is usually a minor part of their overall training, with the bulk of their training focusing on theological issues.

Research suggests that African Americans in general underutilize psychotherapeutic services as a way to cope with emotional problems, and, when compared to Whites, they seem less willing to visit community mental health centers. Much of this reluctance stems from a distrust of the medical and scientific system in general, as well as a distrust of the White population (Kennedy, Mathis, & Woods, 2007). Instead, many African Americans, including caregivers (Pickard, 2006), turn to clergy in times of distress, and there they find strength and resilience. African American ministers serve as primary mental health service providers and gatekeepers to other mental health resources (Pickard, 2012; Pickard & Inoue, 2013). While little research has been done that would validate the efficacy of the services they provide, African American clergy who feel less prepared to provide counseling about mental health concerns are more likely to refer older people and their families to outside sources of help (Pickard, 2012).

Adult Americans with serious mental health problems, such as antisocial personality disorder, bipolar disorder, major depression, and obsessive-compulsive disorder, are just as likely to seek help from religious leaders as they are from other mental health professionals (Wang, Berglund, & Kessler, 2003). The only problems for which they have been found to be significantly more likely to seek help from mental health professionals are alcohol abuse, drug abuse, and panic disorder (Hohmann & Larson, 1993). In a sample of 609 African American churchgoers in Washington, D.C., the only issue for which respondents preferred treatment from a psychologist or psychiatrist to a pastoral counselor was depression (Hardy, 2014). A classic study comparing samples of US adults from 1957 (N = 2,460) and 1976 (N = 2,267) indicated that about 40% of Americans sought help from a religious leader when dealing with personal problems (Veroff, Kulka, & Douvan, 1981), and by the year 2000, of those attending religious services weekly, more than 50% considered their primary mental health service provider to be their religious leader (Larson, Milano, Weaver, & McCullough, 2000). Among 1,200 randomly sampled adults (600 White and 600 Black) in the Nashville area, 36.9% of African Americans and 24.2% of Whites used clergy for assistance with emotional problems (Husaini, Moore, & Cain, 1994). Older adults are generally more likely to seek help from a member of the clergy than from another source of help (Pickard, 2006; Pickard & Guo, 2008). Moreover, people who have less social support are even more likely to turn to clergy for help than those who have other people in their lives to whom they can turn.

The National Survey of Black Americans (NSBA) was a cross-sectional, nationally representative survey of 2,107 adults self-identified as Black Americans. The original interviews were conducted in 1979–1980, followed by three waves of interviews conducted by phone in 1987–1988, 1988–1989, and 1992. An analysis of NSBA data (Neighbors, Musick, and Williams, 1998) found that of all 612 respondents seeking help, 29.46% turned first to their church. Black Americans who first sought help from their churches were less likely to continue seeking help elsewhere than those who first sought help from a secular source. Among respondents who sought assistance from a church first, only 29.5% went elsewhere to seek further help. In contrast, 46.4% of those first seeking help from a secular source continued to seek help from another source. These statistically significant findings suggest that Black Americans who initially seek help from a church are not likely to continue seeking help elsewhere. They also found that among Black Americans who sought help from only one source, those who relied on clergy were significantly more satisfied with the services they received than those who sought help from other sources. Additionally, among respondents who sought help from more than one source, those who sought help from clergy first were significantly more satisfied with the services they received than those who sought help from another source first. Moreover, Black Americans who sought help from clergy were significantly more likely to refer someone else to the same source than were those who had sought help elsewhere. Clergy thus appear to be primary sources of support for African Americans seeking assistance.

Preparation of clergy for counseling older adults. Clergy often come from theological perspectives that are antithetical to science, and social science researchers come from scientific perspectives that insist on carefully and thoroughly examining the specifics of clergy-provided mental health services. Furthermore, clergy provide their services outside the purview of professional organizations such as the National Association of Social Workers or the American Psychological Association, and they are likely to resist any type of governmental oversight or mandated regulation as a result of secular examination. It is important to note, however, that many African American clergy are not full-time paid representatives of their religious bodies and often have other full-time employment outside their religious roles (Young, Griffith, & Williams, 2003). In a study of 503 clergy members (Pickard and Inoue, 2013), no difference was found in how prepared African American and Caucasian clergy felt themselves to be for their roles in counseling older people, though African American clergy reported significantly more time spent doing this work. While outcome studies are scarce, in 11 different studies conducted from 1976 to 1989, US and Canadian Jewish, Protestant, and Catholic clergy all reported that they needed more training in the skills of counseling, and 50–80% of them indicated that their seminary training in pastoral counseling did little to prepare them for the demands of providing mental health services to their congregations (Weaver, 1995).

Weaver’s 1995 review also highlights the marked lack of counseling skills provided to clergy in their typical professional training:

- 50–80% of clergy considered their seminary training insufficient preparation for actual practice in their ministries for either identification of parishioner needs or the types of services being requested (e.g., marital counseling, assisting severely mentally ill parishioners).
- In a review of studies between 1976 and 1989, the majority of clergy reported a significant need for more training in counseling skills.
- As recently as 1981, approximately one-half of Protestant seminaries in the United States had no course requirement for counseling.
- In a survey of 1,927 United Methodist ministers, one in four reported that they felt the overall quality of mental health services provided by clergy was poor.

Other studies have demonstrated that clergy are less apt at assessing psychological concerns than mental health professionals. The results of a small study by Domino (1990) indicated that American Jewish, Protestant, and Catholic clergy (N = 157) had about the same level of knowledge of the symptoms of psychological distress as a group of college undergraduates in an introductory psychology class, and similar findings have been reported by other researchers (Larson et al., 2000). While many seminaries now offer specialized degrees in pastoral counseling, only 25% of the Protestant pastors surveyed (n = 204) in one study had formal pastoral counseling training (Payne, 2009). Another study found that clergy scored significantly lower than professionally trained mental health service providers on their ability to assess for suicidal ideation (Larson et al., 2000). In a study of California pastors, African American clergy in particular were much more likely to agree with the statement “Depression is hopelessness that happens when one does not trust in God,” compared to the statement “Depression is a biological mood disorder,” (Payne, 2009). As noted earlier in this chapter, clergy are often the first-choice mental health providers for African Americans, but they often have less training in counseling than mental health professionals. It is clear from the above studies that clergy should not be expected to address the mental health needs of their congregations alone, although their relationships with their congregations are sources of great support to those in need.

Fostering collaboration to serve older adults. Collaboration between clergy and mental health professionals is needed to optimize provision of mental health assistance to the African American community, especially caregivers. Clergy often have long-term relationships with older adults and their families. Relationships are at the heart of the helping professions and are reliable predictors of positive outcomes for clients, independent of what psychotherapy style is used (Ardito & Rabellino, 2011). The particular relationships clergy have with their congregations provide them with unique opportunities to detect changes that may hint at the presence of emotional problems. In turn, this may increase the likelihood that clergy will be able to connect those in need with the most helpful services available. If mental health professionals increase their collaborative efforts with clergy, clergy are likely to respond in kind, thus leading to better overall care for older adults in need of mental health services. This is particularly important considering the impending rise in the numbers of older adults and the lack of qualified mental health professionals trained and available to work with them, a problem that is particularly pronounced in rural areas and with respect to African American caregivers. Mental health professionals should be made aware of the high frequency of requests for assistance with emotional and behavioral concerns encountered by clergy and remember to include questions regarding the use of clergy in their assessments of client resources.

If social workers, mental health workers, and other geriatric helping professionals know that caregivers are turning to clergy for help with emotional problems, it seems a worthwhile endeavor to assist clergy and promote collaboration between religious and secular service providers. Outreach efforts aimed at African American clergy would have a positive, though indirect, impact on the well-being of African American caregivers. While actively engaging with clergy would not be a small task, some interventions can be undertaken to improve outcomes for African American caregivers who seek help from clergy. For example, training programs for mental health professionals should include instruction regarding working with clergy. Such instruction has been used in the past, and it effectively increased the self-report of psychologists in training that they would likely work more closely with clergy in the future (Meylink, 1988), particularly for co-treatment of clients, rather than a more traditional refer and release model.

Many clergy members report a willingness to counsel members of their congregation regardless of their level of training (Farrell & Goebert, 2008); therefore, clergy post-ordination should be encouraged to attend seminars hosted by mental health professionals on counseling techniques, and those currently in seminary should be required to take courses in counseling. Finally, Dempsey, Butler, and Gaither (2015) propose several ideas for mental health professionals seeking to engage with clergy, including inviting pastors to sit on the advisory boards of mental health agencies, joining the church communities they seek to serve, providing mental health training to clergy, and acknowledging African American culture in the assessment process. The best way to address the mental health concerns of African American caregivers is a collaborative one; the above interventions could lead to better services provided for this population, and thus an improvement in their resilience.

Conclusion

As the baby boom generation ages, a corresponding need for people in the helping professions trained to work with older adults will arise. Unfortunately, the United States continues to face a shortage of professionals who are specifically trained to work with older adults, and help will probably not be available for everyone in need. This circumstance is magnified for African American caregivers, a group who are more likely to be negatively impacted by their caregiving roles and less likely to seek help from professional sources. One way to support these caregivers and enable them better to care for their loved ones is to provide appropriate aging and counseling education to the clergy who serve them, as well as the encouragement of mental health providers to foster relationships with clergy. In African American communities, churches in general and clergy in particular represent a prominent and trusted resource for people in need of assistance with many types of problems. Building greater collaboration between clergy and mental health providers, in preparation for counseling older adults, could very likely become a factor that contributes to more positive outcomes for African American caregivers.

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Promoting Resilience Through Aging-Friendly Community Initiatives: Opportunities and Challenges

Amanda J. Lehning

Abstract In recent decades, a growing number of cities and towns have implemented aging-friendly community initiatives (AFCIs), which aim to create places where older adults are involved, valued, and supported (Alley et al., Journal of Gerontological Social Work 49(1–2):1–18, 2007). Aging-friendly communities promote a better person–environment fit by modifying the physical and social environment to support older adults' health, well-being, and the ability to age in place. AFCIs reflect a shift among foundations, advocacy groups, and researchers toward reframing (Frameworks Institute, Aging, 2016) or disrupting aging (Jenkins, Disrupt aging: A bold new path to living your best life at every age. Public Affairs, New York, 2016) by focusing attention not only on the challenges but also on the benefits of an aging society for individuals, families, and communities. The ultimate purpose of aging-friendly efforts is to allow community residents to live full and meaningful lives across the life course, even in the face of not only age-related physical and cognitive changes but also psychological and social changes.

Keywords Community · Resilience · Age-friendly · Social support
Aging-community

Introduction

In recent decades, a growing number of cities and towns have implemented aging-friendly community initiatives (AFCIs), which aim to create places where older adults are involved, valued, and supported (Alley et al. 2007). Aging-friendly communities promote a better person–environment fit by modifying the physical and social environment to support older adults' health, well-being, and the ability to age in place. AFCIs reflect a shift among foundations, advocacy groups, and researchers toward reframing (Frameworks Institute, 2016) or disrupting aging

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(Jenkins, 2016) by focusing attention not only on the challenges but also on the benefits of an aging society for individuals, families, and communities. The ultimate purpose of aging-friendly efforts is to allow community residents to live full and meaningful lives across the life course, even in the face of not only age-related physical and cognitive changes but also psychological and social changes.

In this chapter, I focus particularly on the potential for AFCIs to promote resilience among older adults. Resilience is “a dynamic process in which individuals experience adversity and thereafter reintegrate and flourish despite the experience” (Bolton, Praetorius, & Smith-Osborne, 2016, p. 171). Aging-friendly communities offer a promising strategy to facilitate resilience in later life by adapting the environmental context to better meet the needs of older adults. Although AFCIs have the potential to provide the opportunities for resilience, the state of the science and development of AFCIs presents challenges to documenting and clearly articulating their ability to do so. Echoing previous work on AFCIs (e.g., Buffel, Handler, & Phillipson, 2018; Lehning & Greenfield, 2017), I conclude the chapter with recommendations to move the implementation and evaluation of AFCIs forward.

What Is an Aging-Friendly Community?

According to the World Health Organization (WHO), whose Global Network of Age-friendly Cities and Communities is arguably the largest AFCI in the world, “an age-friendly city encourages active aging by optimizing opportunities for health, participation and security in order to enhance quality of life as people age… In practical terms, an age-friendly city adapts its structures and services to be accessible to and inclusive of older people with varying needs and capacities” (WHO, 2007, p. 1). Lui and Colleagues (2009) propose that the strategies for achieving the changes necessary to create more aging-friendly communities include: (1) integrating the physical and social environment, and (2) facilitating older adults’ participation in and contribution to the initiative. AFCIs seek to remove environmental barriers to older adults’ continued engagement in their community’s social, cultural, spiritual, economic, and civic life (Buffel, Phillipson, & Scharf, 2012).

The idea of aging-friendliness first appeared in the academic literature in 1990, when Baltes and Baltes proposed that “optimal aging refers to…aging under development-enhancing and age-friendly environmental conditions” (p. 8). In the early 2000s, several organizations launched aging-friendly initiatives using a variety of labels such as “livable community”, (e.g., AARP, 2005), “elder-friendly” (e.g., Feldman et al., 2004), and “lifetime neighbourhood” (Lui et al., 2009). In this chapter, I use the term “aging-friendly” rather than “age-friendly” or “elder-friendly” in recognition of the dynamic, transactional nature of the aging process within in a constantly changing environmental context.

Aging-Friendly Community Initiatives

On example of an AFCI is the AdvantAge Initiative. Developed and administered by the Center for Home Care Policy and Research of the Visiting Nurse Service of New York, the AdvantAge Initiative is a needs assessment and planning process that has been utilized in numerous cities throughout the United States (U.S.). Based on focus groups with older adults in different parts of the country, the AdvantAge Initiative identified aging-friendly Community features as those that: (1) address older adults' basic needs; (2) promote and protect older adults' mental and physical health; (3) facilitate independence; and (4) encourage civic and social participation (Feldman et al., 2004; Hanson & Emlet, 2006). The AdvantAge Initiative's approach is to collect information from older adults to capture community barriers to aging-friendliness and identify targets for intervention, which can then be utilized by community stakeholders to make aging-friendly improvements (Feldman et al., 2004).

Another example of an AFCI is the U.S. Environmental Protection Agency's Aging Initiative, which proposed four principles of aging-friendliness: (1) social connections and engagement (i.e., social integration, access to social support, and civic engagement opportunities); (2) neighborhoods and housing (i.e., housing options, neighborhood access to services and shopping, and neighborhood safety); (3) transportation and mobility (i.e., freedom to move around using one's own preferred mode of transport, accessible and convenient public transit); and (4) access to healthy activities (i.e., access to food, access to recreational activities) (U.S. EPA Aging Initiative, 2011). For several years the EPA recognized communities across the country engaged in activities exemplifying these principles. While no longer an active EPA initiative, this model has been adopted and adapted by continuing efforts, such as Philadelphia Corporation for Aging's (PCA) Age-friendly Philadelphia, which combined data collected from older Philadelphians with Geographic Information Systems (GIS) data to examine neighborhood factors. PCA's Age-friendly Philadelphia modified the EPA principles to reflect local needs and policy priorities including: (1) social capital (i.e., being active and connected to one's neighborhood); (2) flexible and accessible housing; (3) mobility; and (4) eating healthy (Clark & Glicksman, 2012).

Perhaps the most well-known and extensive AFCI is the WHO's Global Network of Age-friendly Cities and Communities (originally called the Global Network of Age-friendly Cities, but later renamed to reflect the variety of localities participating), which was launched in 2010. Building on earlier work by aging organizations (e.g., AARP) and scholars, WHO identified 8 features that promote aging-friendliness: outdoor spaces and buildings, transportation, housing, respect and social inclusion, social participation, civic participation and employment, communication and information, and community support and health (WHO, 2007). WHO also coordinated 158 focus groups with older adults, caregivers, and aging service providers in 33 cities around the world to help identify 88 features described as a "universal standard for an age-friendly city" (WHO, 2007, p. 11). Many of these features are viewed by WHO as not only making cities better for older adults but also for residents of all ages and capabilities (Buffel and Phillipson 2012). To date, the WHO Network includes 541 cities and communities in 37 countries around the world, as well as 13 network affiliates such as the AARP Network of Age-Friendly Communities in the U.S. (World Health Organization, nd).

Two prominent WHO/AARP members in the US are Age-Friendly Portland and Age-friendly NYC. Portland, Oregon, was one of the nine original members in the WHO's Global Network of Age-friendly Cities and became an inaugural member of the AARP network in 2012 (AARP, 2013). The Age-Friendly Portland initiative was launched and is coordinated by the Institute on Aging (IOA) at Portland State University, with guidance from an Advisory Council representing a variety of stakeholders (e.g., AARP Oregon, Portland Metro regional government, City of Portland Bureau of Planning and Sustainability, and older community residents). Age-Friendly Portland uses a City-University-Community model, in which researchers and students from the IOA emphasize translational research and community collaboration (Neal, DeLaTorre, & Carder, 2014). Early targets of the initiatives included insuring that the needs of older adults are taken into account in city planning, and improving the public transportation system for individuals with a disability and older adults.

The New York Academy of Medicine initiated the Age-friendly NYC effort in 2007 through a partnership with the Mayor's office and the New York City Council, making Age-friendly NYC the second U.S. participant in the WHO Network. As with other WHO participants, the initiative began with an assessment of the city's aging-friendliness through focus groups and meetings with stakeholders (including older adults), expert roundtables on particularly salient issues (e.g., tenant rights, transportation), and feedback from academics and nonprofit leaders (Bloomberg & Quinn, 2009). According to the New York Academy of Medicine (2012), Age-friendly NYC has solicited the participation of over 2,000 older residents through conversations conducted in six different languages. Based on these data, the city has recommended 59 aging-friendly changes, with an emphasis on projects that could be led by the public sector (New York Academy of Medicine, 2012).

The Opportunities of Aging-Friendly Communities

The Need for Aging-Friendly Communities

The development and proliferation of AFCIs in the twenty-first century are due to a confluence of several factors. While this chapter focuses primarily on AFCIs in the US, many of the following key factors are also relevant in an international context.

First, the increase in the older adult population has called attention to the need for new and innovative approaches to support health and well-being in later life. In the US, the number of Americans ages 65 and over increased from about 3 million (4% of the population) in 1900 to more than 49 million (a little over 15% of the population) in 2016 (U.S. Census Bureau, 2017). Spurred on by the aging of the baby boom generation, the cohort born between 1946 and 1964, these numbers will continue to grow rapidly until 2030, when about one in five Americans will be 65 or older (Federal Interagency Forum on Aging-Related Statistics, 2016). Furthermore, the number of adults ages 85 and over, who often experience greater limitations in physical and cognitive functioning, is projected to grow from 6 million in 2014 to 20 million by 2060 (Federal Interagency Forum on Aging-Related Statistics, 2016).

Second, the US lacks an overall system of long-term care, offering instead an uncoordinated patchwork of community-based programs with differing and often confusing eligibility criteria, costs, and availability. Long-term services and supports (LTSS) are costly for older adults, their families, and society. Indeed, in 2012 (the most recent year with estimates available), spending from all sources on LTSS was nearly $220 billion (National Health Policy Forum, 2014), and could reach more than four times that amount by 2050 (Burman & Johnson, 2007). The Older Americans Act, which distributes federal funds to the states to provide a variety of home- and community-based services including home-delivered meals, congregate meals, senior centers, health promotion programs, transportation, and in-home assistance, is budgeted for a little less than $2 billion to serve approximately 11 million older adults and their families (National Association of Area Agencies on Aging, 2016). This relatively low level of funding restricts the aging network's capacity to provide services and fully meet older adults' needs. For example, Freedman and Spillman (2014) found that almost 60% of community-dwelling older adults with formal assistance report unmet need for care. Such unmet need can have negative consequences for older adults, including having to stay in bed or in the home; going without bathing, toileting, or eating (Allen, Piette, & Mor, 2014); hospitalization (Xu, Covinsky, Stallard, Thomas, & Sands, 2012); and mortality (He et al., 2015).

Third, while family members and other informal caregivers are the largest sources of support for older adults in this country, they are now less able to do so. Family structure and social changes, including lower fertility rates, higher female participation in the workforce, and greater geographic dispersion of families have reduced the availability of family members to help older adults with their daily activities (Spillman & Pezzin, 2000). While in 2013 there were more than fourteen adults of prime caregiving (i.e., ages 45–64) for every person over the age of 85, by 2050 this ratio will drop to less than four to one (Redfoot, Feinberg, & Houser, 2013). Furthermore, questions remain regarding the impact of diverse family structures, including gender and socioeconomic disparities in remarriage following divorce or widowhood, increasing rates of cohabitation, and the reliance of LGBT elders on friends rather than relatives (Roberto & Blieszner, 2015). If these trends continue, older adults may have fewer sources for instrumental assistance, emotional support, and social interaction in the future.

Fourth, the physical and social infrastructure of many cities and towns in the US creates barriers to healthy aging. For example, few communities provide easy access, particularly by foot, to a grocery store, pharmacy, or other services and gathering places, and about 1/3 of older adults live in communities without access to public transportation (Rosenbloom & Herbel, 2009). Many older adults are at risk of being isolated from other residents in their town or city, without access to the social capital that could lead to positive community change, the social support that provides access to needed assistance, and the social interactions that can make life enjoyable (Scharlach & Lehning, 2016). In addition, many places lack opportunities for older adults to remain connected to their community, such as adult learning programs, volunteer activities that utilize their skills and experience, and other enjoyable and meaningful activities.

Finally, while the above-cited reasons reinforce the doom and gloom perspective that has inspired such terms as “silver tsunami” to describe the growing proportion of older adults and thus equating them to a huge wave leaving destruction in its wake, AFCIs are also a response to a growing awareness of the benefits of such demographic change. On average, today’s older adults have higher educational attainment, better overall health, and lower disability rates than previous generations (Federal Interagency Forum on Aging-Related Statistics, 2016). Older adults can serve the community formally by engaging in volunteer activities, such as tutoring in an elementary school, maintaining a community garden, registering people to vote, and working at a food bank, among others. They also make valuable contributions through informal roles. For example, 19% of all of those who provide care to an adult with health or functional limitations are age 65 or older (AARP Public Policy Institute and National Alliance for Caregiving, 2015) and 2.7 million older adults are the primary caretakers of their grandchildren (US Census Bureau, 2014).

The Importance of Place in Later Life

As noted earlier, AFCIs modify the physical and social infrastructure of cities and towns to promote elder health, well-being, and ultimately aging in place, defined as the ability of older adults to “live in their homes or communities as long as possible” (Yen & Anderson, 2012, p. 951). In surveys conducted by AARP and the AdvantAge Initiative, an overwhelming majority (at least 80%) of older adults indicated they would like to remain in their own homes and communities for as long as possible. However, this can be challenging because aging is often accompanied by declines in physical or cognitive functioning. For example, about one-third of Medicare recipients need assistance to perform personal and household care tasks (Federal Interagency Forum on Aging-Related Statistics, 2016), and approximately 80% of older adults have been diagnosed with at least one chronic health condition (Centers for Disease Control and Prevention, 2011). However, there are indicators that the proportion of older adults staying in their own home and community is increasing. For example, the percentage of older Americans living in long-term care facilities has declined since the 1970s, particularly among adults ages 85 and older, 26% of whom lived in a nursing home in the 1970s compared to 14% by the mid-2000s (Hayutin, 2012). As greater numbers of older adults remain in their homes at the same time that existing formal and informal support systems in the US are unable to meet all of their assistance needs, attention has shifted to the environment as a potential source of support.

Community context may be especially salient for outcomes in our later years. Life space tends to constrict with age, particularly among older adults experiencing physical or cognitive limitations (Sartori et al., 2011). Older adults tend to spend more time in their home and surrounding neighborhood, particularly if they no longer work, or have physical limitations that restrict their ability to travel around their community (Burns, Lavoie, & Rose, 2012). In addition, some commentators believe that older adults today have stronger attachment to place than previous cohorts because they are more likely to have lived in their neighborhoods for multiple decades (Scharf, Phillipson, & Kingston, 2003). According to Rowles (1983), this place attachment stems from three sources. First, older adults develop a "physical insideness" (p. 302) which allows them to navigate their environment, even if they are experiencing a disability, because they are so familiar with every physical detail. Second, social integration with community members of all ages creates a sense of "social insideness" (p. 302) that serves as a source of assistance as well as feelings of belonging. Finally, through a sense of "autobiographical insideness" (p. 303), older adults find meaning for their own lives as well as their community's past, present, and future—they may, for example, take on the unofficial role of local historian.

Theoretical foundation for aging-friendly communities. AFCIs not only reflect prior work indicating that the community context becomes increasingly important as people age, but are also theoretically grounded in ecological frameworks, which recognize that the impact of the community context depends on the characteristics of the individual (Aneshensel et al., 2007). Individuals do not simply respond to their environment but interact with their environment.

The Ecological Model of Aging, first articulated by Lawton and Nahemow in 1973, is particularly influential in the field of aging. It proposes that older adults' behaviors and outcomes are a result of the interaction between their "competence" (e.g., physical, cognitive, and psychological functioning) and the environmental press of their surrounding context (Lawton, 1982; Lawton & Nahemow, 1973). Environmental press is comprised of the environmental characteristics that place demands on the individual, and those demands can be objective (e.g., stairs in the home that must be climbed to access a bathroom) or subjective (e.g., perceived expectations of family members) (Lawton, 1982). When demand is too high or too low for an individual's level of competence, they are likely to experience negative outcomes. The model portrays aging as a process that requires "continual adaptation" (Lawton & Nahemow, 1973, p. 619) because individual competence and environmental press are constantly changing. Outcomes such as health and well-being emerge from person–environment interactions, as individuals attempt to match the surrounding environment's demands with their capabilities (Newcomer & Griffin, 2000).

Ideally, the environment presents the highest possible level of demand without creating negative experiences, which Lawton called the "zone of maximum performance potential" (Lawton, 1982). Individuals can also exhibit adaptive behavior and have positive experiences when the environment presents a lower amount of press, called the “zone of maximum comfort” (Lawton, 1982). Therefore, there is a range of environmental press that can lead to positive outcomes, but this range is much narrower for those with less competence. The environmental docility hypothesis (Lawton & Simon, 1968) proposes that there is an inverse relationship between individual competence and the influence of the environment, while the environmental proactivity hypothesis (Lawton, 1985) suggests that older adults with high competence have more influence over their environments and are better able to use the environment’s resources to meet their needs. Taken together, these two hypotheses indicate that “the less competent are controlled by, and the more competent are in control of, the environment” (Lawton, 1998, p. 4).

Empirical foundation for aging-friendly communities. There is a growing body of empirical research on the effects of neighborhood characteristics on health and well-being from a wide range of disciplines (e.g., public health, nursing, social work, planning, sociology, psychology, among others). This literature has informed the development and proliferation of AFCIs.

There is a great deal of evidence linking social features of the community to outcomes experienced by older adults. For example, social integration has been linked to higher overall levels of well-being (Fiori, Smith, & Antonucci, 2007) and increased expectations of aging in place (Tang & Lee, 2011). Participation in social activities (e.g., visiting friends, leisure-time pursuits) contributes to reduced mortality, likely through a combination of social involvement, personal fulfillment, physical and cognitive stimulation, and perceived mastery (Maier & Klumb, 2005). Older adults who participate in paid employment, volunteering, informal social assistance, or community clubs and organizations consistently report better health than those who do not participate in such activities (Hinterlong, 2006). Volunteering also has numerous benefits for older adults’ physical health and well-being, including better self-rated health, increased physical activity, improved functional ability (Barron, Tan, Yu, Song, McGill, & Fried, 2009), and reduced mortality risk (Okun, Yeung, & Brown, 2013).

While there is less research connecting the physical infrastructure of the community to elder health, well-being, and ability to age in place, existing scholarship suggests that making changes to the physical environment is also a promising strategy to support older adults. There is growing evidence that walkable neighborhoods (i.e., characterized by features such as wide sidewalks, traffic calming measures, and easy access to destinations) can promote physical activity, physical functioning, and more optimal health among older adults (Kerr, Rosenberg, & Frank, 2012). In contrast, inadequate transportation reduces older adults’ ability to participate in a variety of aspects of community life (Cvitkovich & Wister, 2001; Marottoli, Mendes de Leon, Glass, Williams, Cooney, & Berkman, 2000; Mezuk & Rebok, 2008). For example, in the U.S., older adults who do not drive make fewer trips for religious, social, or civic activities compared to their driving counterparts (U.S. Government Accountability Office 2004). Prior research has demonstrated the benefits of incorporating accessibility features into housing, including a lower risk of experiencing health problems (Liu & Lapane, 2009), slower decline in IADL independence, improved self-efficacy for informal caregivers (Gitlin, Corcoran, Winter, Boyce, & Hauck, 2001), and a reduction in health care expenses (Stearns, Bernard, Fasick, Schwartz, Konrad, Ory, & DeFriese, 2000). However, only 1% of homes in the United States provide the five universal design features that have been recommended for older adults: (1) a no-step entry, (2) extra-wide doorways, (3) lever-style faucets and handles, (4) accessible switches and controls, and (5) single-floor living (Joint Center for Housing Studies of Harvard University, 2014).

Aging-Friendly Communities and Resilience

Resilience is the ability to overcome and even thrive when experiencing adversity, stress, and trauma (American Psychological Association, 2015; Hildon, Montgomery, Blane, Wiggins, & Netuveli, 2010). Resilience is often conceptualized as finding a balance between one's strengths and vulnerabilities (Eshel et al., 2016; Wiles et al., 2012), rather than as simply being immune from the hardships of life. The idea of resilience in later life has only recently received attention in gerontology. Instead, aging scholars have focused on concepts such as *successful aging*, defined in terms of maintaining physiological and cognitive functioning and preventing declines in health (e.g., Rowe & Kahn, 2000). Harris (2008, p. 43) has argued that "perhaps we have been striving for the wrong goal. The true quest as we age should not be for successful aging, but our goal should be for resilience, an undervalued and not fully examined concept in aging."

Creating more aging-friendly communities is an effort to modify the environmental context to promote *aging well* (Scharlach & Lehning, 2016), a concept more akin to resilience than successful aging because it emphasizes ongoing adaptation to the challenges and opportunities that arise in later life (Ryff, 1989). Accepting and adapting to age-related changes is a critical aspect of aging well. Adaptive processes among older adults differ from younger adults in two ways: (1) physical, cognitive, social, and role changes of later life often require adaptive processes that are less salient at other periods of life, and (2) adaptive processes themselves are likely to change in response to age-related changes in abilities and priorities (Scharlach & Lehning, 2016). Furthermore, aging well not only involves adaptive responses to age-related stressors once they have occurred, but also proactive efforts to reduce the likelihood, intensity, or impact of future stressors (Ouwehand, de Ridder, & Bensing, 2007).

In my previous work with Andrew Scharlach (Scharlach & Lehning, 2016), we proposed an integrated model of aging well involving six interrelated goals: *continuity, compensation, control, connection, contribution*, and *challenge*. These goals can also be understood as supporting resilience in later life. First, *continuity* reflects the need to preserve a positive sense of self and subjective well-being typically by maintaining lifelong interests and activities, even as individuals experience the challenges of normal aging. *Compensation* acknowledges that functional impairments can create disjunctions with the surrounding environment, limiting older adults' ability to meet goals consistent with their needs, desires, or self-construct. Successful adaptation, therefore, requires adequate supports and accommodations to meet the basic health and social needs of individuals with age-related disabilities (Baltes & Baltes, 1990). Third, the ability to *control* one's self and one's environment is considered a primary human motivation and a central theme of human development across the life cycle (Heckhausen & Schulz, 1995). Fourth social *connection* may be particularly important among older adults, contributing to health and well-being in a variety of ways. However, health problems and disabling conditions can restrict mobility and interpersonal communication, making contact more challenging (Weir, Meisner, & Baker, 2010). At the same time, death, illness, and retirement, coupled with ageist and disablist norms, may decrease opportunities for social interaction and increase the risk of social isolation. Fifth, *contribution* to the well-being of others can provide a sense of purpose in later life, particularly following potential role loss after retirement, death of a spouse, or children entering adulthood and leaving the home. Finally, *challenge* is viewed as a key component for continued adaptation and growth. Research indicates that people have a strong preference for tasks that extend or challenge their existing abilities, particularly those with intermediate levels of difficulty rather than those they can easily accomplish (Schulz & Heckhausen, 1996).

Challenges of Aging-Friendly Communities

Despite the promise offered by creating aging-friendly communities, more than a decade after AFCIs first began the number of people involved with and directly affected by these efforts remains relatively small. This section focuses on the potential explanations for why, in light of such enthusiasm, questions remain regarding the potential of AFCIs to promote health, well-being, aging in place, and resilience among older adults.

Limited Evidence of the Effects of Aging-Friendly Communities on Older Adults

While many of the targeted community features to make communities more aging-friendly have some empirical support from the literature, there is little evidence from scholars or initiative leaders documenting the effects of AFCIs on participants. To date, the majority of peer-reviewed publications on aging-friendly communities are primarily descriptive, addressing such questions as: What is an aging-friendly community (Alley et al., 2007)? What characteristics make a community aging-friendly (Emlet & Moceri, 2012)? What are different models of aging-friendly community change (Gonyea & Hudson, 2015; Lui, et al., 2009)? What framework/conceptual models can advance research, policy, and practice on aging-friendly communities (Greenfield, 2012; Menec, Means, Keating, Parkhurst, & Eales, 2011)? What are the potential benefits of aging-friendly communities (Scharlach & Lehning, 2013)? And what are some of the barriers to making communities aging-friendly (Buffel & Phillipson, 2016; Greenfield, Oberlink, Scharlach, Neal, & Stafford, 2015)?. Similarly, published reports produced by AFCIs are often more focused on the process of developing the initiative and determining priorities, rather than documenting individual, family, or community outcomes. Consequently, there is limited evidence regarding the actual effectiveness of current AFCIs, including what does and does not work, on behalf of what goals, and under what conditions.

There are a number of barriers to conducting rigorous evaluations of AFCIs. Many of these efforts are still in the planning stage or early in the implementation of infrastructure change (with some notable exceptions, such as Age-Friendly Portland, Age-Friendly NYC, and the Lifelong Communities Initiative in the Atlanta region), which limits longitudinal studies on the effects of aging-friendly communities over time. The wide variety of changes to the social and physical environment involved in making communities more aging-friendly also presents challenges. Collecting self-report data requires financial and human resources that, as yet, has not been available to researchers through funders such as the National Institutes of Health or to initiatives themselves, which often have limited funding for their interventions much less rigorous evaluation activities. The use of existing data sources is a less costly approach of gathering outcome data. For example, the WHO Age-Friendly indicator system encourages local initiatives to begin to track community changes and outcomes using a variety of sources, such as Census data, voting records, planning documents, and government administrative data (WHO, 2015). However, data reflecting such aging-friendly community characteristics within the WHO domains are quite limited, particularly those tracking social infrastructure. Finally, the combination of local variations to the models and the importance of considering the unique context make it difficult to compare communities.

Creating Community-Wide Change

AFCIs aim to change the existing physical and social infrastructure, a challenging process for a variety of reasons. First, AFCIs need stable sources of support to sustain their initiative—not only money but also human, social, cultural, and political capital. Many AFCIs depend on time-limited funding, such as one-time grants from private foundations or local governments. They are also competing with other needs during a time of major fiscal constraints for local governments. Therefore, many AFCIs are making the case that their work will also have potential beneficial effects that could spill over to other community residents. WHO (2007), for example, noted that an aging-friendly community facilitates the mobility of younger adults with disabilities, encourages physical activity for children, reduces feelings of burden for informal caregivers, and promotes economic development.

Second, AFCIs require long-term collaborations, taking a collective impact approach with “the commitment of a group of important actors from different sectors to a common agenda for solving a specific social problem” (Kania & Kramer, 2011, p. 37). Making communities more aging-friendly is a complex issue in which the problem is not well defined, there is no simple solution, and no single entity has the resources or authority to bring about the necessary changes. AFCIs typically take a pluralistic approach, calling for a mix of government, nonprofit, and for-profit actors to share in the responsibility to increase the community’s aging-friendliness (Lehning, Smith, & Kim, 2017). The collective impact approach emphasizes the importance of the engaged participation of stakeholders from many different sectors, in order to avoid the duplication and fragmentation that typically occurs when organizations work in isolation (Kania & Kramer, 2011). However, multi-sector, multidisciplinary, and multi-organizational collaboration can be difficult to achieve, given the siloed nature of funding, the different training and cultures of different disciplines, and that key collaborators may not view “aging-friendly” as falling under their purview.

Third, the array of potential modifications to the community’s physical and social environment can become overwhelming, particularly larger scale changes that are costly and require political will. One recommendation has been to implement changes incrementally. For example, infrastructure modifications to improve older drivers’ safety can be made alongside regular maintenance work. Another recommendation is to prioritize changes that are relatively low cost, such as adopting a policy that encourages the incorporation of accessibility features (i.e., no-step entry, extra-wide hallways, and doors) in new housing. However, such small-scale changes may not be sufficient to truly achieve the promise of AFCIs to promote positive outcomes in older adults, including fostering resilience in later life.

Limited Diversity and Inclusion

A final critical challenge is that AFCIs tend to target and benefit older adults who are White, wealthy, and healthy, thereby potentially exacerbating inequities (Buffel et al., 2018). AFCIs are limited in the extent to which they are serving older adults from diverse racial and ethnic backgrounds. Between now and 2050, the proportion of the older adult population that is White is projected to decline while the proportion of older adults who are Latino, African American, Asian, and other races and ethnicities will nearly double (Federal Interagency Forum on Aging-Related Statistics, 2016). Without the active participation of all racial and ethnic groups, AFCIs may only be relevant for a smaller and smaller segment of community residents. Cultural expectations and preferences regarding aging will likely affect the methods and targets for aging-friendly community change. For example, previous research has documented differences between African American and White older adults in terms of preferences for informal versus formal sources of care (Bradley et al., 2002), awareness of support services (Calsyn & Winter, 1999), and perceptions of formal service providers (Scharlach et al., 2006). Furthermore, African American and Latino older adults are at a higher risk for poor quality of life in later life, given the persistence of health disparities by race (Schoeni, Martin, Andreski, & Freedman, 2005).

Racial disparities in health and well-being are often due, at least in part, to disparities in education and income (Fuller-Thompson, Nuru-Jeter, Minkler, & Guralnik, 2009), as African American and Latino older adults are more likely to live in poverty than White or Asian older adults (Federal Interagency Forum on Aging-Related Statistics, 2016). Racial and ethnic minorities and individuals with low incomes also may be more likely to live in under-resourced neighborhoods without aging-friendly environments. These neighborhoods often are characterized by problems such as crime, traffic, deteriorating infrastructure, and excessive noise, which in turn may contribute to unhealthy behaviors, such as drinking, smoking, or avoiding outdoor physical activity (Ambrose Gallagher et al., 2010; Echeverria et al., 2008; Hill & Angel, 2005). Such findings indicate a high need for aging-friendly community changes among the same groups of older adults who may be excluded from the development, implementation, and evaluation of such efforts. This exclusion, which may be unintentional, could potentially exacerbate inequities in health and well-being in later life (Scharlach, 2012).

Conclusion

There is great potential for aging-friendly community initiatives to promote resilience in later life. For a number of reasons, AFCIs have been embraced by many researchers, advocates, service providers, and policymakers. First, they are a response to demographic and social changes that have left the U.S. ill-prepared to support older adults' health, well-being, and ability to age in place. Second, they reflect theoretical and empirical scholarship linking the characteristics of place to outcomes in later life. Indeed, there is an indication that place matters more for older adults than those at earlier stages of the life course. Finally, while AFCIs have not been explicitly discussed as a strategy to promote resilience, they have been viewed as a strategy to help older adults age well, a very similar concept related to adapting to the physical, cognitive, mental, social, and economic challenges that may occur during the aging process.

While receiving increasing attention from policymakers and scholars, AFCIs remain a relatively small-scale intervention. The empirical evidence linking AFCIs directly to outcomes among older adults (including resilience) remains limited due to a combination of methodological and practical challenges, including a lack of research funding. In addition, achieving aging-friendly community change requires a significant investment of resources and the active participation of public, non-profit, and for-profit sectors. Existing initiatives' concerns about sustainability indicate that the lack of stable funding and reliance on volunteers (Lehning et al., 2015) could undermine AFCIs' ability to adopt and implement changes that could truly support older adults' health, well-being, and ability to age in place. This raises questions as to whether AFCIs can only thrive in communities that already have the public or private resources to fully support the effort. Indeed, a final challenge is the extent to which initiatives may be prioritizing the needs and wants of affluent and White older adults over those with lower incomes or from diverse racial and ethnic backgrounds.

Aging-friendly communities offer a promising strategy to facilitate resilience in later life by adapting the environmental context to better meet the needs of older adults. Despite the significant barriers to research in this field, scholarship on AFCIs needs to move from describing AFCIs toward examining their effects on organizations, communities, and older adults. In recognition of the limited existing supports in place for a growing number of older adults, stable funding is necessary for AFCIs to support community change and scale up to serve more older adults. Finally, it is critical that AFCIs address inequities in health and well-being so as not to potentially exacerbate them.

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Promoting Resilience in Small-Scale, Homelike Residential Care Settings for Older People with Dementia: Experiences from the Netherlands and the United States

Hilde Verbeek, Rosalie A. Kane, Erik van Rossum and Jan P. H. Hamers

Abstract To support resilience in long-term dementia care, environmental design changes have been proposed that focus on small-scale and home care. This chapter presents examples from two countries: the Netherlands and the United States. It describes various types of small-scale, homelike nursing home settings, including green care farms. Care models and physical environment are explained and recent evidence is presented on effects for residents, family caregivers and nursing staff. It concludes with some general implications for further research, practice and policy development.

Keywords Resilience · Homelike environment · Caregivers · International culture Environment

Supported by a cultural change movement, resilience in long-term dementia care has become increasingly relevant and important. The process of cultural change represents a fundamental shift in thinking about nursing homes (Koren, 2010). Facilities are viewed as person-centered homes, offering long-term care services to residents, instead of traditional medically oriented healthcare institutions. Dementia care environments should promote resident-directed care and quality of life,

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with the care-based relationship between resident and direct care workers emphasized (Foy-White-Chu, et al., 2009). Examples of this cultural change include care settings in a homelike environment focusing on residents' autonomy, opportunity for choice and sustaining a sense of self and control.

Although most people with dementia live at home, long-term institutional care is often inevitable as the disease progresses and is especially likely for those without volunteered family care. Traditionally, institutional long-term care for people with dementia was based on a medical-somatic model of care, emphasizing illness and treatment of underlying pathology. Basic nursing and medical care services were emphasized in a protected setting where the resident would be safe. Traditional nursing homes resemble hospitals, with long double-loaded corridors, a nurses' station, and staff uniforms. Their rules and routines governing daily life permit little individualization. Currently, there is a shift toward strength-based and person-centered care for dementia; care aimed at building on residents' personal strengths and supporting their overall wellbeing (e.g., Foy-White-Chu et al., 2009).

Implementation of person-centered care requires changes in environmental design practices to promote autonomy, privacy, personal identity and socialization (e.g., Calkins, 2001). Guiding principles for these environmental changes can be traced back to Lawton's ecological model of a supportive and stimulating care environment (Lawton & Nahemow, 1973). It was suggested that people with dementia thrive best in small settings that are similar to homes where they lived during their lives rather than in complex organizations that are hotel-like or hospital like, and therefore, hard to navigate (Calkins, 2001).

Together, conceptual and environmental design changes have resulted in the development of new long-term care settings for older people with dementia: small-scale, homelike settings, in which normal daily life is emphasized. These facilities correspond with a common and desirable policy trend in many countries toward making institutional dementia care as homelike as possible and enabling residents as much as control over their lives as possible (Moise, Schwarzinger & Um, 2004). Internationally, various small-scale, homelike dementia care settings have been established (Verbeek et al., 2009). Examples include small-scale living in the Netherlands (te Boekhorst et al., 2009; Verbeek et al., 2009), Green Houses® in the United States (Kane et al., 2007a, b), Shared Housing Arrangements in Germany (Wolf-Ostermann et al., 2012) and group homes in Japan (Funaki, Kaneko & Okamura, 2005).

In this chapter, we discuss types of small-scale, homelike nursing home settings in two countries: the Netherlands and the United States. In the latter, small-house nursing homes are emphasized, some of which are known as Green House® settings. After presenting information about programs, physical environments, staffing, and family involvement, including research results, the chapter concludes with some general implications for further research, practice, and policy development.

Experiences from the Netherlands

The Dutch government has stimulated deinstitutionalization and normalization of long-term dementia care, with a focus on aging-in-place (Van Hoof, 2010). There is a strong decrease in residential care facilities for individuals who can do most activities of daily living (ADL). Institutional long-term care is, however, is often unavoidable as dementia progresses and care needs increase. In the Netherlands, nursing homes are mainly non-profit organizations. Admission is based on a standardized needs assessment alongside residents' family or legal guardian preferences. Nursing homes have separate wards for people requiring rehabilitation, primarily somatic (i.e., physical) diseases and psychogeriatric wards for persons with dementia (Schols et al., 2004). Furthermore, many nursing homes also provide crisis intervention, palliative care and respite care services. Contrary to other countries, nursing homes in the Netherlands employ their own staff, including specially trained physicians (i.e., elderly care physician), physical therapists, psychologists, occupational therapist, speech therapist, dietician, and social workers. This allows for a multidisciplinary approach to long-term care, both for traditional as well as small-scale living facilities (Schols et al., 2004).

Values, such as preserving residents' autonomy, offering a familiar and homelike environment, strengthening residents' autonomy and promoting overall wellbeing hold a prominent place in Dutch long-term care. These values are key in the new Dutch Quality Framework for Nursing Homes (Dutch Health Care Institute, 2017) established by the Dutch government. The central point of departure for all care environments is the focus on the resident as a person, with four themes for quality specified: (1) Person-centered care and approach; (2) Living and wellbeing, (3) Safety and (4) Learning and improving quality. Resilience is operationalized in the first two themes in which it is specified that organization and staff of nursing homes should focus on supporting and encouraging each resident as a unique person, with a life-history, goals and future. Program design should facilitate that residents are known as persons, thereby including the social network (e.g., family, friends, community), as an important partner in the care process and that older persons can continue their lifestyle as before admission. Person-centered care and support exists in relationship with others and the quality of this relationship determines the also the quality of care.

Despite the changes in care philosophy, implementing a person-centered care approach in a homelike environment has proven very difficult in traditional large-scale nursing homes. As a result, several new initiatives have been developed that have made radical alterations to the organizational, physical and social environment of nursing homes (Verbeek et al., 2009). In 2009, the Dutch Government invested approximately $95 million-dollar program to encourage the development of small-scale, homelike care facilities, both in the community as well as in larger institutional settings. Part of the budget was invested in smart house technology to support care service delivery. The government's goal was to provide about one-third of all nursing home care for persons with dementia in small-scale, homelike care facilities.

Small-Scale Living: Concept and Design

Small-scale living facilities promote domesticity, familiarity, sense of belonging, trust and normality. These values should be equally reflected in both the physical environment and care giving philosophy. Residents are offered opportunities to perform tasks for themselves (increasing autonomy) and have as much control over their own lives as possible (increasing empowerment) (Van Audenhove et al., 2003).

Although the development of small-scale living facilities has rapidly increased, there is no consensus on its precise definition. Te Boekhorst and colleagues (2007) identified six clusters that reflect the essential elements of small-scale living facilities: (1) A home for life principle; (2) Normalization of daily life: activities are centered within household daily life, with meals being prepared by nursing staff and residents themselves; (3) Residents have autonomy and opportunity to choose; (4) Nursing staff are considered members of the household; (5) Residents form a group together: the social environment resembles a family; and (6) Small-scale living is situated in an archetypical house. The emphasis in all clusters is to provide opportunity for residents and their family to sustain a sense of self, preserve one's identity and exert control over daily life. Normalization of daily life, engaging in meaningful activities and including nursing staff as members of the household all contribute to resilience of the residents. In everyday practice, daily routine in small-scale settings is mainly determined by household chores, in which residents are encouraged to participate.

Recently, Green Care Farms have emerged as a new type of small-scale living facility, providing 24-h care as alternative to traditional nursing homes (de Boer et al., 2015). Originated outside the healthcare sector, Green Care Farms combine agricultural with care activities and aim to promote involvement of residents in activities such as gardening, taking care of animals, household chores and other types of activities that are incorporated into normal daily life (Hassink et al., 2013). In the Netherlands, there are over a 1000 Green Care Farms serving diverse client groups (e.g., people with learning disabilities, psychiatric disorders or addiction problems). Around 200 farms provide care specifically for persons with dementia, although the vast majority only provides day care services. The number of Green Care Farms providing 24-h care for persons with dementia is increasing rapidly. The physical environment of Green Care Farms support residents to go outside freely to enjoy and be exposed to outdoor stimuli (e.g., daylight, animals). Furthermore, Green Care Farms provide a natural environment for many indoor and outdoor activities, such as preparing dinner, playing games, picking eggs, gardening, and feeding the animals (de Bruin et al., 2017).

Residents of Small-Scale Facilities

Several studies conducted in the Netherlands have investigated the effects of small-scale living facilities on resilience-related outcomes for residents. Study findings are mixed. Overall, effects on quality of life have not been demonstrated (e.g., de Rooij et al., 2012; Kok et al., 2017; Verbeek et al., 2010). Following residents with similar cognitive and functional status over time, living in either small-scale living facilities or traditional large-scale nursing homes showed that, in general, neuropsychiatric symptoms and quality of life scores were similar between groups (e.g., de Rooij et al., 2012; Kok et al., 2018; Verbeek et al., 2010). On subdomains of behavior and quality of life, some studies have found differences between groups, although no clear direction is visible. For example, one study found that residents in small-scale living facilities showed less symptoms of anxiety (Kok et al., 2018), while another study found residents had more symptoms of negative affect (Verbeek et al., 2010) and more physically non-aggressive behavior than residents in traditional settings (Verbeek et al., 2014). Initial results from a comparative study suggest that green care farms residents with dementia experienced an overall higher quality of life in comparison with residents living in traditional wards, in particularly on domains of positive affect, social relations and participation in activities (de Boer et al., 2017a, b).

Studies have shown better resilience-related outcomes for residents in small-scale living facilities with respect to involvement in meaningful activity, social engagement and use of physical restraints. Residents in small-scale living facilities were consistently more socially engaged (de Boer et al., 2017b; de Rooij et al., 2012; Verbeek et al., 2014) and engaged in more meaningful activities (de Boer et al., 2017b; te Boekhorst et al., 2009) compared to residents in traditional facilities. Activities that had the greatest potential to enhance wellbeing in residents were related to leisure (e.g., reading or knitting), reminiscence, expression (e.g., arts) and vocational activities that were task-related (Smit et al., 2014). Characteristics of small-scale living facilities such as having a homelike atmosphere and supporting social interaction through the environment were associated with engaging residents in meaningful occupation, thereby promoting resilience. Furthermore, less physical restraints were used in small-scale living facilities (te Boekhorst et al., 2009; Verbeek et al., 2014) compared with regular facilities.

Family Caregivers

In small-scale living, family caregivers are a part of the household. They can visit at any time, help with daily activities and household chores, join residents for dinner, and are actively involved with all residents. Research on the experiences of family caregivers with small-scale living facilities indicated that family caregivers were significantly more satisfied with care provision in small-scale living facilities compared with traditional wards (de Rooij et al., 2012; Verbeek et al., 2012). Caregivers felt the needs, wishes, and beliefs of their family members were very well respected, and residents were encouraged to live their lives as they were accustomed. Staff members were very involved with both residents and family members. This personal attention and compassion was highly appreciated. Additionally, family caregivers appreciated the residents' high involvement in everyday life and that they were not left to the strict routines of the nursing home. The organizational climate, with nursing staff having integrated tasks was crucial in this process (Verbeek et al., 2012). Family caregivers positively valued physical characteristics of living rooms, kitchens, and the residents' private rooms and the opportunity for residents to bring their own furniture and other personal belongings into the house. Family caregivers also expressed that small-scale living facilities provided freedom in everyday life, with open spaces that were easily accessible, and residents could retire in their own bedroom. Furthermore, activities increased a homelike feeling, especially preparing meals as a domestic activity, with residents having a choice to participate. This increased residents' autonomy, giving them control over daily life activities.

However, other than satisfaction, there is no consistent evidence for the positive effects of small-scale living facilities for family caregivers. In some studies of small-scale living facilities, family caregivers reported less perceived caregiver burden (Verbeek et al., 2010) whereas other studies reported family caregivers had higher psychological distress (Smit et al., 2011; te Boekhorst et al., 2008a, b). No effects were found on visiting frequency and involvement with care (Verbeek et al., 2010).

Nursing Staff's Perspective

The role and tasks of nursing staff working in small-scale living facilities are different in comparison with staff employed in traditional nursing homes. Overall, staff working in small-scale living facilities are part of the household and have integrated tasks, including providing personal and medical care, organizing activities, and daily household chores (Kane et al., 2007a, b; te Boekhorst et al., 2007). The organizational climate has changed in small-scale living facilities, and daily nursing activities are characterized as working independently and in an all-round position, whereas nursing staff in traditional wards collaborate with each other and have differentiated tasks. Autonomy and social skills specifically were regarded as important by nursing staff working in small-scale living facilities in comparison with traditional nursing homes (Adams et al., 2017).

Studies have consistently showed that working in small-scale living facilities influences resilience-related outcomes for nursing staff including autonomy, perceived social support and workload. Nursing staff in small-scale living facilities perceived significantly more autonomy, social support and less workload in comparison with staff working in traditional nursing homes (te Boekhorst et al., 2008a, b; Willemse et al., 2014; Zwakhalen et al., 2018). Results on burn-out symptoms, job satisfaction, and motivation are mixed; some authors reported beneficial effects (e.g., te Boekhorst et al., 2008a, b) while others found no differences between groups (Verbeek et al., 2010) or only beneficial effects for a subgroup of staff (Adams et al., 2017), working in most typical small-scale living facilities.

Experiences from the United States

With the enactment of Medicare and Medicaid in 1965, nursing homes expanded rapidly and became the dominant modality for publicly funded long-term care in the United States. Nursing homes are licensed by the states in which they are located and certified to receive federal payments. They are expected to provide a broad range of services to a wide range of residents, including rehabilitation, end-of-life care, and ongoing long-term services for people with physical disabilities, cognitive impairment, or both. Nursing homes have been criticized for the poor quality of care and quality of life, which can be summarized by the term "bed and body work," introduced by Gubrium (1975) to describe the task-oriented focus of the direct care workers. Three trends have influenced Alzheimer's care in nursing homes in the United States.

Dementia Special Care Units. Beginning in the 1970s, traditional nursing homes began to establish dementia special care units (SCUs). These units were ideally characterized as a defined section of the nursing home that is secure and locked, has a physical design suited to persons with dementia, has staff specially trained in dementia care, has specific programs designed for people with dementia, and has defined admission and discharge criteria (Lawton, 2001). In practice, by the mid-1990s, almost 25% of nursing homes had one or more dementia SCUs. These SCUs varied enormously in their goals, target populations and programs; they also differed in the extent to which the special training and programming occurred (see Maslow & Ory, 2001). Most were not small, but rather housed approximately 40 people, compared to other units.

Residential Care and Assisted Living. The second trend in dementia care was that individuals with dementia began to utilize alternative residential programs rather than licensed nursing homes. Persons with dementia particularly seemed to thrive in small group settings such as family care homes, or adult foster homes (Kane et al., 1991), perhaps because the settings were so similar to familiar living situations, were small, and easily negotiated because of size. Residential care settings, freed of the regulatory constraints associated with nursing homes, have also developed dementia SCUs or dementia-specific settings that are organized into small living units in pods or small connected buildings. Apartment-style assisted living settings emerged in the late 1980s and expanded rapidly. Many were driven by an idea of providing older people who needed nursing home level of care with living quarters and a program of services that emphasized individuality, choice, dignity, privacy, and normal lifestyle (Wilson, 2007).

Assisted living for old people has been vigorously critiqued. First, depending on state regulations and the preferences operators, residents may be discharged to nursing homes when their acuity reaches some specified level (Mead et al. 2005). The smallest assisted living settings, including those licensed as adult foster homes in some states, are often in private home settings. Although these settings may be better able to retain residents when their health or cognitive conditions deteriorate, paradoxically, they may also have more rules governing the daily lives of residents (Eckert et al., 2009). Second, although assisted living settings have often managed to provide typical community living conditions, they rarely provide the organized healthcare services needed by many older people (Kane & Mach, 2007). Third, assisted living settings that live up to the conceptual ideas of privacy, individualization, and function-enhancing amenities tend to exclude most low-income people and reject subsidization by the Medicaid program (Hernandez & Newcomer, 2007).

Most state governments have moved toward reducing their dependence on institutions for all populations needing long-term supportive services. There has been some critique, however, that residential care settings in the community can easily take on the qualities of institutions. Five criteria were found that could render a setting less institutional and more community-oriented, namely: (1) smaller scale; (2) more residential physical features; (3) more control, choice, and individualization for residents; (4) more ability for residents to integrate with the larger community outside the setting, particularly on an individualized basis; and (5) control over when and whether the person leaves the setting to go elsewhere, including to a more intensive care setting (Kane & Cutler, 2009).

Culture Change Movement. A third influence on the development of small-scale nursing homes is broadly known as the culture change movement (Weiner & Ronch, 2003). In general, the culture change movement is directed towards improving everyday life in nursing homes in such a way that residents experience more individualized care and have a better quality of life. Culture change is initiated through changes in architectural design to create more homelike normal environments and promote better functioning. It includes changes in staff training and hierarchical roles based on the belief that frontline staff with greater power can offer improved flexibility to residents. Culture change also requires changes in programs and policies to minimize routines. The environmental elements of culture change often have involved creating households of 8 to 10 people and structuring neighborhoods (i.e., clusters of households). Residential kitchens and laundry areas may also be made available to residents. The majority of care facilities for older adults in the U.S. report to have adopted culture change practices, at least to some extent (Miller et al., 2016). More comprehensive prescribing cultural change models, such as *Planetree* (www.planetree.org) and the *Eden Alternative* (Thomas, 2003), expect a full transformation in care practice with the actualization of all components, such as resident directions, and implementation of quality improvement processes (Miller et al., 2016).

Small-Scale Living in Nursing Homes in the United States

In the remainder of this section, we discuss just one type of small-scale nursing home developed in the United States, the small-house nursing home, and its trademarked prototype, the Green House® setting. It is the most dramatic manifestation of small-scale nursing home living in the U.S. Entirely separate buildings are used for each house, although several small houses can be linked administratively and hold a single nursing home license. Green Houses have evolved from the *Eden Alternative,* as a complete transformation and deinstitutionalization was necessary (Rabig et al., 2006). With a few exceptions, implementation to date has not been specific to dementia care but many people with dementia have been served in the Green Houses and small-house nursing homes.

The Green House®: Concept and Environment

The Green House model, now a trademarked name, is a prescriptive model of residential or rehabilitative care, licensed by THE GREEN HOUSE Project® (thegreenhouseproject.org). Essential elements of Green Houses relate to core values of a real home, meaningful life, and empowered staff (Zimmerman et al., 2016). A Green House is a self-contained small house that is licensed as a nursing home or part of a nursing home and that serves no more than 10 nursing home residents. *Self-contained* means that the Green House is not linked to any larger facility but are free standing with its own mechanical engineering systems, its own doors to the outside, and its own core staff. Most Green Houses are situated in clusters of two or three, sited on a campus with a larger traditional nursing home (Bowers & Nolet, 2014). The physical environment includes a large family-style kitchen and dining area, and a living room with a fireplace (called the hearth). Meals are prepared in that kitchen, which is open to residents, and consumed in the dining area at a large family-style table. Each resident has a private room and en-suite bathroom with a shower. In an initial slogan, the physical setting was to be "warm, smart, and green." The latter referred to vegetation and growth, and "smart" referred to the plan that a variety of technologists would be employed to enhance care, functioning and overall quality of life for the elders (the term for residents). A mantra for the building was that nothing should be found in the Green House that would not be found in a private home.

The Green House model transformed care arrangements as well as environmental plans. The model emphasized on quality of life, individualization of care, and integration with the community. The core staff members of each Green House were the CNAs, who received additional training and had markedly expanded roles. Besides fulfilling all the ordinary responsibilities for personal care to meet ADL, IADL, and cognitive needs and assisting nurses with routine nursing care, they were charged with developing menus, preparing meals, serving meals, performing light housekeeping, and doing the residents' personal laundry (Rabig et al., 2006). They also were deemed resident *development specialists* who would know each elder well, implementing plans to meet individual resident needs and fulfilling personal preferences.

In the Green House, this new type of personnel was called a Shahbaz (plural Shahbazim), a term suggested to remove all historical baggage associated with the designation "nurse's aide". The Shahbazim were responsible for the life of the house. All professional staff required by law in nursing homes (e.g., nurses and director of nursing, medical director, activities director, social work director, dietician, therapists) were considered members of a clinical support team who visited residents in the houses to provide direct care and support to Shahbazim. In clinical areas where they had a legal responsibility (especially nursing), the clinical support team members provided direction and oversight to Shahbazim and otherwise acted as resource persons for the frontline staff. Frontline staff were constituted as self-directed work teams and were responsible for their own scheduling and problem-solving (Rabig, 2009). Rotating roles were assigned through the team, including house coordinator, coordinator for food, coordinator for housekeeping, scheduling coordinator, and later, quality of life coordinator. The Shahbazim did not report to nursing staff but to an administrator, known as a guide.

A systematic review examining the elements of the Green House model found support for elements related to privacy, outdoor access, residential-style kitchens, and dining and person-centered schedules of care (Zimmerman & Cohen, 2010). In other areas, evidence was mixed, for example, size of the Green House and the clinical staffing model. A study on work processes found that Shahbazim spent more time providing direct care and engaging with residents, therefore increasing resilience in residents living in Green Houses compared with traditional care (Sharkey et al., 2011). Within the nursing community, concerns were raised with the Green House vision of empowered frontline staff without nursing supervision may lead to a weakening of professional nursing oversight, threatening clinical care quality (Zimmerman & Cohen, 2010). A study by Bowers and Nolet (2014) revealed significant differences across Green House sites in how nurses and Shahbazim understood their roles. They identified four nursing care implementation models: Traditional, Parallel, Integrated and Visitor. Most promising models for increasing resilience were the Integrated and Parallel model, in terms of quality of work, communication, collaboration, and care processes, although balancing workloads remained a challenge for nurses (Bowers & Nolet, 2014).

Implementation and Evaluation

The first Green House was a 140-bed traditional nursing home within a multilevel retirement community. Evaluation of this program showed that Green House residents reported significantly higher satisfaction with the facility and scored better on several dimensions of self-reported quality of life and emotional well-being scores in comparison with traditional nursing homes (Kane et al., 2007a, b). Family and staff also benefit from involvement with the Green House. For example, family caregivers maintained greater involvement with their relatives in the Green Houses and were more satisfied with their relatives' care than families with relatives in other living facilities (Lum et al., 2008). A more recent evaluation of different population residents in Green Houses found more social engagement for residents living in Green Houses but also an increase in depressive symptoms over an 18-month period (Yoon et al., 2015). No differences regarding functional status were found (Yoon et al., 2016).

As of May 2015, 174 Green Houses were in operation, of which 80% provided long-term nursing care (Zimmerman et al., 2016). By 2017, 211 Green Houses were established in 30 states and the number is expected to grow to 300 by the end of 2018 (Baker, 2017). A large-scale, independent evaluation of Green Houses was conducted by the THRIVE Research Collaborative (THRIVE: The Research Initiative Valuing Eldercare), of which results are described in a special issue of *Health Services Research, Vol 51 (S1)* in February 2016. A synthesis of the findings (Zimmerman et al., 2016) showed that implementation of model elements varied in Green Houses (Bowers et al., 2016). For example, there was great variation in supporting residents' choice and decision-making, with Green Houses more likely to control of wake up and go to bedtime routines. In general, compared with other nursing homes, direct care staff in Green Houses were more familiar with residents (Bowers et al., 2016), increasing the opportunity to support resilience. The Green House environment created significant opportunities to identify, communicate, and respond to residents' needs. Results indicated that communication and collaboration appeared important to achieve better outcomes for residents (Bowers et al., 2016). The Green House environment appeared to support staff longevity and did not affect stress, satisfaction or safety perceptions in a negative way (Brown et al., 2016). There is also evidence suggesting that the Green House model improved indicators of quality of care, with fewer re-admissions to hospital care, catheterized residents. and bedfast residents (Afendulis et al., 2016).

Conclusion and Implications

This chapter illustrated characteristics and effects of small-scale, homelike dementia care settings in the Netherlands and the United States, both examples from a cultural change movement in long-term care. The core values of various new models bear a strong resemblance to each other, emphasizing normalization of daily life, residents' autonomy and choices, individuality in service provision and empowerment of frontline staff. Upholding these values provide opportunities to promote and enhance resilience.

Differences in implementation of small-scale living exist between both countries. This may be partially related to disparities in the organization of health care services in general, and dementia care specifically. Additionally, some differences exist with respect to residents and staff. In the Netherlands, the development of small-scale living is mainly focused on people with dementia, although settings for other groups, such as people with traumatic brain injury or physical disabilities, have been created. Developments in the United States have created settings for frail people in general. Staffing levels may vary between both countries, although the core values of all-round nursing staff—providing personalized care—are similar. These developments have resulted in challenges for clinical practice and future research.

Clinical Implications

There are several clinical implications for promoting positive growth and resilience in small-scale living. Small-scale, homelike care settings have shown "proof of concept"; they are operating successfully, they are liked by residents and their families, and tend to have waiting lists. Extraordinary skill development and empowerment has been observed among the CNAs and other nursing staff who work in these settings. Training of all personnel is essential to implement and sustain the model. Obviously, the new care assistant (also referred to as the Shahbaz in the Green Houses) requires front-end training in a wide variety of topics, including culinary skills, managing kitchens laundries, housekeeping to conform to infection control standards, and team building skills. Skills for effective communication with teammates, other nursing home personnel, families, and the general public are also crucial. Creativity, flexibility and independence are important qualities for nursing staff in fulfilling these tasks. With reference to dementia care, frontline staff members need training in communication and problem-solving approaches. Furthermore, leadership roles of managers is crucial for the implementation of vision into everyday care practice.

Activities directors and occupational therapists are required to reinvent themselves and their programs because many of the large-group programs of conventional nursing homes were no longer viable. Furthermore, although the small-house settings themselves permit a more normal rhythm of daily activity for each resident, activities personnel need to help frontline staff determine ways to take advantage opportunities afforded by the physical settings, small community, and relaxed routines. New avenues for cooperation and negotiation of roles need to be sought in the future. Creative approaches to activities that build on the preferences and biographies of the residents, particularly those with dementia, are especially needed. Although the natural rhythms of the house, including cooking, provide a focus of interest, some residents with dementia seem not to have enough to do, and frontline care providers need suggestions for how they can trigger meaningful solo activities or interactions among residents who have more difficulty initiating activities because of cognitive impairment.

To promote and support resilience of older persons living in long-term care, the preferences and remaining capacities of people should be taken as a starting point.

Furthermore, small-scale, homelike care models should ensure that the care environment includes stimulating elements in daily care. Finally, management should have courage and vision to implement a radically different care philosophy (de Bruin et al., 2017).

Future Research

The small-house and small-scale living models are now operational and have proven their feasibility. Their development has encouraged changes in regular institutional nursing care as well as the development of new initiatives. Although experiences with the models are very positive, effects on outcomes for residents, family caregivers and staff have not yet consistently been demonstrated. An international review of the literature of small-scale, homelike care facilities concludes that the evidence is limited for effects on residents, family caregivers and nursing staff (Ausserhofer et al., 2016). Future research—both quantitative and qualitative—is necessary to:

1. Comparative effectiveness research is necessary that builds on a clear theoretical framework and/or logic model. The working mechanisms of small-scale, homelike care environments and how they exert an effect should be studied. Research is needed into which components in the physical, social or organizational environment should be altered and which are most effective in supporting residents, family caregivers and nursing staff.
2. A cost-evaluation, including research into the construction and operational costs of small-house nursing homes under differing assumptions of spaciousness, amenity level, and staffing.
3. Examination of palliative care provision in small-scale, homelike care facilities.

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Interdisciplinary Geriatric Mental Health Resilience Interventions

Donna Cohen and Andrew Krajewski

Abstract Surviving and prevailing during adult development and aging is a function of many biopsychosocial factors, one of the most significant of which may be resilience. Resilience is a concept generally framed as an "alluring and deceptively simple yet complex construct that is riddled with complexities, contradictions, and ambiguities" (Kaplan, 2005; Smith & Hayslip, 2012). The American Psychological Association (APA) defines resilience as "the process of adapting well in the face of adversity, trauma, and tragedy, threats, or significant stress," or "bouncing back" from difficult experiences (American Psychological Association, 2004). The underlying assumption of the APA definition is that resilience is an active process of increasing functional effectiveness and positive adaptation in the context of substantial risks associated with adverse circumstances, and it can be used to characterize the hardiness of individuals, families, as well as social systems and communities.

Keywords Interdisciplinary care · Mental health · Resilience · Geriatric assessment · Behavioral health

Surviving and prevailing during adult development and aging is a function of many biopsychosocial factors, one of the most significant of which may be resilience. Resilience is a concept generally framed as an "alluring and deceptively simple yet complex construct that is riddled with complexities, contradictions, and ambiguities" (Kaplan, 2005; Smith & Hayslip, 2012). The American Psychological Association (APA) defines resilience as "the process of adapting well in the face of

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adversity, trauma, and tragedy, threats, or significant stress," or "bouncing back" from difficult experiences (American Psychological Association, 2004). The underlying assumption of the APA definition is that resilience is an active process of increasing functional effectiveness and positive adaptation in the context of substantial risks associated with adverse circumstances, and it can be used to characterize the hardiness of individuals, families, as well as social systems and communities.

Hence, the challenge of resilience research is to operationalize definitions, develop measures, characterize the relationships of multiple interacting dimensions, and design and test interventions in different populations. Although there are many definitions of resilience, numerous theoretical models, and methodological challenges, there is a general consensus about two key issues in most definitions and models. First, exposure to risks or adverse incidents and experiences are essential to identify a resilient outcome because abilities to respond adaptively can only be observed when individuals and family/social groups are challenged. Second, resilient outcomes include positive adaptation as well as improved behavioral and physical symptoms in individuals and adaptive psychosocial responses such as social cohesion, quality of life, and quality of life in family, social, or community systems.

Most resilience investigations have been conducted with active military and veteran populations, vulnerable children and adolescents, and adult populations. Understanding how to enhance resilience in older people, including those who are age 85 and older, has been a neglected area, but a small literature is developing (Smith & Hollinger-Smith, 2015), largely driven by the positive psychology movement and an increasing emphasis on optimal or successful aging (Areán & Huh, 2006; Baltes & Baltes, 1990; Jeste et al., 2013; Rowe & Kahn, 1997; Schulz & Heckhausen, 1996). Older adults have the ability to attain high levels of resilience regardless of sociocultural–economic background, changing health and functional status, and adverse personal circumstances. However, the mechanisms are not understood, and the scant intervention research studies have shown a limited but promising success. There are a number of clinical treatment studies of individual resilience applications with older populations, including strength-based therapies and counseling (Areán & Huh, 2006), grief and bereavement interventions (Bonanno, Westphal, & Mancini, 2012), as well as the treatment and prevention of adverse effects of traumatic events (Kaplan, 2005). However, interdisciplinary interventions to impact resilience have remained neglected areas of research and practice. Indeed, the latest books devoted to resilience and aging do not discuss interdisciplinary interventions but only reference the importance of these approaches to guide programs and policies for improving outcomes in at-risk older adults (Hayslip & Smith, 2012; Lavretsky, 2014).

This chapter emphasizes the importance of developing interdisciplinary resilience interventions because resilience is multidimensional with biopsychosocial and environmental components, a conclusion accepted by most researchers and clinicians (Resnick & Inguito, 2011; Smith & Hayslip, 2012). There is also consensus that resiliency results from a multiplicative process of complex person–

environmental interactions (Smith & Hayslip, 2012). Successful interventions must be multidisciplinary for optimal outcomes in older adults who frequently have multiple comorbidities, frailty and functional impairments, limited reserve capacities, and vulnerabilities from psychosocial stressors. In the following section, we describe the origin of interdisciplinary interventions for resiliency in the development of geriatric assessment and treatment programs. Next, we review interdisciplinary programs targeting behavioral health to improve resilience in community and primary care populations and present an existing resilience training program designed for military personnel that has the potential to be effective for older adults. We conclude the chapter with recommendations for research priorities for future research and clinical programs.

Comprehensive Geriatric Assessment Programs

Interdisciplinary resilience interventions have their roots in the structure and processes of comprehensive geriatric assessment (CGA) programs. Comprehensive geriatric assessment protocols can be implemented across the spectrum of care including inpatient sites and outpatient clinics, nursing home and long-term care locations, and community-based home care settings—to evaluate, treat, and/or manage older persons who frequently have comorbidities and psychosocial challenges (Ward & Reuben, 2013; Wieland, 2003). Objectives of CGA protocols are to evaluate individuals for presenting symptoms and problems as well as their clinical significance, subjective experience of illness, overall level of functioning including strengths and deficits, family and psychosocial supports, and barriers to care. Assessment relies on an evaluation of the individual from multiple perspectives using an interdisciplinary team to collect the information to develop and coordinate an effective care plan (Gallo, Fulmer, Paveza, & Reichel, 2006; Osterweil, Brummel-Smith, & Beck, 2000). CGAs are intended to be the pathway for accurate diagnosis and care plans leading to effective health promotion and risk prevention strategies with a subsequent improvement in functioning and better quality of life. However, resilience has never been identified as a measured dimension of CGAs.

The CGA movement originated in Great Britain in the 1930s and was fully integrated into the British system by the 1970s when these programs were only being implemented in the United States (U.S.) and other countries for the first time (Osterweil et al., 2000). The outcome of an important study of the effectiveness of a CGA unit in a Veterans Medical Center (Rubenstein, 1981) led to the establishment of these programs in 75% of VA medical centers by the mid-1990s (Wieland et al., 1994). However, the costs and nature of health care funding and geriatric manpower needs have limited their use in the U.S., including the VA (Rubenstein, 1981). CGAs usually exist only in academic medical centers with specialized geriatric programs, and they are almost nonexistent in managed care (Wieland, 2003).

The overall results of a substantial literature have shown the effectiveness of CGAs where the emphasis is on decreasing excess disability and maximizing functional effectiveness through health promotion and risk prevention strategies in addition to appropriate medical and psychiatric care (Ward & Reuben, 2013). In the short term, this collaborative evaluation identifies underlying acute and chronic conditions and circumstances that undermine patient adaptation (e.g., an older person with unrecognized clinical depression who has become less able to manage diet and medication and/or personal care; an older person who may be the victim of elder abuse or neglect). In the long term, interventions prevent unnecessary admissions to the emergency room or hospital for those at high risk for a cascading deterioration.

A core team of geriatric professionals, including a physician, nurse practitioner, social worker, and mental health specialist, one of whom is the coordinator, is essential to evaluate individuals (Ward & Reuben, 2013). A wide range of specialists may be needed, including audiology, speech pathology, psychology and neuropsychology, dentistry, nutrition, occupational and/or physical therapy, optometry, pharmacy, and podiatry. The services of other medical specialists may also be requested, including psychiatry, neurology, ophthalmology, orthopedics, psychiatry, surgery, urology, and others. Clergy, pastoral counselors, elder law attorneys, and financial planners may also be brought in for consultation.

Wieland (2003) conducted a comprehensive literature review to examine the impact of CGAs on outcomes compared to older persons in primary care settings and preventative home care programs. Although the overall results suggest that CGAs can be effective without being too costly, the results were not uniform. Variability in patient outcomes was highly dependent on program structure and processes, including the types of professionals involved in the interdisciplinary team, the components of the assessment and treatment protocols, treatment setting, and demographic characteristics of patient populations. The most effective programs targeting frail older patients had an interdisciplinary team that took control of clinical care needs, medical and nonmedical, and followed patients for the long term.

Van Craen and colleagues (2010) conducted a systematic literature review and meta-analysis of thirteen studies of Geriatric Evaluation and Management Units (GEMUs), hospital wards that admit frail older patients for interdisciplinary evaluation and care, to evaluate their effectiveness. All studies selected used a prospective controlled design, enrolled patients 65 years and older who had been hospitalized on a GEMU for at least 2 days, measured at least one of the following outcomes (mortality, institutionalization, functional decline, readmission, or length of stay), and were published in English, French, or Dutch. GEMUs had a significant impact on improving personal care skills, decreasing the length of stay, and reducing hospital readmissions but did not reduce mortality rates. GEMUs did not lower the rate of institutionalization in long-term care facilities in the short term, i.e., 3 and 6 months after discharge, but there was a significant reduction after twelve months (Van Craen et al., 2010).

CGAs remain the most widely researched model of coordinated multidisciplinary health care for older persons (Briggs et al., 2017; Ellis, Whitehead, O'Neill, Langhorne, & Robinson, 2011), and most results continue to show positive outcomes with contained costs relative to usual standards of care. Their overall success has established the basis for continued research to determine the impact of interdisciplinary interventions to create and maintain resilient outcomes. However, they are still only largely available in areas where the health care system has experienced geriatric professionals and resources.

Interdisciplinary Behavioral Health Interventions for Depression

Clinical depression is a serious threat to an older adult's health, well-being, and ability to thrive because of its prevalence in a variety of settings and its negative effects on resiliency. Although a range of factors are associated with emotional distress, depressive symptoms, depressive disorders, and suicidality in later life, the presence of depression and suicidality has a significant impact on the abilities of older adults to be resilient in the face of many late-life stressors, including illness, pain, financial insecurity and hardship, widowhood, social isolation, and loneliness. Thus, depressive symptoms and disorders undermine the functional effectiveness, vitality, and quality of life of older persons around the world leading to deteriorating health, misery, early mortality, and increased risk for suicidal ideation and suicide (Andreescu et al., 2008; Blazer, 2003).

The precise prevalence of depressive disorders is unknown for many reasons, including lack of recognition and non-diagnosis, misdiagnosis, and lack of treatment or inadequate treatment (Blazer, 2003). However, a body of studies suggest that between 30 and 50% of older people have depressive symptoms, 1–4% have depressive disorders, and about 25% have suicidal ideation (Blazer, 2003). These figures may be higher since little is known about the prevalence of depression in older racial and ethnic populations who frequently do not seek help for mental health problems or encounter issues of lack of availability and accessibility of services (Akincigil et al., 2012; Smith, 2009).

Depression is common in older adults seen in primary care settings but rarely detected and treated appropriately, and referrals are seldom made to mental health professionals. There are only a few collaborative care models to treat depression in older adults by linking primary care with specialty behavioral health care (Cartier, 2013; Gilbody, Bower, Fletcher, Richards, & Sutton, 2006; Thota et al., 2012). They have indicated limited evidence of improved resiliency, including reduced severity of symptoms, higher satisfaction with care, and lower mortality rates compared to older persons not linked to specialty care. These models include the IMPACT (Improving Mood/Promoting Access to Collaborative Treatment) study (Hunkeler et al., 2006; Unützer et al., 2002), the PROSPECT (Prevention of Suicide in Primary Care Elderly) study (Bruce & Pearson, 1999), the PRISM-E (Primary Care Research in Substance Abuse and Mental Health for the Elderly) study (Oslin et al., 2006), Project ADAPT (Assuring Depression Assessment and Proactive

Treatment; Luptak, Kaas, Artz, & McCarthy, 2008), the BRIGHTEN program (Bridging Resources of an Interdisciplinary Geriatric Health team via Electronic Networking; Emery, Lapidos, Eisenstein, Ivan, & Golden, 2012), and TIDES (Translating Initiatives for Depression into Effective Solutions; Machado & Tomlinson, 2011).

The IMPACT Study. The IMPACT model, which was grant funded, consisted of geriatric depression specialists (GDSs), usually psychologists or nurses, who collaborated with primary care physicians and nurses at clinic sites (Hunkeler et al., 2006; Unützer et al., 2002). The GDSs provided depression counseling and patient education as well as regular monitoring of medication effects and side effects. The IMPACT program significantly improved depressive symptoms, patient satisfaction, and clinical outcomes for 2 years following treatment, but unfortunately only one of the eight programs continued the GDSs after the grant concluded.

The PROSPECT Study. The PROSPECT model was a 2-year grant-funded project designed to reduce suicide in older adults by identifying and treating depression (Bruce & Pearson, 1999). PROSPECT relied on the expertise of depression care managers who were psychologists or psychiatric nurses working in primary care settings. Managers evaluated older patients using a comprehensive treatment algorithm that provided physicians with treatment recommendations, (e.g., drug dosages, psychotherapy; Alexopoulos et al., 2009; Bruce & Pearson, 1999). The use of depression care managers significantly increased the rates of older depressed persons who were identified and treated, increased remission rates quickly, and decreased levels of suicidal ideation over a 2-year period in patients with major depression or minor depression with suicidal ideation.

The PRISM-E Study. The PRISM-E study compared integrated models of care with enhanced referral models focused on treating substance abuse and improving mental health (Oslin et al., 2006). Integrated models of care were defined as programs that had substance abuse/mental health specialists in the same location as the primary physicians. Enhanced referral models of care were defined as programs that referred patients to a separate specialty clinic and provided case management in addition to other services. Both integrated and enhanced models resulted in comparable rates of depression remission and improvements in the severity of depression, but the enhanced referral model of care was more effective for individuals diagnosed with major depression (Oslin et al., 2006).

Project ADAPT. The goals of the ADAPT program, an educational intervention modeled after IMPACT, were to improve the treatment of depression in rural primary care clinics, train rural clinicians to more effectively assess, treat, and manage depression, create a standard of geriatric care practices, and develop interdisciplinary connections within the clinics (Luptak et al., 2008). ADAPT consisted of six components: an interdisciplinary team, a protocol for patient screening and treatment, educational materials about geriatric depression, use of a staff member acting as an intermediary between provider and patient, ongoing consultation, and implementation of cognitive-behavioral therapy at home or via telephone. Luptak and colleagues

(2008) assessed the ADAPT program at 44 different care clinics, including hospitals, public health agencies, long-term care facilities, and primary care clinics, and the results found that individuals trained in the program increased their geriatric depression screening and communication skills.

The BRIGHTEN Program. BRIGHTEN has been one of the most innovative programs. The previous models all operated from a single location, which may be ideal for clinical collaboration but is not feasible without grant support or the existence of specialized geriatric medical and psychiatric settings. BRIGHTEN was developed at Rush Presbyterian Medical Center in Chicago using a variety of medical professionals (primary care physicians, psychologists, social workers, psychiatrists, physical therapists, occupational therapists, dieticians, pharmacists, and chaplains) located in different locations who communicated electronically using a process created in the Virtual Integrated Practice (VIP) project (Emery et al., 2012; Rothschild & Lapidos, 2003).

BRIGHTEN was designed to assess and treat depression in older adults using a four-pronged approach: screening, assessment, team recommendations, and liaison to appropriate services. Screening was done using the Patient Health Questionnaire-2, which has been modified to be appropriate for older adults, to determine whether individuals are depressed and a suitable match for the intervention. At-risk individuals were contacted by a program coordinator, interviewed, and evaluated with other measures, including the Geriatric Depression Scale, Medical Outcome Study Short Form-12, and the Rush Interdisciplinary Needs Assessment. These measurements assess the severity of depressive symptoms, medical history, and level of functioning. After the BRIGHTEN team reviewed a patient's results, an individualized treatment plan was developed, and the program coordinator met with the person to introduce the team's recommendations and connect them with appropriate services. Emery and colleagues' evaluation of BRIGHTEN reported that the intervention increased access to mental health care and reduced symptoms of depression to nonclinical levels, although physical health status usually remained unchanged (Emery et al., 2012). The team reported the importance of developing an optimal team environment, and both participants and providers reported a positive experience.

The TIDES Project. This cooperative care model was a demonstration project developed and evaluated within the VA primary care system to decrease depressive symptoms, improve treatment adherence, and prevent relapses (Machado & Tomlinson, 2011). The team consisted primarily of mental health registered nurses, a part-time clinical nurse specialist, and a consulting psychiatrist who worked together to deliver a telephone depression intervention using case management over a 6-month period. The program improved adherence to medications and outpatient visits as well as improvements in depression and functional status. The results of a 6-month randomized controlled trial using a variant of TIDES by adding a clinical pharmacist to the team showed that minority clients had a significantly higher treatment response than Caucasian clients in contrast to no differences in the control condition (Davis, Deen, Bryant-Bedell, Tate, & Fortney, 2011).

Collaborative Approaches to Resilience. The six interdisciplinary programs described above are based on two underlying principles. First, older people are frequently complicated targets for interventions because of multiple existing health conditions, frailty, lack of accessible and affordable transportation, social isolation, and unwillingness to seek behavioral health care. The comorbid presentation of diabetes, heart disease, cancer or HIV with depression is well documented, but only a handful of short-term collaborative care interventions have been published (Adams et al., 2012; Bogner, Morales, de Vries, & Cappola, 2012; Ell et al., 2011; Lin et al., 2012; van Eck van der Sluijs et al., 2018). A recent meta-analysis indicated that collaborative care can improve depressive symptoms in older adults with chronic illnesses but there is no clear impact on physical health status. Since these multiple interactive factors affect the prospects of mobilizing resources to build resilience, a team approach provides the basis to understand and deal effectively with the complexity of the presenting geriatric clinical syndromes. Second, behavioral health is a critical force to optimize an individual's cognitive, physical, spiritual, and psychosocial repertoire of adaptive abilities and skills. Each of the six multidimensional models targets the assessment and treatment/management of depression to improve functional effectiveness which is intended to strengthen individual hardiness to deal with the future and sustain resilience and mental health in the context of ongoing and or increasing stress.

Adaptation of Resilience Training Programs for Use with Older Populations

New creative models of care need to be developed that address mental and physical health, acute and long-term care, social and community services, patient and family needs, and interdisciplinary collaboration. While the 2012 Institute of Medicine report identified the knowledge, skills, and training recommended for behavioral health and geriatric care professionals from direct care workers and case managers to psychiatrists (Institute of Medicine, 2012), there is a serious shortage of trained geriatric behavioral health manpower. There are currently only 1,800 geriatric psychiatrists in the U.S., and that number will decrease in the foreseeable future, amounting to only one geriatric psychiatrist for every 6,000 older adults with a behavioral health disorder (Bartels & Naslund, 2013). Unfortunately, the pattern of a severe shortfall in providers is the same for other clinicians in geriatric psychology, nursing, social work, and counseling.

One approach to deal with the manpower shortage is to develop resilience training programs for behavioral healthcare professionals as well as other medical and community-based care professionals. Several existing models developed for military personnel provide frameworks to be adapted, and two are described below: the Penn Resilience Program (Brunwasser, Gillham, & Kim, 2009) and the military's Comprehensive Soldier Fitness Program (Cornum, Matthews, & Seligman, 2011). Both are based on the premise that it is possible to teach strategies and techniques to improve hardiness, helping people to develop better attitudes and coping styles to turn stressful circumstances into resilient growth (Maddi, 2012).

Comprehensive Soldier/Family Fitness Program. Since 2008, the Positive Psychology Center at the University of Pennsylvania has been funded at a level of $125 million to work with the U.S. Army on a resilience program to be delivered by military trainers to all officers and enlisted soldiers, including reservists (Brunwasser et al., 2009; Cornum et al., 2011). The program, originally named Comprehensive Soldier Fitness (CFT) and rebranded the Comprehensive Soldier and Family Fitness (CSF2) program in 2012, could be a potentially useful model to examine and adapt to train geriatric professionals to improve strengths and hardiness in older people and their caregivers. CSF2 training was conceived to proactively buffer individuals from stressful consequences by focusing on prevention, with goals to help soldiers find meaning and growth from their military and combat experiences and address behavioral health issues to reduce post-traumatic stress disorder, suicidality, sexual assault, substance abuse, and family violence.

The CSF2 includes ongoing assessment, universal or general resilience training, individualized training, and advanced or master resilience training, and the instruction and exercises focus on the familial, spiritual, emotional, social, and physical dimensions of a person's identity. The Global Assessment Tool (GAT) includes comprehensive measures of a soldier's psychological, physiological, and personal strength fitness (Cornum et al., 2011; Peterson, Park, & Castro, 2011). Universal resilience training is focused on improving an individual's resilience by enhancing personal strengths, including mental toughness and utilization of social relationships. Individualized training is designed to develop the individual's understanding of the emotional, physical, social, family, and spiritual mediators of their resilience (Peterson et al., 2011). Finally, trained master resilience trainers are created through this process and are then expected to act as mentors for other soldiers. Multiple measures are used to evaluate participants throughout training, including the GAT, a Post-Deployment Health Assessment (PDHA), and a standard demographic questionnaire (Casey 2011).

To date, four evaluations of the mental and behavioral health outcomes of CSF2 indicate that it can have minimal impact on resilience and prevention symptoms of psychological distress in some soldiers (Brown, 2014; Harms, Herian, Krasikova, Vanhove, & Lester, 2013). Training to enhance optimism and adaptability as well as other healthy psychological and behavioral coping styles has been associated with reduced depressive symptoms as well as fewer psychiatric diagnoses, including substance abuse (Seligman, Steen, Park, & Peterson, 2005). However, a number of scientific and ethical concerns have been raised about the design and results of the program, including the questionable ecological validity of a resiliency training model originally developed for children at risk for traumas to the real-life exposure of soldiers in combat; the award of a large noncompetitive grant to the University of Pennsylvania; the appropriateness, reliability, and validity of the outcome measures; lack of control groups and pilot testing; participant bias since soldiers must participate; and the lack of access of the data set to investigators outside the university and Army to review and evaluate the program (Brown, 2014).

Adapting the CSF2 for Resilience Training of Older People. The principles of enhancing resiliency in soldiers using CSF2 can be transferable to the geriatric population with careful attention is paid to the many criticisms of its use with military personnel. Research to adapt CSF2 procedures for use by geriatric professionals should be a priority to prevent mental health problems, minimize excess disability, improve psychosocial functioning, and maximize the quality of life of older adults and those involved in their lives. The following discussion will identify areas for potential modifications in two components of training: assessment and universal resilience training, because the research necessary would have an impact on areas of development for the last two components: individualized training and master training.

The five domains of the GAT—emotional, social, spiritual, family, and physical—are assessed using multiple questions; answers are recorded on analogue scales (i.e., 0 (never)—10 (always); 0 (never)—2 (always) (Cornum et al., 2011). Example questions include "How satisfied are you with your family?" and "What I do matters to the world." Most questions are appropriate for older adults, and only those directly associated with combat or being a soldier would need to be deleted. Other items applicable to the lives of older individuals could be selected and tested in all five domains.

Universal resiliency training segment is the most intensive component of the CSF2 and will require considerable research to adapt it to be ecologically valid and applicable in older adults. In the first module, resilience is introduced as a concept using brochures and pamphlets that would need to be revised from military applications to material relevant to the needs and challenges of older adults (Peterson et al., 2011). Building mental toughness, the second module, is highly personalized, identifying aspects of the individual's life that could benefit the most from enhanced resilience and conducting exercises to improve psychological and behavioral skills. The third module identifies character strengths (e.g., temperament and personality characteristics) and in conjunction with information from the previous modules focuses on developing strategies to help older adults make effective responses to their circumstances. Finally, the module on strengthening relationships targets the relationship between older adults and physicians or other Health care professionals as well as relationships within the familial and social dimensions of the older adult's life.

The adapted resilience interventions could be implemented in outpatient, inpatient, rehabilitation, and home settings. Healthcare professionals who have received instruction in the fitness interventions, including physicians, nurses, social workers, rehabilitation therapists, home Health care workers, and staff from other community and home-based agencies, would conduct the fitness assessment and discuss written materials to help older adults develop an understanding of the concept of resilience and how it applies to their lives. Several professionals could participate in the resilience interventions exercises. Ideally, information about an individual's assessment results and progress through the intervention would be available to other medical and service providers to maximize communication and integrated care.

Future Directions for Interdisciplinary Resilience Interventions for Behavioral Health Conditions

At some point, advancing age inevitably brings the challenges of multiple losses and stresses, including changing living environments, work/leisure investments, sexual functioning, frailty, health changes and comorbidities, diminishing reserve capacity, changing physical and psychological resilience, reduced economic security, as well as the prospect of terminal care and death. However, these are precisely the issues that need to be examined to assist and empower older people and their families to mobilize their strengths in order to cope and adapt as well as possible for as long as possible.

The few studies of interdisciplinary interventions for older adults described to date are largely based on time-limited research and demonstration projects. The results are promising, suggesting that resiliency can be improved in older individuals using interdisciplinary clinical models that screen, diagnose, and treat/manage depression. However, research with older adults is sadly lacking beyond these few studies, and no research has focused on other behavioral health symptoms and conditions that are prominent in older populations and likely mediate resiliency. Between 5.6 and 8 million older people (14–20%) have a diagnosable behavioral health condition–mood disorders, anxiety disorders, substance abuse disorders, and other disorders (e.g., personality disorders, sleep disorders), and that number is expected to double by 2030 (Institute of Medicine, 2012). Within this population, from 3 to 8% are estimated to have a serious mental disorder (e.g., schizophrenia, bipolar disorder, or chronic depression). Beyond diagnosed disorders, one in five older people have problems with both alcohol and medication misuse.

There are many important research priorities for advancing resilience-centered interventions, including but not limited to the following areas of focus: (1) identify additive and/or multiplicative biopsychosocial factors that mediate resilience in later life; (2) develop and test theory-based collaborative models of care with operational definitions of resilient outcomes; to identify and clarify how resiliency affects recovery from behavioral health conditions and how recovery impacts resilience; (3) identify specific resilience skills and test whether they can be taught to improve fitness and adaptiveness; (4) tailor effective resiliency interventions with older adults who vary in mental and physical health status, psychosocial characteristics, minority/cultural background, and help-seeking behavior; (5) understand older adults' preferences from screening to treatment in the clinical process; and (6) evaluate both provider and client satisfaction with care that may directly or indirectly affect adherence to treatment and outcomes. In addition, many more intervention design issues beg to be studied. These include: (1) the intensity of the interdisciplinary interventions; (2) the right mix of professionals on the collaborative team, to understand how models work outside the clinical system in community settings; (3) balancing efficacy and cost containment; and (4) longitudinal studies beyond 6 months to evaluate health outcomes over time and determine whether "booster" sessions are needed and how they should be implemented.

Conclusions

The unmet needs for mental health care are a serious problem, such that a substantial proportion of the affected population is at risk for ongoing poor physical and mental health outcomes and unnecessary disability (Bartels et al., 2002; Bartels & Naslund, 2013). Two-thirds of older persons with a mental disorder do not receive needed services, and although they are more willing to pursue mental health care than in the past, the outcome is distressing. Only 48% of older persons who received psychiatric help were considered to have received minimally adequate care, and of the large majority who received mental health care in the general medical sector, only 13% received adequate care. Since the majority of Americans, especially older Americans, use primary care physicians as their de facto mental healthcare providers, these data reflect the inadequacy of current practice patterns.

Although interdisciplinary resilience interventions are resource intensive, the limited results in the area of mental health indicate their potential value if research and evaluation become a priority, and the financial burden of program delivery is reduced (Machado & Tomlinson, 2011). Another major challenge will be to design, test, and implement these programs given the severe manpower shortages. Accurate geriatric assessment and interventions to enhance and maintain resilience and behavioral health are the platinum standard. Any alternative is a compromise and an unacceptable standard of care, for which older individuals today and in the future may ultimately pay a price. Since the children of today are the aged of tomorrow, the health and well-being of our entire society are at risk.

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Developing Resilience in the Aged and Dementia Care Workforce

Kate-Ellen J. Elliott, Jennifer L. Scott, Christine M. Stirling and Angela J. Martin

Abstract Developing resilience in the aged and dementia care workforce is an important element of support given their high demand environment. In this chapter, we outline the key known factors relevant for resiliency of aged and dementia care workforces, focusing on direct care workers who provide health care and physical, emotional, and social support to older adults and people with dementia as part of their job roles. We describe workforce characteristics, job demands, and resources, as well as personal and emotional responses to work with international comparisons made where information is available. Several theoretical constructs in social and organizational psychology are overviewed and applied to the investigation of resilience in care work contexts. Organizational psychology can help the aged care sector prepare for the increased need to attract and retain a resilient workforce. Occupational communion is one of the several new theoretical constructs that provide potential for strategies for interventional support and training. Our work suggests that measurement models should be developed that consider positive coping specific to the social nature of caring and the neurodegenerative conditions such as dementia, as well as the characteristics of the workforce.

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Introduction

Resilience is central to workforce development in aged and dementia care settings, particularly for employee adjustment and coping in high job demand environments. Aged and dementia care workforces internationally are one of the fastest growing occupational categories, but this expansion is not fast enough to support aging populations. The high care demands particularly associated with diagnoses of chronic conditions like dementia are becoming concerns for health services. Family and informal systems of support are filling the missing gaps and provide the majority of the care for older adults and people with dementia. It is necessary to better understand resilience of the aged and dementia care workforce so health services can determine their current preparedness to manage human resourcing issues associated with caring in a high demand environment. Organizational aspects such as workforce instability caused by high turnover rates and casual contracts have deleterious effects on care. Evidence-based workforce developments can directly influence organizational and employee factors with accompanying indirect positive care outcomes for older adults.

There are many different categories of workers in the aged care sector. In this chapter we focus on direct care workers who provide health care and physical, emotional, and social support to older adults and people with dementia as part of their job roles. We begin with a description of key factors relevant for resiliency of aged and dementia care workforces to inform workforce development. Workforce characteristics, job demands and resources, as well as personal and emotional responses to employees' work are outlined and international comparisons made where information is available. Several theoretical constructs in social and organizational psychology are overviewed and applied to the investigation of resilience in care work contexts. The conception and measurement of resilience is appraised in intervention studies that aim to build capacity and resilience of the workforce. We end the chapter with implications for health services and care agencies wishing to implement organizational changes to prepare for the aging population and increasing cases of people with dementia and recommendations are made for future research.

What Do We Know About Aged and Dementia Care Workforces and Resilience?

Characteristics of the Workforce

For those countries that have reasonably clear census data about the aged and dementia care workforce, care workers (i.e., aides, support workers) tend to be older than the general workforce (average ages), predominantly female (ranging from 70 to 90%) and from lower socioeconomic groups (Mavromaras et al., 2017). One in five home care workers in the United States live below the federal poverty line and more than half rely on public benefits (Campbell, 2018), 50% are African American or Hispanic, double that of the general workforce; and 25% were born outside the US (US DHHS, 2017). In Australia, the number of workers born outside of the country is also high, ranging from 23% in home care setting to 32% in residential facilities (Mavromaras et al., 2017).

Direct care workers are part of a broader care team, but generally hold the lowest authority and lowest qualifications within teams. In the United Kingdom, 9% of dementia care workers held no qualifications (Hussein & Manthorpe, 2011). In Australia, there has been an increase in dementia care workers with vocational training from 55% in 2003 to 65% in 2007 (Martin & King, 2008), but this training does not include a specific focus on dementia. Low qualifications and poor understanding about complex conditions such as dementia can influence the experience of care workers' job tasks, and may contribute to job stress and low job satisfaction.

Recent educational programs in Australia and the UK have the potential to enhance understanding about dementia in the workforce and broader community. While there are very few tertiary courses solely dedicated to dementia studies (Hvalič-Touzery et al., 2018), Australia and the UK offer a mix of diploma, undergraduate (e.g., University of Tasmania; University of Wollongong), and post graduate courses, (e.g., University of Bradford; University of Stirling) that follow an intensive format. Targeting a broader community audience, the University of Tasmania's Wicking Dementia Research and Education Centre has offered a free online short course since 2013, to a total of 140,000 people from 180 countries (Goldberg et al., 2015).

Job Roles, Job Demands and Organizational Structures

The highest proportion of the aged and dementia care workforce are largely unregulated, increasing the challenge of defining the wide array of job tasks they undertake. Care worker roles aim to support older adults to maintain their independence, health and well-being and they are largely located in nursing homes, assisted living facilities and in home care settings in the community (IOM, 2008). Care workers are involved in delivering services such as, personal care, social support, domestic assistance, meals, transport, respite, accommodation, home modification, and management (Henderson & Caplan, 2008). A qualitative study of community based dementia care workers identified that job tasks include diverse practical care tasks, communication with older adults and their family members, dealing with strong emotions such as grief and loss, isolation, and emotional labor, where they publicly displayed certain types of feelings while hiding others

(Elliott, Stirling, Martin, Robinson, & Scott, 2013). Providing ongoing care to older adults as part of a paid role can have both positive and negative effects on workers, particularly for their health and well-being.

Employee Health, Well-Being and Resilience

It is important to understand workers' levels of occupational health and well-being because poor employee health can lead to poor productivity, absence from work through sick leave and high turnover. Overall, the literature on the health of care workers is mixed, with some studies reporting high prevalence of stress and/or burnout and others low mean scores on stress measures (Pitfield, Shahriyarmolki, & Livingston, 2011). For example, early research found high levels of mental health concerns among aged care workers (Cohen-Mansfield, 1995) whereas a more recent study showed mostly positive occupational and psychosocial outcomes for Australian community based aged care workers, with only a small proportion at high risk of psychological distress (Elliott, Stirling, Martin, Robinson, & Scott, 2015). While there are methodological differences across studies in residential settings, preliminary patterns tend to show most staff who remain working in nursing homes do not have high levels of psychological distress (Pitfield et al., 2011).

Length of time in the job and experience of caring both influence coping responses of aged and dementia care workers. Early career long-term care workers in the US experienced stress more than later career workers, they also experienced more hopeful and person-centered attitudes about people with dementia (Zimmerman et al., 2005). Overall, they had higher levels of psychological arousal (both distress and hope). It may be that being a carer for a long time reduces care workers' level of intense reaction to job situations and events. With more experience, care workers may develop coping strategies that reflect resilience to bounce back from ongoing work demands. Optimistic realism (Milhabet & Verlhiac, 2011), which is defined as the accuracy of an individual's outlook on the future, rather than hope, may be an attitude held by well-adjusted later career workers. In this way, resilience can be a marker for well-being.

There is a gap in the literature regarding the relationship between aged and dementia care workers' health and well-being and job resources and demands. For example, care workers may experience trauma vicariously, as their roles inevitably expose them to a decline in health of their care recipients and the adjustment issues of their informal carers and family members. While many workers in aged care may quit their jobs if they feel unable to provide quality care and feel dissatisfied in their roles (Vernooij-Dassen et al., 2009), those who feel committed to clients (Howes et al., 2008) and socially connected, adjust to the challenges of their roles and remain working in the sector.

Theoretical Constructs That Inform Resilience in Care Work Settings

Theoretical constructs related to coping with high job demands offer further explanation of the experience of resilience in dementia care workforces, and in turn inform future training and educational approaches. The convergence of social and organizational psychological concepts may account for processes essential to the success and sustainability of capacity research and innovation implementation in aged and dementia care. This multi-discipline approach combines the strengths of each area to form an overarching and holistic approach in an attempt to best utilize limited resources during the current fiscal environment. Finding practical approaches with theoretical underpinnings to reduce turnover and improve recruitment in dementia care that are translatable is likely to benefit communities worldwide. In this section, concepts from human resource management and psychology that are relevant for promoting resilience are introduced. Acknowledging that there are many theoretical perspectives that apply to the dementia care setting, we selected the following for investigation because they offer unique explanations relevant to social capacity building.

Social Psychological Constructs

Self-efficacy. The belief in one's own ability to successfully accomplish something (Hayden, 2009), or self-efficacy, influences skill acquisition. There are many ways that self-efficacy is developed, including direct mastery experiences where individuals learn skills and gain comprehensive understanding through practice. Social comparison also influences self-efficacy when individuals perceive their likelihood of achieving vicariously through another person's experience, when that person is similar to themselves (Maddux & Stanley, 1986). Social persuasion in the form of encouragement or discouragement and attributional evaluations, as well as emotional arousal (Bandura, 1986) also influence self-efficacy. All of these processes have implications for communication in the workplace and management or supervisory feedback.

More broadly, in the psychology literature, self-efficacy (or confidence) to meet demands on coping resources predicts better adjustment to a range of chronic stressors (Turner, Holtzman, & Mancl, 2007). This makes it worthwhile to consider how self-efficacy might be improved to develop capacity building strategies for the dementia care workforce, including overcoming barriers of participation in education and training. Giving workers positive reinforcement (Stirin Tzur, Ganzach, & Pazy, 2016) may contribute to resilience in the care work context. This may occur through practical programs that acknowledge and recognize employee efforts. Self-efficacy may be relevant for building a culture of learning and ongoing professional development, where workers perceive themselves and others as capable and competent in the face of new challenges.

Role ambiguity and emotional labor. Role ambiguity and role conflict are common constructs investigated in the organizational setting, and are connected to job stress (Noblet, Graffam, & McWilliams, 2008). Role ambiguity refers to the extent to which employees are uncertain about their job functions and responsibilities (Specktor, 2008). Role conflict arises when people experience incompatible demands either at work or between work and non-work (Specktor, 2008). Both role conflict and role ambiguity are thought to play a part in workers' stress appraisals and subsequently may have links to retention and turnover issues. Stressors refer to environmental demands with which individuals feel unable to cope (Lazarus & Folkman, 1984). Gilboa, Shirom, Fried, and Cooper (2008) undertook a meta-analysis of seven work related stressors (role ambiguity, role conflict, role overload, job insecurity, work–family conflict, environmental uncertainty, and situational constraints) and their relationship to job performance. They found job performance was negatively associated with role ambiguity and situational constraints, and that role overload was negatively associated with performance more so for managers than non-managers. So for example, an employees' lack of knowledge of what is expected of them in their daily job tasks constricts their ability to meet job expectations and in turn leads to negative emotions. This can occur quite easily in the community setting where there may be different expectations in each client's home. Thus, it appears that job stress mediates performance.

Organizational climate and individual traits may influence employees' experience of role ambiguity and job conflict. Role ambiguity may be a challenge to overcome in organizations that encourage and reward employees to adopt new initiatives, whereas role conflict may be a threat in organizations that emphasize standardized operations (Gilboa et al., 2008). Employees who have high tolerance for ambiguity are more likely to perceive a potentially stressful situation as a challenge rather than a threat, compared to individuals with lower tolerance for ambiguity (Gilboa et al., 2008). Individual worker differences, such as whether or not they perceive role ambiguity and role conflict as a threat, or a challenge, may influence their commitment and intent to stay. This has implications for a new approach to capacity building interventions that targets elements relevant to both the individual worker and the organization, such as building tolerance for ambiguity and adopting an approach that rewards involvement in new and challenging initiatives.

The regulation of emotional expressions and feelings as part of the paid work role is known as *emotional labor*, which occurs when expected workplace emotions cannot be naturally felt or displayed, and is routinely performed using surface acting and deep acting (Hochschild, 1983). In the US and Europe, more than two-thirds of the already growing labor force is part of the service sector (Hülsheger & Schewe, 2011). Employees in the service sector participate daily in personal interactions and experience emotions they can choose to display or hide. Dementia care is no exception, with the main job roles relying on interacting with people with dementia and their family members or friends. Surface acting can involve deceiving others about the true emotional experience and often includes faking emotions not felt, and suppressing and hiding feelings that are deemed inappropriate to display (Kiely & Sevastos, 2008). For example, a dementia care worker may hide feelings of frustration or anger in response to a person with dementia's symptoms such as cognitive impairment resulting in the care recipient repeating questions throughout the care shift. In this example the worker is motivated to not express their true emotions so that they do not alarm or further confuse the care recipient.

There are consequences associated with emotional labor, often involving some form of role conflict for the worker. *Emotion-rule dissonance* is a term used to describe a particular form of person–role conflict where incongruence exists between the actual emotions and the emotions that are required for display rules, often resulting in unpleasant state of tension (Hülsheger & Schewe, 2011). Positive and negative consequences are associated with emotional labor. However, emotion-rule dissonance often results in personal strain. A double edged sword exists, where Hülsheger and Schewe (2011) stated:

> Employees can either over rule their own values, adhere to organizational display rules and thereby threaten their sense of authenticity, or they can hold on to their personal aspirations, disregard their professional duties and run the risk of dissatisfying customers and supervisors (p. 365).

In most cases emotional-rule dissonance helps to avoid conflict, but at a cost, as employees experience stress and their personal resources are threatened. Impaired well-being is associated with emotion-rule dissonance (Hülsheger & Schewe, 2011). Workforce development interventions may target ways to manage the negative effects associated with the demands of undertaking job roles that demand emotional engagement.

Communion. Communion (Bakan, 1966) refers to a person's desire to closely relate to, cooperate and merge with others, where individual fulfillment is experienced through relationships and a sense of belonging (Guisinger & Blatt, 1994). Gender differences are often associated with this social psychological construct, where communion is more likely to be associated with femininity (Helgeson, 1994). Communion is highly relevant for the care context, considering care workforces internationally are majority female (Martin & King, 2008), and women's career histories have been found to be relational and linked to personal development (Ellery-Brown, 2011). It is equated to a broad personality trait (Helgeson, 1994) and nurturance and dependence are an integral part of communion (Marszał-Wiśniewska & Siembab, 2012). Extreme forms of communion, such as *unmitigated communion*, where "a focus on and involvement with others to the exclusion of the self" (Helgeson & Fritz, 1998, p.173), is central to poor psychological health (i.e., depressive symptoms in women).

Elliott et al. (2013) adapted Bakan's concept of communion to the work setting for paid carers of people with dementia, and described *occupational communion* as a sense of belonging based on social interaction at work, that is essential for positive coping with job demands. Community based care workers reported positive experiences related to job tasks of a social nature. The meaning they ascribed to their work selves was bound in social ties with their clients, and they reported a desire for collegial interaction. It was the relationship and attachment to their clients that was the central motivating factor as to why care workers stayed in their jobs. Care workers felt positive emotions when they advocated for their clients' needs, despite low wages and feeling undervalued. Previous research supported these findings showing that care workers are motivated to stay in their jobs "for love, not money" (Howes et al., 2008). Occupational communion may sit on a continuum with distress at one end and resilience at the other. Further work has demonstrated that occupational communion can be measured and forms part of a mediation model (Elliott, Stirling, Martin, Sanderson, Robinson, & Scott, 2015). This social connection may be developed or hindered depending on the nature of caring interactions, and may also influence a sense of belonging professionally and may play an important role in attraction to the care sector and work commitment.

Summary

The interpersonal factors that are influenced by social psychological theories provide some suggestions for training approaches that aim to enhance resilience at work. Building self-efficacy through mastery of job tasks with social comparison via positive feedback and or staff recognition, as well as alleviating role ambiguity or job conflict may assist employees to cope better at work. Finding ways for care staff to feel genuine while delivering care tasks when they experience emotional labor, as well as providing opportunities for collegial interaction may promote positive affect, and facilitate resilience at work. Whether these approaches will effect turnover of staff remain untested, particularly alongside other constructs from the organizational perspective.

Organizational Behavior Models

There are also a range of theories and concepts from organizational behavior literature that can be usefully deployed toward the development of the aged care workforce. Some have shown promise for informing interventions that could be trialed or integrated within an organizational development framework.

Job demands-resources model. The job demand-resources (JD-R) model purports that negative employee performance is the product of job demands exceeding job resources. Job demands include physical, social, or organizational aspects of the job that require sustained physical or mental effort. These efforts result in physiological and psychological costs (e.g., exhaustion and or burnout; Demerouti et al., 2001). Job resources are health protecting factors that contribute to and maintain worker well-being, even after encountering high degrees of workload. Job resources facilitate achievement of work goals, reduce job demands and their associated costs, and stimulate personal growth and development (Demerouti et al., 2001). Job resources may be at the level of the organization (e.g., salary, career opportunities) at the level of interpersonal and social relations (e.g., supervisor and co-worker support), at the level of the organization of work (e.g., role clarity and participation in decision making), and at the level of the task (e.g., performance feedback, skill variety; Rothmann, Mostert, & Strydom, 2006).

In the JD-R model, worker withdrawal behaviors, such as absenteeism and turnover are explained as the consequence of lack of resources to aid worker coping and can result in burnout (Bakker, Demerouti, & Euwema, 2005). Burnout is defined as a distressed psychological state that an employee might experience after being on the job for a long period of time (Specktor, 2008), which includes core components of exhaustion and depersonalization or cynicism. Thus, when there is an imbalance between job demands and resources, workers' experience the psychological costs of their job roles, such as job stress or burnout, which has been found to predict absenteeism and worker disengagement or withdrawal (Demerouti et al., 2001).

Studies in healthcare repeatedly find that aspects of the JD-R model predict physical and mental health of staff (Michie & Williams, 2003). The complexity of caring for people with dementia mean there are likely job demands unique to the dementia care role. These demands may relate to the severity of dementia symptoms (i.e., delusions, aggression, and sexual behaviors), or the degenerative nature of the disease such as dealing with loss of identity and functional decline. Considering the psychological response of workers to their job roles may help identify barriers likely to interfere with the ongoing capacity of the workforce, to not only continue in their care roles (i.e., retention efforts), but also, to improve their skills and quality of service delivery. Improving service delivery in dementia care likely means ensuring job demands and resources are closely linked to organizational support that facilitates positive employee performance.

Perceived organizational support. This theory presupposes that in order to meet socio-emotional needs and to assess the benefits of increased work effort, employees consider the extent to which they believe the organization values their contribution and cares about their well-being (Eisenberger, Jones, Aselage, & Sucharski, 2004). Employees' positive or negative emotional experiences relating to their work, can influence the level of effort they make towards daily job tasks. Workers' expectations about the role of the organization during times of high demand can also affect how they carry out their jobs. Strong perceptions of organizational support give workers confidence that support will be provided by the organization when needed to meet work demands and to deal with stressful situations (George, Reed, Ballard, Colin, & Fielding, 1993). A meta-analysis indicated that three major categories of beneficial treatment received by employees (i.e., fairness, supervisor support, and organizational rewards and positive job conditions) are associated with POS and POS in turn, is related to outcomes favorable to employees (e.g., job satisfaction, positive mood) and the organization (e.g., performance, and lessened withdrawal behavior) (Rhoades & Eisenberger, 2002).

Perceived organizational support may also play a role when organizations are undergoing change, especially regarding motivation for employees to meet increasing work demands. Ensuring that procedures are fair and perceived as such by employees, showing recognition for employees' accomplishments, adapting work schedules to meet individual needs whenever possible, providing opportunities for professional development, enriching jobs and clarifying expectations are examples of ways organizations can influence perceptions of support (Panaccio & Vandenberghe, 2009). In the dementia care industry, improving factors associated with perceived organizational support of direct care workers (i.e., commensurate remuneration), may be one untested strategy to improve capacity.

Psychological capital. Positive organizational behavior encompasses research that specifically focuses on positive human strengths applicable to the workplace (West, Patera, & Carsten, 2009) which are measurable, impactful on performance and open to development (Luthans, 2002). Psychological Capital (PsyCap) is a higher order positive organizational behavior construct defined as an "individual's positive psychological state of development," characterized by the psychological resources of self-efficacy, hope, optimism, and resilience (Luthans, Youssef & Avolio, 2007). Meta-analytic evidence suggests it is an important predictor of job performance and satisfaction, organizational commitment, organizational citizenship behavior, turnover intentions and psychological well-being (Avey, Reichard, Luthans, & Mhatre, 2011).

PsyCap is derived from a constellation of motivational and behavioral tendencies associated with self-efficacy ("having confidence to take on and put in the necessary effort to succeed at challenging tasks"); optimism ("making a positive attribution about succeeding now and in the future"); hope ("persevering towards goals and when necessary, redirecting paths to goals"); and resiliency ("when beset by problems and adversity, sustaining and bouncing back and even beyond to attain success;" Luthans et al., 2007).

Support for PsyCap as a core construct has been provided both conceptually (Luthans et al., 2007) and empirically (see Avey et al., 2011). PsyCap and its individual components are considered "state-like" in nature, and differentiated from both stable, fixed traits (e.g., personality) and pure, transient states (e.g., moods and emotions) (Avey, Luthans, & Youssef, 2010; Dawkins, Martin, Scott & Sanderson, 2013). Accordingly, a micro-intervention aimed at enhancing individuals' level of PsyCap has been developed. The PsyCap intervention (PCI: Luthans et al., 2006, 2010) has been empirically assessed, in both online (Luthans, Avey, & Patera, 2008) and in-house delivery formats (Luthans et al., 2010). Initial evidence has demonstrated significant increases in PsyCap via these brief training interventions, and that these gains are associated with improvements in participants' performance (Luthans et al., 2010), demonstrating good return on investment for organizations. There is also a team level version of the PsyCap intervention (Dawkins, Martin, Scott, & Sanderson, 2015) which would be useful to explore in relation to aged care workforce capacity building.

Summary

The organizational behavior theories reviewed here suggest there are several aspects of organizational capacity building that are likely to improve worker outcomes including psychological aspects such as resilience and positive adaptation to change. Creating a supportive environment, investing in supervision, and increasing the resources people need to cope optimally with the demands they experience in these roles are all important factors for aged care facility management to work on. However, PsyCap interventions appear promising as a way of developing worker level and team level psychological capacities, given the critical role of resilience and efficacy in the intervention. The next section of this chapter looks at resilience measures and components of assessing capacity building efforts, specifically in dementia care.

Workforce Development Interventions for Resilience in Aged and Dementia Care

Capacity building interventions in dementia care have focused on education of the workforce without taking into account the stress and coping factors of high job demands. This is surprising considering the established connection between job stress, productivity, sick leave, and turnover (Gilboa et al., 2008). For this reason, a systematic review (Elliott, Scott, Stirling, Martin, & Robinson, 2012) included studies that employed randomized control trial designs to evaluate the effects of interventions on employee burnout, job stress, and mood. The review identified six studies which meet inclusion criteria and described whether the training programs were aligned with the perceived organizational support theory, where productive workers felt positively supported and valued by their workplaces. There was no clear pattern of results for workers or organizations that adopted interventions that included a staff support component. Only three out of six studies included employee well-being factors as part of the investigations. In this section, we re-examined the studies identified in the review by Elliott et al. (2012) with a specific focus on resilience and provide information on whether and how resilience formed part of rigorously tested (randomized control trial) capacity building interventions in dementia and aged care. Of interest is the way in which resilience theory, intervention components and measurement were addressed. We used a broad definition of resilience and coping at work in order to ensure that all relevant foci are captured. When resilience was not directly targeted in the study, any factors that were relevant for promotion of resilience and positive coping were considered. For example, if a study included a measure of stress it was examined, as stress vulnerability is inversely related to resilience (Windle, 2011).

Resilience and Theoretical Approaches

None of the six studies reviewed directly targeted resilience by mentioning a specific theory, intervention components or measurement. Four cited theoretical constructs or evaluation models that could have relevance for resilience and coping with high job demands in dementia care. These theories commonly focused on interpersonal relationships and social interactions. The Affect Theory of Social Exchange (Lawler, 2001) was cited by Pillemer et al. (2008) and informed retention programs that were tailored to each site. Employees' emotional response to working at their organization as a social unit, such as whether they thought their organization was a positive environment for elder care informed the rationale for the intervention. This theory considers social collective relationship factors at a larger group level that are relevant for resilience in organizations, particularly in the domain of the 'environment', and as such aligns with organizational change management approaches. Other relevant theories that informed the rationale for the interventions studies focused more on the consumers included the Adaption Coping Model that was adjusted for people with dementia (Finnema, Dröes, Ribbe, & Van Tilburg, 2000) from the Stress-Appraisal-Coping model of Lazarus and Folkman (1984) and Moos and Tsu (1977) Crisis Model for people with a chronic illness. Finnema et al. (2005) applied this theory to inform the assessment approach of the "integrated emotion oriented care" intervention.

Three studies did not mention a specific theory (McCallion, Toseland, Lacey, & Banks, 1999; Robison et al., 2007; Rosen et al., 2002), but described processes that informed the rationale for the intervention, or mentioned an evaluation framework (Zimmerman et al., 2010, Precede/Proceed Model of health promotion planning by Green & Kreuter, 1999). For example, Robison et al. (2007) applied a focus on interpersonal conflict that can arise when a mismatch between large-scale formal organizations and small primary groups like families interact (Litwak, 1985). Robison et al. (2007) proposed that nursing homes have potential for conflict between these groups as one (nursing home) takes over the others responsibilities (personal care of residents), which must fit into organizational policy and procedural frameworks. While this study did not specifically mention resilience, this is relevant for resilience building, particularly for strengthening social interaction and relationships within dyads, and small groups (Chang & Yarnal, 2018).

Resilience and Intervention Training Components

Four training interventions were identified that included components with strategies relevant for building resilience in dementia care commonly used some type of sharing communication technique (Finnema et al., 2005; McCallion et al., 1999; Robison et al., 2007; Zimmerman et al., 2010). These four interventions addressed social interaction skills by providing information and guidance from a facilitator or care workers' peers. Typically, this approach included opportunities to express opinions, ways to communicate and share with others (including co-workers, supervisors, and or family members) about their experiences of working with people with dementia. Care workers were trained in counseling topics such as active listening, understanding and expressing empathy, exploring values, problem solving and resolving conflict, and teamwork.

Three interventions include a particular focus on positive psychology techniques (McCallion et al., 1999; Pillemer et al., 2008; Robison et al., 2007). For example, when communicating with people with dementia care workers were encouraged to focus on supportive interactions and maximize the clients' communication strengths (McCallion et al., 1999). In another training program, the facilitator collaborated with staff to generate a list of positive aspects of communication in the nursing home (Robison et al., 2007). Other elements of intervention components relevant for resilience building included the use of staff recognition and reward (McCallion et al., 1999; Pillemer et al., 2008; Zimmerman et al., 2010), which may improve self-efficacy through positive reinforcement. In one program, workers were presented with certificates on completion of training, and in another, they participated in an "employee of the month" type initiative. One study encouraged allocated nurse advocates to tailor trainings to the site, which resulted in a range of programs being implemented, with two programs relevant for resilience, namely a seminar that included work–life balance as a topic, and an 'information kiosk' on healthy lifestyles (Pillemer et al., 2008).

Resilience Measures

No specific measures of resilience were used in the studies. However, several measures assessed highly relevant domains for workers such as knowledge, skill acquisition, satisfaction, coping behaviors, supports, burnout, stress, and mood. One study (Finnema et al., 2005) used a measure with a specific subscale that aligned directly with resilience; the "optimistic" subscale of the Jalowiec Coping Scale (Jalowiec, 1987). There were also assessments of organizational factors such as turnover, retention efforts, types of service delivered and work culture (i.e., Sheltered Care Environment Scale, including a social cohesion subscale; Lemke & Moos, 1987). Consumer assessment also occurred for some studies that mainly focused on health, well-being and quality of life of residents (e.g., Cohen-Mansfield Agitation Inventory, Cohen-Mansfield, Marx, Rosenthal, 1989; Cornell Scale for Depression for Dementia, Alexopoulos, Abrams, Young & Shamoian, 1988) and caregiver burden of family members (e.g., Center for Epidemiologic Studies Depression Scale, Radloff, 1977; Zarit Burden Interview, Zarit, Todd, & Zarit, 1986). One study with a focus on communication skills training (McCallion et al., 1999) included assessments where workers and family members rated each other on their social interaction, such as the Family Empathy Scale (Pillemer et al., 2003) and the Interpersonal Conflict Scale (Pillemer & Moore, 1989) which was adjusted by replacing “family” with “staff”.

There were a number of methodological issues associated with measurements inherent across the studies relevant for resilience, with low reporting of reliability indictors and several measures were either experimenter derived or significantly adapted to the setting, which may have negatively impacted the psychometrics properties of the measures. In one example, assessment of knowledge and skill outcomes of workers were experimenter derived and specifically designed to assess the content of the educational training (Rosen et al., 2002). In contrast, there were also strong statistical approaches to using adapted measures where researchers reported the Cronbach alphas, for the scales with changed items, for their sample (Robison et al., 2007).

Implications for Change

All studies included in Elliott et al. (2012) review contributed to the exploration of resilience as a capacity building factor in aged and dementia care. Three of the interventions studies targeted both workers and the organizations directly (Pillemer et al., 2008; Rosen et al., 2002; Zimmerman et al., 2010) while others focus more on consumers with employee factors indirectly targeted (Finnema et al., 2005; McCallion et al., 1999; Robison et al., 2007). There were four areas in which the studies offered valuable information to various extents for the operation of training programs in aged care that aim to enhance resilience; (1) social interaction, (2) positive and supportive strategies, (3) knowledge and (4) mental health and job stress.

The first focus, on social and interpersonal interaction and communication, is mainly at the worker and/or family member level, however some suggestions for group level social cohesion is also provided for team work. The second area explored positive psychology strategies and strengths-based approaches in training and service delivery. Interventions included some access to information about ways to employ these strategies, and also examples of coping and support measures were given. Support was addressed at the level of the worker and organization, such as workers’ use of support systems, like talking to family and friends (Finnema et al., 2005). In addition support from, to and for supervisors was addressed (i.e., as supervisor feedback to staff, supervisor review by staff, and supervisors’ feelings of support from their management; Zimmerman et al., 2010).

Knowledge and skill acquisition was specific to the topic of training (e.g., dementia education, or pain management; Rosen et al., 2002) with some weaknesses identified in measurement approaches. This included the self-assessment of elderly care nursing skills, and care approaches of workers towards people with dementia. Finally, mental health and job stress were addressed across the worker and consumer level, and when including absenteeism, at the organizational level as well. In this area, some sound measures of mental health indicators were applied (CES-D, Cornell Scale for Depression in Dementia), but these mainly targeted family members and residents with dementia. A lack of positive measures of resilience was identified for all stakeholders including workers, managers, residents and family members. Finnema et al. (2005) acknowledged a need for quantitative measures of positive resident behaviors, such as making contact and expressing positive emotions, as only some parts of the measurement tools focused on this. There is also a similar gap for assessing staff positive coping and adjustment to their job roles.

Recommendations for Future Research

Several gaps in the research literature on resilience in workforce development intervention studies that apply a holistic multi-disciplinary approach to aged and dementia care have been identified. Future research would be highly valued if it investigated resilience in dementia care theory, practice and measurement. A focus on the following areas may expedite progress in the field as we aim to be prepared for the care and support needs of the aging population;

- Expand research on the aged and dementia care workforce to examine health and well-being variables to determine a consistent pattern of stress and coping in response to job roles. This could include both qualitative, quantitative and mixed methods approaches.
- Theoretically, there are several constructs presented earlier in this chapter that would benefit from further empirical testing in dementia care settings. This would mean that organizational psychology could inform the aged care sector, which is a unique environment ready for the new application of existing constructs already validated in other work populations. In addition, understanding the relationships between workforce resilience, well-established theories (self-efficacy, JD-R, POS) and relatively newly adopted constructs (PsyCap, occupational communion) in aged and dementia care is a priority. Mediation and moderation analyses may inform the design of training programs, as they may indicate which intervention components or factors may act as a buffer against the development of job stress, or facilitate the growth of resilience at work.
- In practical terms, the design and development of interventions in this area would benefit by taking a direct focus on resilience. Randomized control trials testing interventions specifically targeting resilience of the workforce from a shared perspective is a must. The studies in the review were mixed as to whether they included assessments from all stakeholders, some assessed worker and organization and not consumer outcomes. Future research should endeavor to collect data from multiple perspectives (e.g., worker, organization and consumer) to assist with later translational efforts.
- Development or adaption of measurement models that consider positive coping specific to the social nature of caring and the neuro degenerative conditions such as dementia, as well as the characteristics of the workforce. This should include psychometric testing of tools and applications to care workforces in several contexts (e.g., residential and community based).

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Understanding Resilience of Adult Foster Care Providers

Kelly Munly, Karen A. Roberto and Katherine R. Allen

Abstract With the growth of the aging population, and in particular individuals 85 years and older, there is a growing need for a range of long-term care housing and service options. There is also an urgent need to address supportive housing options for citizens aging with disabilities, especially those without the financial resources to pay for their housing and care needs. One such housing option is Adult Foster Care (AFC), a small-setting community-care option that provides older persons and individuals with physical and intellectual disabilities with a home- and family-like environment with opportunity for 24-h care and community integration. AFC varies significantly across states in terms of regulations, name of the service (e.g., adult family care homes, board-and-care homes), financing, and numbers of residents served within an AFC facility. As gatekeepers to services and community engagement for the AFC residents, providers are fundamental to the AFC resident experience, serving as the primary managers of their residences and the responsible party for their residents' well-being. They are uniquely situated between regulations stemming from policy and the outcomes experienced by the care recipient. In this chapter, we discuss mechanisms for supporting the resilience of AFC care providers.

Keywords Adult foster care · Long-Term care · Community-Care
Supportive housing · Disabilities · Frail elders · Care providers

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With the growth of the aging population, and in particular individuals 85 years and older, there is a growing need for a range of long-term care housing and service options and sufficient numbers of trained long-term care workers dedicated to the well-being of frail elders (Davey & Szinovacz, 2008). There is also an urgent need to address supportive housing options for citizens aging with disabilities, especially those without the financial resources to pay for their housing and care needs. Over 54 million adults in the general population—not including those in care facilities—have a lifelong disability, whether intellectual, physical, or age-related (National Council on Disability, 2010). A disproportionate number of individuals with disabilities are racial/ethnic minorities and poor, and they are underserved in numerous ways, including inadequate access to housing and health services (National Council on Disability, 2005).

The Supreme Court Olmstead Decision spearheaded a nation-wide policy-driven move away from large publicly funded institutional care, including nursing home care, toward more integrated community-based care (National Council on Disability, 2003). In this chapter, we discuss mechanisms for supporting the resilience of care providers of Adult Foster Care (AFC), a small-setting community-care option that provides older persons and individuals with physical and intellectual disabilities with a home- and family-like environment with opportunity for 24-h care and community integration (AARP Public Policy Institute, 2009). Adults generally go into foster care because they do not have family who can take care of them or because their family is unable or unwilling to provide daily care.

Adult Foster Care

Much of what is known about the current state of AFC across the nation comes from data gathered by AARP in 1996 and updated in 2009 that included interviews with state officials, community informants, and AFC providers (AARP Public Policy Institute, 2009; Mollica et al., 2009). According to the AARP report, as of December 2008, 18,901 AFC facilities were serving 64,189 residents across 30 states. AFC varied significantly across states in terms of regulations, name of the service (e.g., adult family care homes, board-and-care homes), financing, and numbers of residents served within an AFC facility. AFC providers managed and sometimes owned the facility in which care is provided; the facility often was the provider's own home but some were corporately owned. Most states had limits of no more than five residents served per AFC home.

AFC providers typically had backgrounds as family caregivers, nursing assistants, or nurses (AARP Public Policy Institute, 2009), with some degree of medical knowledge informing their interest and ability to provide or at least oversee care for individuals experiencing age-related or other disabilities. However, this background is not required if other certifications (e.g., first aid, cardiopulmonary resuscitation, medication and diabetes management, therapeutic options for behavior management) were available through the state or a private agency. Furthermore, although providers were usually responsible for the well-being of their residents 24 h a day, they often relied on respite services in the form of adult day care or from visiting back-up workers.

AFC providers demonstrate “willingness and ability” to provide service to individuals “with high levels of need” (AARP Public Policy Institute, 2009, p. 2) who are often not appealing as residents to assisted living facility owners concerned about making a profit. As well as providing a service to an underserved group (i.e., adults with disabilities), AFC saves states money (Mollica et al., 2009). AFC does not have the overhead and extensive operating costs of large institutions. Medicaid-funded residents usually pay for their room and board expenses with their Supplemental Security Income benefit, and Medicaid pays for some health and additional care services needed.

As gatekeepers to services and community engagement for the AFC resident, providers are fundamental to AFC resident experience; this central role is true whether providers work independently, under the umbrella of AFC agencies, or for an AFC corporation. All providers across AFC structures are the primary managers of their residences and the responsible party for their residents’ well-being, whether or not there is respite care available (Mollica et al., 2009). Care providers are uniquely situated between regulations stemming from policy and the outcomes experienced by the care recipient. Focusing on providers’ perspectives and experiences of AFC as community-based care will shed light on the resilience of AFC providers as they used resources and practices to support their professional and personal lives.

Conceptual Framework

Our investigation of resilience among AFC providers was informed by both the existing literature, as well as theories of care (Fisher & Tronto, 1990; Noddings, 2010), intersectionality (McCall, 2005), and concepts of power, difference, and hierarchy (Foucault, 1977; Powell & Wahidin, 2006). We initially integrated these theoretical concepts to develop a model that was a starting point for showing the complexity of the context in which AFC providers and residents work and live, as well as their relationships with each other and outside agencies that impact them (Fig. 1).

Care relationships involve multidimensional individuals and bring complex needs and characteristics to the relational dynamic. The unequal power dynamics that sometimes exist between care providers and residents have the potential to be deconstructed and reconstructed to transform the provider–resident relationship into equal- or near-equal status, characterized by relational reciprocity (Foucault, 1977; Powell & Wahidin, 2006). These concepts of power may also be applied to the dynamic between the AFC provider and agencies (funding and regulatory), yielding a vision of how a reciprocal relationship of care may also be fostered between both entities to benefit the provider and support resilience as well as sustain and nourish the agencies.

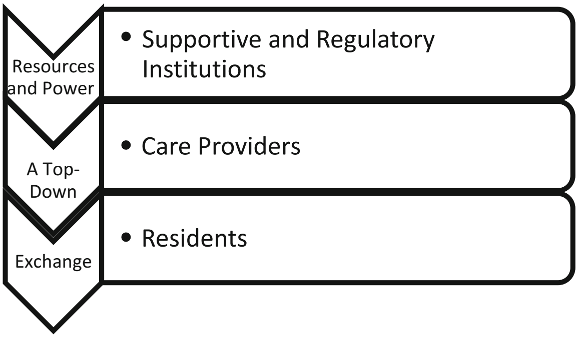


Fig. 1 Theoretical hierarchical model of AFC relationships: institutions, care providers and residents

The central premise of our research was that care providers occupy a pivotal position between institutional influence and resident experience. Agencies influence providers and residents through system regulations and by offering availability or dearth of services and resources. Resources and power flow from the top-down, from institutions to providers to residents. Thus, the direction of this flow has implications for the professional experience of the provider, the quality of life of the resident, and ultimately the quality of institutional support.

Interviews with Adult Foster Care Providers

To enhance understanding of the experiences of AFC providers, we interviewed providers in North Carolina. We selected North Carolina as the study site because of the state's response to the Olmstead decision to move away from institutional care. Although North Carolina began to develop its Olmstead plan in 2000, the state resisted implementation by offering community-based alternatives to institutional care only if requested by the resident. This process has not yielded significant empowerment or quality of life changes for residents living in care facilities who may not be aware of their options and potential for better life experience.

In 2013, Guilford County Department of Social Services (DSS) provided information for 22 *family care homes*, the name for AFC in North Carolina. In order to achieve theoretical saturation (Charmaz, 2014; Patton, 2001), we sought additional provider contacts in comparably urban, racially diverse, and centrally located counties—Orange, Wake, and Durham Counties. The Virginia Tech Institutional Review Board approved this research.

As a first step in recruitment, letters and an informed consent document that explained the study were mailed to 84 providers across the 4 counties. The first author contacted providers by telephone to invite them to participate in the study. To be eligible for the study, providers needed to be caring for four to six residents in their AFC homes. Providers were excluded from the study if they were not identified as the sole provider who was responsible for oversight of the AFC home and backup care staff (i.e., those that provided respite support to the primary provider). Fifty-eight providers did not participate, either because they did not respond to voicemail messages or messages left with other AFC staff, or because they were too busy or not interested in participating. Of the 26 providers who agreed to be interviewed, 23 were women, and 3 were men. Twenty-four providers identified as Black or African American, 1 identified as White, and 1 chose not to provide information on race. Provider ages ranged from 37 to 69 years; 14 of the 26 providers were 50 years of age and older. Their caregiving experience ranged from 2 to 45 years, with AFC experience slightly less, from 8 months to 31 years. Providers met the needs of residents with a range of disabilities, including intellectual (11 providers), dementia- or memory-related (19 providers), chronic illness (23 providers), mental illness (19 providers), and mobility challenges (21 providers). The ages of the residents ranged from 18 to 100, with 85% of residents being 50 years of age or older.

Because AFC providers are responsible for the care of their residents 24 h a day, their free time is often unpredictable. Interviews were conducted with the providers over the telephone to allow for more flexibility of scheduling and greater ease of rescheduling in the face of resident needs and unexpected events (Dillman, Smyth, & Christian, 2009). All interviews were digitally recorded, transcribed, and compared to the original audio recording to ensure accuracy of their content. Providers received a $20 gift certificate as a token of appreciation for participating in the study.

The interview guide was composed of demographic items and a set of 13 semi-structured, open-ended questions (with prompts) related to AFC experience. Questions relevant to the focus of the current analysis were: (a) Tell me about your experience of becoming an AFC provider. (b) What do you call your resident? (c) What do you call yourself in your professional role? (d) Tell me about professional supports that you find most helpful. Least helpful? (e) How would you describe the way(s) in which you show “care” in your AFC environment? and (f) In what way(s) does your AFC agency promote a sense of “caring” between staff, and between staff and residents? The interviews took an average of 45 min to complete.

Understanding the Interviews

The constant comparative method of constructivist grounded theory (Charmaz, 2014) was used to analyze provider responses in light of four research questions: (1) How do Adult Foster Care (AFC) providers perceive the AFC system and their relationship to the AFC system? (2) How do AFC providers perceive their residents? (3) What strategies do AFC providers implement in their efforts to integrate residents into the AFC homes and communities? and (4) How do AFC providers recognize, adhere to, or resist existing power relations and constraints in the AFC system as they impact their ability to provide care for residents?

All three authors closely evaluated and critiqued the evolution of the codes and related themes across multiple iterations until 100% consensus were achieved. We utilized initial and then focused coding, a process of synthesizing data into related themes, to develop a shared coding scheme (Charmaz, 2014). This was followed by theoretical coding, which integrated the substantive, focused codes to each other, yielding a theoretical narrative or story (Charmaz, 2014). Analysis included constant comparison of the focused codes in concert with reexamination of the coded transcripts, eventually reducing cumulative assessments of data to the theoretical codes. Exemplifying quotes are utilized to illustrate the findings. The providers were assigned pseudonyms to maintain confidentiality.

Experiences of Adult Foster Care Providers

For the current analyses, we identified four themes that contributed to our understanding of the experiences of AFC providers: (1) motivations for becoming and remaining an AFC provider; (2) providers' values; (3) balancing "family" with business, and (4) struggles and sustainability. What first became apparent was that each provider was motivated toward the career opportunity to serve as an AFC provider for unique reasons. Second, regardless of initial motivation and expertise, providers' personal values influenced their interactions with the residents and how they managed their ongoing business responsibilities. Third, we learned of the challenges providers faced in balancing their work and family lives. Finally, providers struggled with social and economic hardships of owning a business. Their overall attitudes toward the meaning of their work, how they managed the resources available to them, and their high degree of personal commitment influenced their perceptions of whether they would be likely to stay in their role as an AFC provider.

Motivations for Becoming and Remaining an AFC Provider

Providers revealed different motivations to begin their work as AFC providers. Motivations were not mutually exclusive, but overlapped in some cases, such as having both a business background and being drawn toward helping others, greatly enriching their abilities as care providers and business owners and administrators, and consequently supporting professional resilience. Several of their motivations related to family circumstances, including caring for family members. These more personal motivations also seem to have supported professional resilience, with providers seeing meaning and heartfelt importance in their work.

Family Ownership

Family ownership took two forms. Providers either took on a business that their family had already started (n = 3), or they started a business with family as a new career opportunity (n = 3). For example, Alex's father had previously started the business, including two homes, and Alex worked to maintain the effort beyond his father's passing.

> My father started the business…and then I became involved in it probably about four years after he started it. And then he passed away after I had been working in the business maybe a year… and so I've been working in the business since he passed away in '94. So, I've been working on a day-to-day basis since '93 I guess.

There were three providers who went into the AFC business with family as a new career opportunity. For example, Irene started an AFC business with her husband after working as a mental health provider for 7 years. Being very familiar with the challenges of meeting individual mental health needs, Irene and her husband seemed to derive satisfaction from providing residential care that was supporting people in a comprehensive manner and preventing people from being on the street. She said, "we're making a difference in people's lives and I see the change on a daily basis." Nicole and her husband started their facility two years before she left her job in hospital administration, in which she had been referring individuals to long-term care options. She was inspired "to do it better than what [she] was referring people to…a hospital-based model."

Caring for Older Family Members

Providers also started AFC businesses with the purpose of caring for their own elder family members (n = 2) or decided to do professional care work after caring for their own family member (n = 1). As an example of providers who started the business to care for family, Helen talked about quitting her job in preparation for caring for her parents. She was fully licensed for a year before her mother had another stroke, and then her father agreed to move in with her.

> At that time my Dad, I think, was 90-something years old and she [Mother] was in her 80s. And, when she left the hospital they came to stay with me. They stayed with me a year, and like I said, I was in business a year…and she stayed with me a year before she passed away. She was 89, and my dad is still with me. He will be 103 … So that's how I started in the business. I knew absolutely nothing about the business when I started…I didn't know that a family care home existed. I knew about the rest homes, and I knew I would never let my parents go there. I knew I would take care of them…And once she passed, you know, it was just a good business to be in.

Veronica cared for her own mother just prior to starting her own AFC business. She described how her care for her mother led to opening the business

> I took care of my own mother…until she died. And during that process she told me I needed to do this, and I didn't understand what it was she wanted me to do and so she kept insisting. And then…I started, you know, getting the information from the county on how to open up a family care home. . . .during the process she had dementia and congestive heart failure and she said, "You need to keep people like me."

One provider, Bernice, had experienced a lifetime of limited career opportunities due to extended care of multiple family members. Although not a paid caregiver in her earlier adulthood, Bernice talked about how her lifetime of care work for her own family was foundational for her professional family caregiving

> When I first got married, my husband's aunt had a stroke…I took care of her until she died, and then my mother-in-law got sick and I took care of her. And my mother, and my sister. Basically, I've been a health-care provider all my life. I didn't get paid for it…you just got to love [the work].

Providers' Values

Providers demonstrated a profound commitment to residents, striving to make their residents' lives "as good as possible." They communicated an empathy for residents, acknowledging that it could just as well be themselves in their residents' shoes. With such a commitment to reciprocity, expressed as values to make life as good as possible, and driven by empathy, providers were exceedingly careful in creating a home out of their AFC facility, including taking care to match residents with each other, and in hiring staff, with this care and meticulous attention naturally yielding resilience in their professional context.

Commitment to Residents

Almost all providers (n = 21) indicated a humanitarian motivation for the commitment to residents with six providers describing a religious or spiritual motivation in addition to humanitarian values, and one provider describing a motivation in solely religious and spiritual terms. When describing what kept her motivated, Tanya emphasized that her dedication was about serving people in need, and not financial: "It definitely ain't the money. Yeah, really knowing that you're helping somebody, you know you're giving somebody a stable home and environment for them." Olivia spoke of an ethic for taking care of older adults:

> It's not about the money, it's about the people, and providing the care that they need at that age. Because they have earned and worked in life and deserve to be treated fairly with dignity, respect…at a later age in life.

Nicole expressed a commitment to the families that place their loved ones in her care

> I think what keeps me going is responsibility and the trust and the confidence that these families placed on us. They're actually placing their loved ones in our trust. And so I feel that – as a nurse, as a woman, as a mother, as a daughter, I have to live up to that standard… So I go the extra mile to make sure they're comfortable clinically, socially, personally…all of that is my responsibility and…I take that very serious.

Zada demonstrated a dedication that seemed to be driven by both her religious values as well as sense of being a dedicated community citizen

> Getting started, I made the commitment to someone greater than Wake County; I promised the Lord that I would take care of the people and that I would never hurt them. And that's what I've done. And He has sustained me and He has been the main one that I've wanted to please and my objective was to do unto others' family members as I would have them do unto mine… And now it's going on 13 years and I've been faithful to my word.

Making Resident "Life as Good as Possible"

Providers sought to make their residents' lives as good as possible, supporting them to improve their health conditions and to live dynamically, with regular opportunities and encouragement to engage in activities both in the home and in the larger community. Providers even worked to support residents to live independently, with prospects to eventually leave the AFC home. Miriam, the oldest and most experienced provider interviewed, spoke to her successful history of fostering independence across the decades

> I give them a lot of help and the things that have changed is that when they leave, several have gone to their own places, so that makes me feel really good. They're working part-time, or they have their own apartment, or sharing it with someone else.

Shelli described the range of residents with both lifelong and late life impairments that she has worked with and the satisfaction she has found in helping individuals.

> I have a variety of people, and a lot of them have been really, really sick, when they first came to me, but after a while, getting them the medical treatment that they needed, their condition got better. That was refreshing, to be able to help someone other than yourself sometimes.

Empathy

Sixteen providers overtly expressed empathy for their residents, relating to their condition, and understanding that it could be them or someone they love in the same situation. For example, Rhonda paraphrased the golden rule, implying that the "human beings" that need help could easily be anyone: "Yeah, I treat them like I want to be treated. And I treat them as you know, as a human being that needs help." Cadi clearly related her relationships with the residents to that of extended family, and the consequent imperative that she felt to care for them like family.

> We've always made sure that…we provide the type of care we would want for our family members, because they are our family. If it's an older person, I want to provide the same type of care that I would want someone to provide for my grandparent. Or if I had an aunt or an uncle that was in placement, I want to make sure that they're getting proper care and they're happy and being loved.

Balancing "Family" with Business

Depending on the structure of their AFC home(s), providers demonstrated varying capacities to balance their responsibilities to the AFC home and "family" with their own personal life, including time with family and friends. Four distinct styles of balancing family with business supported providers, either through relational fulfillment or through engaging their or residents' biological families.

Family Identity: "It's Just Like One Big Family."

Six providers described their AFC home as a family context, without a simultaneous business sense related to this extended family experience. In addition to contributing to the quality of family experience of her residents, Elon's biological family experience seemed enriched and engaged (i.e., being able to attend her daughter's basketball games) because of involving her residents:

> We like our residents to feel like they are part of the family. A few of our residents . . . don't have a lot of family that come and visits, so we are *it*. We encourage and make them feel like they are part of the family and so we do activities together and we take them to our little girls' basketball games. So, they're happy. And they're just really thankful that they actually *are* with us, because we put a little more love in it, it's just not a job, it's just not a place that they live – this is actually their home.

Family-Like with a Business Awareness

In the second type, 12 providers conveyed more of a business sense about their AFC home, even while simultaneously acknowledging a sense of extended family. Shelli retained a business sense about her AFC home, but clearly described how she created a sense of extended family over the holidays, making a tradition of bringing her own family together with her residents

> What I do is that I cook for every holiday occasion, just like we had a cook-out for Labor Day. We had for 4th of July, we had one for Memorial Day . . .We had Easter dinner. And we're getting ready to have Thanksgiving and Christmas. What I do is that for the residents that don't go home, I make Thanksgiving dinner here. And, my family comes here as well, so we all eat together, so they know my family, and my family knows them. Not just my children, but my siblings as well and their family. They know the whole family.

Does not Identify as Family: "Well I'm Definitely not a Family Member"

Only two providers firmly maintained throughout their interviews that they were not family to their residents. However, not identifying with family did not imply lower quality care, but simply a different care strategy to support both resident well-being and caregiver resilience. For example, Wilma created a clear boundary between herself and her residents, as she is not a provider in residence, wants to maintain her business role, and supports the residents' attachment to the staff providing care in her AFC facility. "I do limit how much I do with them because they need to be more attached to the person that lives there. I'm guarded."

Patrice talked about her and her husband's work caring for their residents to the point of compensating for lack of family and agency support. However, she never defined herself and her husband as the residents' family.

> I have a resident that Medicare pays for their medication, and they give them 66 dollars. That's their allowance they give each one of these clients. Well, $66 is not enough. Because I think medication and its copay is up to 100 and something dollars. Who's going to pay for that? They don't have any family members, so we have to step in and pay the difference.

It Is Both Family-Like and not Family-Like

Six providers spoke of their AFC business as both family-like and not family-like. For example, at one point, Xaveree made clear that she was not a family member, although later in her interview she said that "It is like family" and made reference to the "homelike" nature of her home. She also maintained an empathetic value although stressing the importance of her professionalism.

> The bottom line is you have to be a professional provider because when you get into healthcare management and from my years of experience you will never be the family, you will always be the healthcare provider. You cannot be the family. You will have to understand when you decide to be a healthcare provider that you are going to provide the same services that you will want somebody to provide to you if you were to be in their shoes. And that is what the quality of a nurse or healthcare provider whether doctor or CNA nursing assistant should be. . . .And that should be what will motivate you to do what you need to do for them but then that does not mean you are a family member.

Struggles and Sustainability

Depending on the AFC home's financial framework (i.e., Medicaid or private pay; staffing plan), providers either lived in the home with the residents or returned to their own home as a "refuge" at night. Even for the majority of providers who were able to go home, there was a sense of the AFC home being primary in their life. In light of social hardships (i.e., struggling to make separate time for their own family; difficulty maintaining friendships), the providers emphasized that they were not doing the job for the money. The work did not pay enough to warrant financial motivation, but provided relational and professional satisfaction. Despite struggles, providers demonstrated a strong *ethic of caring* for the residents in their homes, typified by a strong sense of *empathy, respect for humanity*, and *making others' lives as good as possible*. Providers describe their motivation to persist through struggles and consequent resilience as stemming from their relationships with the residents, as well as from creative solutions engaging local resources and family.

Struggles

Fourteen providers communicated some type of struggles in their AFC business. Sometimes they were challenged to maintain a personal life, with time for family and friends. Providers also expressed that they experienced challenges financially, as well as with supportive and regulatory agencies that were not understanding or effective. Yolanda spoke to declining friendships in the consuming context of having her own business.

> I don't have so many friends, my family and my kids are basically my friends. It's hard. It's sad to say when you go into your own business, you know when I first started out, nobody wanted to help me, you know, with what I was trying to do. So it kind of like taught me, it made me strong in learning to be hands-on, with just my kids, and you know that I know I try to help anybody that needs the help.

Yolanda furthermore provided a clear example of how unsupportive or inadequate regulatory agencies heightened the financial struggle to make AFC businesses work.

> We used to be able to bill [Medicaid] personal care for the residents and what happened was they changed the 35 descriptions . . . basically, they cut the things as far as billing for the person and if they don't have a certain level of care then we can't bill for them period. If we're not hands-on all the time we're not able to [provide] personal care services for them, like bathing, dressing, hygiene, feeding them, you know, things like that, that's personal care. A lot of the family care home and group homes depend on that money to pay staff.

Qadira also described hardships related to making the financials of the business work, with full staff while she works another job. She indicated that it is the residents that keep her going.

> I'm going to be honest, right now it's staffing and financially that is killing me…I'm very frustrated…I wasn't making any money, and I think because I used my full-time job as my money, and every dime that I made, I put back into it. And, I don't work in the houses unless there's a shortage, or I just want to see what's going on. I have a full staff. But, that is truly taking all the money.

Rhonda talked about her unhappiness with the type of oversight that was provided by local government, not as aware of client realities as it should be, and expecting a lot for little pay for the providers.

> We have so much paperwork to do, which is not really necessary, but because they are law makers and they make the rules, so we have to go along with it. Or else we don't get anything! They want us to be considered as a business, but it's not a business that makes a lot of money. More or less, it's a stipend. Yep, we dedicated, or else we wouldn't be in this business.

Leah also described that although there are supports, it is problematic when outside agencies do not understand the internal workings of the business: "I mean the support's been wonderful, but …the agencies out there haven't understood what *we're* doing and how we're doing things for them to be able to work with us that well." Leah's statement suggests that providers have created their own internal systems for making things work, sometime assisted by outside authority agencies, but largely successful due to their own initiative.

Sustainability

Almost all of the providers (n = 24) affirmed the sustainability of their AFC practice. They stated that they would be likely to stay in their role as an AFC provider, due to professional and relational satisfaction, as well as being able to harness their resources in the community, in their own families, and in residents' families. For example, Veronica encouraged residents' family involvement as an integral part of her family care home, supporting her own experience with the residents and capacity to provide a supportive, family-like environment for the residents as well. One of the family events she described was a barbeque organized by one of the resident's daughters. This skillful involvement of family is an example of a practice that can support Veronica to stay in the AFC business. She conveys herself as part of the group that is enjoying the home environment that she is facilitating. This evident satisfaction results from a culture that she has created.

> So, they end up having the whole nine yards: the hushpuppies…and the coleslaw and barbeque. And they just have a good time. We spread the table out and they are happy. We have another one [that] goes to the Food Lion grocery store and buys all their PBJ's—all their peanut butter and jelly sandwiches. Wiped out the whole counter. The ladies would have sandwiches. They love that. We warm them up and get them nice and good and soggy. And she would bring watermelon too, a whole watermelon, and they would cut it up and eat. And it was good because the family sort of stays with us and they start treating the ladies as if they were one family.

Although none of the providers gave clear indications that they would be likely to leave the AFC business, responses of two providers suggested they were uncertain or had mixed thoughts about their future. This ambiguity appeared to be associated with insufficient community supports, which the providers' perceived as impeding their ability to provide care to their residents that met their own expectations for what the quality of care should be. For example, Alex expressed some disillusionment with this capacity to achieve his professional ideal due to systemic constraints

> Sometimes, you begin to question your purpose when a lot of times there are situations that you have no control over…by outside individuals, outside agencies, outside families…and so a lot of times, you know, you begin to question… "If I have to go through all of this, then what's the purpose of me doing this?"

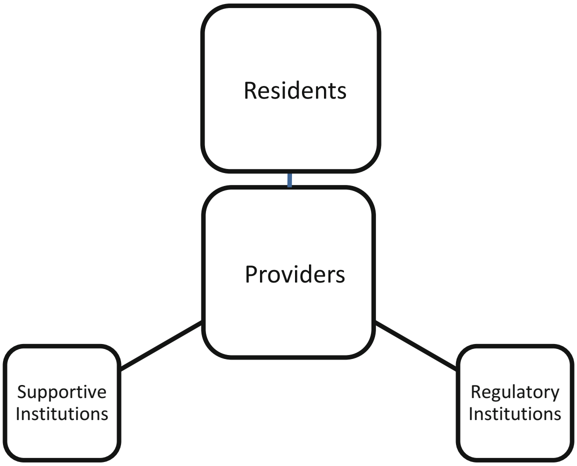
Toward a Theory of Dialectics of Power and Care

We began this study with a hierarchical representation of AFC relationships (see Fig. 1) with resources and power flowing from the top-down, from institutions to providers to residents. However, a different schematic emerged from the study data. The *Theory of Dialectics of Power and Care* considers the overwhelming investment of the provider not only on behalf of the residents but in partnership with them. This close relationship is represented in Fig. 2 by the shorter connecting line and the equal dimensions of the representing boxes.

The provider is a strong partner with the resident because of both business and personal investment, offering expertise as well as relational fortitude. Providers gain relationally and practically from this connection with residents as well, though their personal lives are impacted and sometimes limited by their level of investment in their residents.

The analysis of the emergent focused codes led to the final level of constructivist grounded theory, that of selective or theoretical codes. Two theoretical codes characterize the final story line represented in the data: (a) multiple dimensions of investment, and (b) dialectics of gain and loss. This final story line is reflected in the

Fig. 2 Theory of dialectics of power and care



data that responds to the research questions regarding providers' perceptions of and relationship to the AFC system, as well as their subsequent negotiation of systemic constraints and power relations.

Multiple Dimensions of Investment. Providers demonstrated one or more styles of investment in their AFC settings including exhaustive business commitment, fostering a safe and family-like setting, verbal or other behavior toward residents, or facilitating opportunities for residents. Sometimes investment was communicated in humanitarian or religious terms. As an exemplar, Cadi captured the intersecting commitments when describing how residents are closely integrated in her family life. She conveyed an investment in fostering a family-like setting, and also maintaining a group of good employees for her business.

> We have an extended family, and so do [the residents]. We treat them that way because when you come into our home, you're not just a number. You are a part of the family. We make you feel like extended family… We're truly blessed to have a good group of people and employees. I mean our staff has been great with our residents. I have two small children and the residents always ask about my children. I got married 10 years ago and at least five of them [residents] came to my wedding.

Dialectics of Gain and Loss. Providers indicated a dialectics of gain and loss (i.e., simultaneous and sometimes contradictory experiences) surrounding their investment in their AFC settings. Providers' experiences were not only defined by relational or professional gain, or only by relational and fiscal loss. They communicated complex experiences that included both gain and loss.

When providers discussed or alluded to losses, they ultimately described ways in which gains helped them to compensate for, overcome, and proceed in the face of loss, yielding a synthetic resolution of gain and loss, and ultimately greater potential for resilience through this balance. Experiences of loss included loss of personal time with family and friends and for some providers, a loss of friendships altogether, loss of life experience separate from their AFC business, loss of financial stability or flexibility, and perceived loss of a control over their business due to outside agencies. Gain experiences included expansion of support networks to helpful community organizations (e.g., daytime recreation programs for residents), additional support through local health and human services supervision, support from their own or residents' biological families, and support from residents who tried and did make life easier for them.

The experience of Joelle, a Supervisor in Charge at the AFC, provided an illustrative example of the dialectics of gain and loss, and resilience through engagement of her biological family members in the business. She and her three siblings maintained the business, while her parents, still the owners, were struggling with their own health problems. Joelle's family experienced family harmony (gain) and health struggle (loss), as well as contradictory work fulfillment (gain) and lack of personal life (loss).

> We've all been supportive towards each other since the business been open. My dad had three strokes. My mom…she's a diabetic…and [is] having knee problems. . . . I just like being around [the residents]. So, I don't have no problem not having a day off.

Providers used their power positions as authority figures to bring maximum opportunity and benefit to their residents. They leveraged their abilities and resources as they invested their expertise, time, and relationships to support the experience of their residents. Providers were personally fulfilled from their professional accomplishments and the relationships with their residents, staff, and supportive family members. They also experienced loss along with the gain, with minimal personal time, infringement on their own opportunities for friendship, and expending their personal resources when state funds were insufficient. An emerging theory of the dialectics of power and care is that providers revealed a commitment toward their residents and their AFC business that was integrative across multiple dimensions of investment, one in which they experienced both gain and loss as a result of their AFC role.

Conclusions

The findings of this study begin to fill the gap in knowledge about AFC provider experiences, including providers' multiple dimensions of investment, commitment, and resilience in the face of personal and systemic challenges. Providing a perspective of one state's AFC system through the provider lens contributed to an understanding of provider investment to their AFC homes and residents as they negotiate systemic constraints and power relations, experiencing a dialectic of loss and gain in the process. Their responses revealed much about contributions to thriving AFC settings, which include provider vision and recognition of personal, family, and business investment; ongoing practice supporting strong relational ties and empowering efforts with residents; and the interactive presence of the residents themselves. Through our analysis, we uncovered detailed characteristics of the relationships and dynamics between providers and regulatory institutions and their residents.

Our schematic representing the relationships and dynamics between providers, institutions, and residents shifted as we developed a grounded theory of the dialectics of power and care that can be leveraged to support provider resilience across AFC settings. The *Theory of Dialectics of Power and Care* acknowledges that providers are the central nexus of activity sustaining the AFC system. They maintain contact with agencies on behalf of the residents. They manage the breadth of professional requirements to make things work for the residents, even when sufficient resources for residents are not there. The providers are at times supported by agencies, but it is often the providers who make things work in spite of agencies, not because of agencies. It is also the close and reciprocal relational experience with residents that contributes to optimal functioning of the AFC setting and the resilience of the AFC provider. Thus, AFC providers occupy a pivotal position between institutional influence and resident experience and must successfully navigate this position to both support residents and consequently nurture a thriving AFC practice and their own ability to sustain it.

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Using Technology to Enhance Resiliency Among Older Adults

Ronald W. Berkowsky, Elizabeth A. Yost and Shelia R. Cotten

Abstract Older adults are far less likely to adopt and successfully use technologies compared to younger groups. This is unfortunate given that older adults can benefit from technology use in a variety of ways. This chapter illustrates the ways in which technologies may benefit older adults in the US through the enhancement of resiliency. We begin by providing an overview of the aging population in the US and by discussing information and communication technology (ICT) use among older Americans. We discuss how ICTs can enhance resiliency among older Americans and, more specifically, among older adults living in continuing care retirement communities (CCRCs). We conclude by providing an overview of other technologies which may benefit older adults with regards to resiliency. Through this discussion, those working with older adults can understand the potential benefits and importance of technologies in the lives of older adults.

Keywords Aging · Older adults · Resilience · Quality of life · Technology
ICT · CCRC · Well-being

The number of and diversity in new and emerging technologies is increasing rapidly. More and more devices, gadgets, and applications are being introduced to the market with the potential to radically change an individual's life for the better by giving unprecedented access to information sources, allowing individuals to

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communicate in new and exciting ways, and providing the means to completing everyday tasks with increased ease and confidence. Yet, despite the increase in the number and types of technologies available to consumers, older adults (defined in this chapter as those aged 65 years of age or older) are far less likely to adopt and successfully use technologies compared to younger groups (e.g., Anderson & Perrin, 2017; Choi & DiNitto, 2013; Friemel, 2016). This is unfortunate given the current literature suggesting that older adults, despite experiencing significant barriers to successful use of technology (e.g., lack of adequate instruction—see Cotten, Yost, Berkowsky, Winstead, & Anderson, 2017; Czaja & Sharit, 2013), can benefit from technology use in a variety of ways. One way in which technology may improve the lives of older adults is through enhancing resiliency.

This chapter illustrates the ways in which technology may enhance resiliency among older adults in the U.S. population. We begin by providing an overview of the aging population in the U.S. and by discussing information and communication technology (ICT) use among older Americans. We discuss how ICTs can enhance resiliency among older Americans and then, more specifically, we discuss the ways in which ICTs may particularly benefit older adults living in continuing care retirement communities (CCRCs), a population that is often overlooked in the literature. We conclude this chapter by providing an overview of other technologies, beyond ICTs, which may benefit older adults with regards to resiliency. It is our intent that, through this discussion, individuals working with older adults will understand the potential benefits and importance of technologies in the lives of older adults.

Aging in America

Numbers and Trends

The U.S. population, like that of the rest of the world, is aging rapidly (Bongaarts, 2009). This demographic shift is predicted to be one of the most significant in the history of the U.S. with more than a doubling of the 65+ population by 2050 (Mather, Jacobson, & Pollard, 2015). Though the U.S. remains one of the world's youngest developed countries, it has the greatest number of adults aged 65 and over and the greatest number of adults aged 85 and over when compared to other developed countries (United Nations, 2013). More resources across various domains (e.g., social, economic, heath) will be needed to accommodate this demographic transition. As of now, the infrastructure of our society is simply not ready for this major population shift, putting the health and well-being of aging adults at risk for more negative outcomes whether they be social, financial, or health-based.

The aging of the "Baby Boomer" generation is the primary contributor to the dramatic increase in the number of older adults in the U.S. The "Baby Boomers" are individuals born between 1946 and 1964 who are currently entering the typical age of retirement (approximately 65 and over). While the Baby Boomer generation enjoys higher levels of education and has more work experience compared to older generations, Baby Boomers are also more likely to be divorced and have fewer children (Mather et al., 2015). In addition, Baby Boomers tend to live longer compared to older generations, but those additional years may also be sicker years (Mather et al., 2015). These characteristics, taken together, paint a picture of a generation that will require a fair amount of diverse services to accommodate their health and well-being; Baby Boomers may be living longer, but these additional years may also include increased morbidity and disability and Baby Boomers may also lack the same social support that previous generations enjoyed (Mather et al., 2015; Ortman, Velkoff, & Hogan, 2014).

The well-being and quality of life of this continuously aging population is of particular concern. As individuals live longer, they often reduce the number of working hours or retire, thus limiting their income. Chronic illnesses and disabilities may place older adults at an increased risk of functional and cognitive limitations, making the performance of everyday activities difficult or impossible. Older adults also often have to relocate based on their changing needs (e.g., moving closer to the family due to a need for caregivers, but distancing the older adult from friends), thus potentially negatively impacting their physical, mental, and social health and well-being. These changes have significant implications both at the individual and familial level (e.g., retirement planning and caregiving) as well as the societal level (e.g., determining the distribution of resources across programs which benefit aging populations like social security, workforce training, and long-term care). Working to ensure the well-being and quality of life of older Americans is important for keeping them healthier and more productive and thus reducing the potential higher costs of future care.

Resilience in the Older Adult Population

One component of well-being offering new insights to the aging process is that of *resilience*. Resilience, in general terms, is the ability for someone to "bounce back" from difficult times or challenges in their lives—it is the ability of an individual to positively adapt to adversity (Lamond et al., 2008). Examining links between resilience and health, well-being, and quality of life has become popular in recent research (see Windle, Bennett, & Noyes, 2011). While previous research on resilience has often focused on younger and/or disadvantaged groups (see Luthar, 2006), there is increasing interest in considering resilience as an important attribute to successful aging.

The definition of what constitutes successful aging and theories that explain the process have changed as life expectancy has increased in the U.S. and world population. Gone are the days where the goal of aging was simply to "live longer." While longevity continues to be an important component to the definition of successful aging, today successful aging is viewed as a composite that includes physical, mental, emotional, and social well-being (Rowe & Kahn, 1997, 1998, 2015). As the aging population continues to live longer, become more diverse, and experience new and varying complications, the definition of successful aging has and continues to evolve. Harris (2008) argued that rather than focus on the concept of successful aging, perhaps theorists and researchers should instead focus on the concept of resilience. While successful aging is dependent to an extent on an individual's physical and mental health status as well as social and cultural background, Harris contended that older adults with higher levels of resilience may lead long and happy lives regardless of impairments and background. In changing the definition or expectations of aging, society can appreciate a broad range of aging frameworks, not simply deficit models.

Resilience theory focuses on strengths within individuals and how we age despite risk (Fergus & Zimmerman, 2005). In other words, resilience theory addresses the question: how do people overcome challenging situations and make the most out of their lives when faced with adversity? Resilience is often examined across the life course, but it can also be evaluated in terms of specific instances or events. Examples of this may include evaluating how an individual responds over time to a chronic illness that may impede and lower functioning or examining how one responds to the loss of a spouse, or evaluating a person's response to being relocated and transitioned into a new home. Research finds that higher levels of resilience are beneficial to older adults through these situations (Bonanno, 2005; Staudinger, Marsiske, & Baltes, 1995).

Factors Affecting Resilience

Early understanding of resilience postulated the concept as a stable personality characteristic that one had or did not have throughout the life course. However, current research suggests it is a more dynamic and changing process (Windle, 2011). Resilience theory identifies three basic components of resilience: (1) protective factors, (2) vulnerability factors, and (3) adversities. Protective factors are factors that support individuals in times of adversity, thus lessening the potential negative impacts of stressful circumstances and events—examples of protective factors include personality characteristics and ecological factors like social support (Windle, 2011). Resilience can change over the life course due to protective factors (Bolton, Praetorius, & Smith-Osborne, 2016). Typically, a greater number of protective factors leads to greater resiliency. Vulnerability factors increase the risk for hardship or stress and thus may contribute to lower levels of resilience; they may include socioeconomic and psychosocial factors like poverty, being diagnosed with mental illness, having a history of abuse, experiences with chronic illness, disability, and experiences in bereavement and loss. Adversities, in contrast to vulnerability factors, are the actual stressors that cause the need for resilience to overcome—as an example, a new diagnosis of a chronic illness (e.g., cancer) may be viewed as an adversity to overcome. Taking all three of these components into account, resilience can be viewed as an evolving process that can be improved through the expansion and building of protective factors. This view of resilience—as one that changes and can be improved—allows for older adults to take measures to enhance their coping of adversity in older age or at times of significant adversity.

ICT Use and Resilience in Older Adults

Older adults experience higher levels of loneliness, social isolation, depression, bereavement, health declines, and incidence of disability when compared to younger age groups. While most older adults will experience one or more of these issues, recent research suggests that use of information and communication technologies (ICTs) can help to mitigate and/or negate the negative effects of these issues. When we use the term ICT, we refer to any Internet-connected device or application used primarily for the purposes of sharing and retrieving information (e.g., using a search engine to look up information on a health topic) or for communication purposes (e.g., sending an email to a family member or friend). In everyday discourse, the most common types of ICTs are Internet-connected computers and smartphones. An area of interest that emerged over the past few decades as the Internet has become more widely accessible and prevalent is its effects on personal well-being. Among older adults, researchers have found associations between ICT use and decreased depression (Cotten, Ford, Ford, & Hale, 2012, 2014), decreased sense of loneliness and a better sense of community (Chopik, 2016; Cotten, Anderson, & McCullough, 2013; Czaja, Boot, Charness, Rogers, & Sharit, 2017; Sum, Mathews, Pourghasem, & Hughes, 2009), and greater overall satisfaction with life and an increased sense of well-being (Chen & Persson, 2002; Heo, Chun, Lee, Lee, & Kim, 2015; Czaja et al., 2017).

Despite the increasing literature to suggest that older adults may significantly benefit from ICT use, it is important to remember that as a group, older adults have the lowest adoption and usage rates in the American population. While technology use has increased among older cohorts since 2000, from 12% reporting using the Internet that year to 67% by 2017, they still lag behind younger cohorts (Anderson & Perrin, 2017). The difference in usage rates is most pronounced among the "oldest old", in that only 44% of older adults aged 80+ report going online (Anderson & Perrin, 2017). Given the measured benefits of ICT use among older adults, it is a unfortunate that adoption and usage rates are so low and implies that special attention be given to this age group with regards to ICT education and training, as well the development of ICTs that cater to their needs.

ICTs as a Tool to Overcome Aging Issues

As individuals age, there are often social and spatial barriers that inhibit normal communication patterns (Winstead et al., 2013). Social barriers refer to obstacles that hinder contact with social networks and minimize social interactions. Spatial barriers refer to issues in mobility—either in leaving the home or in navigating around the community—that can inhibit performance of normal daily activities. The number of social and spatial barriers older adults face typically increases with age. As an example, older adults who are forced to relocate (living closer to family caregivers, moving into a continuing care retirement community, etc.) may experience a disruption in normal social routines and have trouble staying in contact with neighborhood friends. As another example, older adults experiencing physical and cognitive decline may have trouble traveling to see friends and family or keeping up with regular activities such as doctor's appointments. ICTs have been shown to be a vital tool for older adults to overcome these barriers (Winstead et al. 2013). Research suggests that ICT usage can contribute to: increased efficacy in management of health (Campbell & Wabby, 2003), increased social support and enhanced cognitive and physical well-being (Blaschke, Freddolino, & Mullen, 2009), and increased connections to family and friends, which can decrease feelings of isolation or depression (Davidson & Santorelli, 2008).

Not only can ICTs help older adults circumvent social and spatial barriers (Winstead et al., 2013), they can extend and perhaps help form new avenues for social contacts. Smith and Hollinger-Smith (2015) found that older adults who engaged in activities that enhanced positive emotions experienced boosts in resilience outcomes. Positive emotions can be garnered through many avenues, but some are strongly connected to ICT use including communication and building social relationships. When using ICTs, older adults experience higher levels of social support and well-being (Cotten, Anderson, & McCullough, 2013); thus, ICTs activities can be designed such that communication and building social relationships is emphasized, which can ultimately lead to enhanced resilience.

There, are, however, gaps in the literature that future researchers should address. At present, there are no studies that specifically examine ICT use as a direct builder of resilience and no longitudinal interventions designed to build resilience among older adults (MacLeod, Musich, Hawkins, Alsgaard, & Wicker, 2016). However, because ICT interventions have been tangentially shown to build social contacts and support, improve quality of life, and promote more positive well-being, it reasons that future ICT studies should examine impacts on resilience directly and design interventions to build protective factors for older adults.

How ICTs Can Benefit Older Adults in CCRCs

While there is an increasing literature focused on older adults and the benefits of ICT use, less attention has been given to ICT use of older adults within the context of continuing care retirement communities (CCRCs). These communities are uniquely designed facilities that provide various levels of care (e.g., independent living, assisted living, skilled nursing care) to residents and provide various types of assistance to help accomplish activities of daily living. The assistance provided is dependent on the facility, the level of care of the resident, and the specific needs of the resident, examples of which include assistance with bathing and dressing, assistance with medication management, and assistance with the preparation of meals. Because CCRCs cater to older adults who require some sort of assistance, the CCRC population is markedly different from the general population—older adults in these settings tend to be older and experience more physical and cognitive impairments that necessitate increased help with activities of daily living (Harris-Kojetin, Sengupta, Park-Lee, Valverde, Caffrey, Rome, & Lendon, 2016). While less work has been done examining the benefits of ICT use among residents in these types of facilities, work by our group suggests older adults in CCRCs can greatly benefit from ICT use.

Benefits and Drawbacks of Moving into a CCRC

Older adults relocate to a CCRC for a variety of reasons, including concerns with health and healthcare and having adequate social support (Sergeant & Ekerdt, 2008). As an example, older adults who experience a significant medical event and lack the resources to care for themselves (e.g., they cannot independently maintain their quality of life and have no friends or family members available or willing to provide adequate care) may opt to relocate to a CCRC where trained staff is available to cater to their health needs. CCRCs typically emphasize meeting various diverse needs of their residents—not just medical, but also emotional and social. This is done in a variety of ways such as promoting participation in social activities among residents, which can promote greater life satisfaction and lower levels of social isolation among residents (Winstead, Yost, Cotten, Berkowsky, & Anderson, 2014).

While moving into a CCRC may, in theory, make life "easier" for the older resident through the services provided as well as the social community generated among residents, relocation is a significant life event that may have negative impacts on an older adult. Most prominently, older adults transitioning into a CCRC may experience a series of new social and spatial barriers (Winstead et al., 2013), which may reduce the overall quality of life. In summary, moving into a CCRC may separate older adults from family members, friends, and other community members with which they frequently visit (e.g., members of their church).

This separation can be exacerbated if the older adults lack personal transportation or experience mobility issues that prevents them from leaving the CCRC (Chen et al., 2008; Cornwell & Waite, 2009). In this way, social life begins to revolve around life at the CCRC, which can promote a feeling of isolation and loneliness. This, combined with the stress of moving into the CCRC, can lead to negative health outcomes (Ball et al., 2000).

How ICTs Can Impact CCRC Residents

Given the potential negative impacts of relocating into a CCRC, the transition itself can be viewed as an event of adversity; that is, older adults transitioning into a CCRC must overcome the challenges associated with the compression of their social networks and loss of autonomy and environmental control (Winstead et al., 2013). Older adults with more positive responses to the transition or those with more stable coping styles may experience more satisfactory outcomes or, at least, less pronounced negative outcomes—those with higher levels of resilience may respond better to the transition.

What role, then, can ICTs play in enhancing resilience among older adults moving into and living in a CCRC? In what ways can ICTs ease the transition into a CCRC and minimize the negative impacts older adults may experience? Research from our group has shown that specially designed ICT training interventions can help mitigate the negative effects of living in a CCRC.

The ICTs and Quality of Life (QoL) Study was a randomized controlled trial intervention study, conducted between 2009 and 2014 in a medium-sized metropolitan area in the Deep South area of the U.S. (Cotten et al., 2017). It examined the impacts of ICT use on the health and social capital of older adults living in CCRCs, specifically assisted and independent living communities. The study involved our group going into CCRCs and conducting an 8-week ICT training intervention (1.5 h classes conducted twice per week with an additional 1.5 h office hour session). The intervention was specifically designed to teach older adults with little-to-no computer and Internet experience and was designed to accommodate the specific learning needs of CCRC residents. This included implementing specific teaching styles for older populations and utilizing equipment designed for older learners with physical impairments (screens with high resolution, larger keyboards, trackball mice, etc.). Classes started with the basics of using a computer and navigating the Internet and progressively increased in difficulty over time. Activities taught included sending and reading email, searching for information, social networking, and using entertainment websites (e.g., YouTube, Hulu). More detail regarding the study can be found in our book *Designing Technology Training for Older Adults in Continuing Care Retirement Communities* (Cotten et al., 2017).

Residents who participated in the ICT training reported a myriad of quality of life benefits derived from the training and the use of ICTs (Berkowsky, Cotten, Yost, & Winstead, 2013; Cotten et al., 2013; Winstead et al., 2013). A majority of the benefit was derived from how the residents used ICTs to transcend the spatial and social barriers of CCRC life (Winstead et al., 2013). Participants noted how email provided the means of staying in contact with friends and family and how the Internet served as a useful tool in searching for information on long-lost social contacts. In one particular example, a participant in an assisted living community detailed how during the intervention she was able to use the Internet to search for information on a friend from her childhood she had lost contact with decades prior and reconnect through email (Cotten et al., 2017: pp. 98–99). Participants also described how they used the Internet to stay up-to-date and in contact with community networks (e.g., visiting a church website) as well as visit locations dear to them (e.g., using Google Street View to see old neighborhoods and homes). The use of ICTs in this way helped the residents feel less isolated from their social contacts and their communities, thus inhibiting more negative outcomes like depression.

In addition, participants in the study exhibited increased self-efficacy, a concept which describes how individuals self-evaluates their abilities to accomplish tasks and achieve goals (Cotten et al., 2017). They reported more positive attitudes in their abilities to use computers and the Internet, fewer perceived limitations in using ICTs, and a greater sense that they had felt more "modern" and "contemporary." Self-efficacy is related to resilience in that those with a stronger sense of self are typically more resilient in the face of adversity (Rowe & Kahn, 1997); thus, self-efficacy acts as a protective factor. Participants in our study remarked how they felt that they had "joined the human race" and were more confident in their abilities to use ICTs to their advantage. Our findings suggest that despite the potential negative impacts of relocation, CCRC residents can use ICTs to enhance their resilience to the transition and promote a better quality of life. However, our study does emphasize the importance of specially designed interventions for groups like individuals in CCRCs, as this population is markedly different from the general aging population and thus requires specific accommodations.

Beyond Computers: Other Technologies that Can Enhance Resiliency

Throughout, this chapter has focused primarily on the effects of Internet-connected computer use as a means of enhancing resiliency among older adults (computers being the most commonly used ICT), both in the community as well as within a CCRC. We now turn our attention to other technologies that can potentially enhance resiliency. It should be noted that this is by no means an exhaustive list, as there are numerous technologies on the market which benefit older adults in a variety of ways and there are more and more technologies being introduced every day. The following section details just a sample of technologies currently available that may enhance resilience in diverse ways.

Mobile Technologies

Smartphones (e.g., Internet-connected mobile phones) have dramatically increased both in popularity as well as prevalence in everyday life since their introduction to the market a decade ago. With this increase there has also been increased attention turned toward the concept of mHealth, or "mobile health." mHealth refers to health information, education, and care supported or delivered via mobile communication technologies such as smartphones. The obvious advantage of mobile technologies in managing health is their potential use to communicate with a healthcare provider (e.g., doctor) or a caregiver, which can be vital for older adults experiencing physical and mental health issues and who may have difficulty traveling. However, smartphones and other mHealth devices can also run specific health-based applications or "apps" that older adults can use to manage their health. The number and diversity of health apps available to download and use on mobile devices is increasing everyday, each with unique functions and advantages. Examples include (but are not limited to)

- *Meal preparation* apps which allow for users to track the foods they consume to better manage their diet and weight, thus assisting them with adhering to specific diet recommendations from doctors
- *Exercise* apps which tailor exercise routines to the sex, weight, and ability of the user to help keep the user in shape and active
- *Medication* apps which remind the user when to take specific medications, thus increasing the success rate of medication adherence
- *Community health* apps which may provide information on the health services available in the user's surrounding area, locations and directions to doctor's offices, and provide notice to health events such as health fairs
- *Health information* apps which provide both cursory and detailed information on specific diseases and illnesses as well as recommendations on how to proceed should symptoms of certain ailments arise
- *Emergency response system* apps which allow users to signal to individuals outside the home at the touch of a button to come to assist the user through a health crisis (e.g., a user who has sustains a fall-related injury may use these emergency response apps to call for an emergency medical team).

The literature on mHealth applications for enhancing the health and health care of older adults is growing as the technology expands and develops. While there is evidence to suggest these apps have the potential to significantly improve outcomes in users (e.g., Donker et al., 2013), more research is needed to evaluate the efficacy of these apps.

Mobile devices also have potential benefits beyond these health apps, giving older adults the tools they need to lead more resilient lives. An obvious example is that smartphones, like telephones and email, provide older adults with the means to easily communicate with friends and family; thus, maintaining social contacts. Smartphones, however, also have numerous apps that may promote independent living. An example is that of ride-sharing apps—apps wherein users can call for a driver on short notice and the driver uses GPS to find, pick up, and drop off users for a fee (e.g., Uber, Lyft). Apps like these may be vital for older adults who lack the transportation means to go to a doctor's office, attend community events (e.g., church services), or visit family and friends. Use of such apps may allow older adults to live more functional lives despite any limitations they experience. They, in effect, provide a new tool to overcome adversity—such as the spatial barriers alluded to earlier in this chapter.

Telepresence

An emerging trend in health technology is that of telepresence and robotics. Telepresence refers to the ability individuals to appear to be in a location they are not and to interact with others in that location despite not being there. An example of telepresence is that of video conferencing wherein an individual may use specific software (e.g., Skype, Face Time) to make a video phone call with another. In doing so, the person may have a face-to-face conversation with another person at a separate location through the use of audio and video equipment. Robotics may be combined with telepresence technologies such that the video conferencing technology can be attached to a moving robot that can be controlled from a remote location. For example, a person in California can interact with someone in New York by controlling a robot that can move around and follow the person in New York, all the while transmitting video and audio to motivate conversation.

Telepresence technologies and robotics can be especially beneficial for older adults with regards to healthcare, as it provides the means through which an older adult can communicate with members of a care team without leaving the home (e.g., Czaja, Loewenstein, Schulz, Nair, & Perdomo, 2013). This can be especially useful for older adults who lack transportation means or experience mobility issues and thus cannot travel to see a doctor. It can be useful to older adults in rural areas as well where travel to a doctor's office or hospital may be challenging. Telepresence has also been shown to help alleviate loneliness and depression due to the social connections it can foster (Tsai, Tsai, Wang, Chang, & Chu, 2010). Telepresence technologies allow older adults to stay in touch with friends and family with the added benefit of video.

The Internet of Things

The Internet of Things (IoT) is a concept that refers to how devices and applications can connect and communicate with one another via the Internet. The concept has grown in popularity in the health sphere as researchers and companies across various domains (healthcare, engineering, etc.) have teamed up to develop and deliver technology systems wherein individual components may communicate and share information with one another which can, in turn, provide a new means for older adults to function independently. An example may be that of a system wherein household controls (e.g., lights, temperature, humidity) are all connected via a wireless Internet connection to a smartphone or a tablet computer. Older adults who may have mobility difficulties may use the smartphone or tablet computer to manipulate their environment without having to move around the home. These systems may also be outfitted with sensors to help monitor a particular space within the home as well as older individuals themselves. For example, the home can be outfitted with sensors that detect if an older adult has fallen and, if sensed, sends an emergency signal to the appropriate authorities. The literature on the ability for these types of technologies to promote independent living among older adults is growing. Findings suggest that while there may be benefits for older adults, there are many barriers to successful use (concerns with privacy, cost, usability, etc.) which need to be addressed (Peek, Aarts, & Wouters, 2017).

Conclusion

Resilience refers to the risk of adversity and an individual's ability to overcome said adversity. Older adults may experience a myriad of diverse challenges as they age related to their physical, mental, and social health. Technology can provide older adults with new and exciting tools to combat these challenges in a variety of settings such as in the home or in a CCRC. Through increased communication with social networks, increased access to information like health information, or increased ability to perform functional tasks (e.g., managing diet, hailing a ride to the doctor), technology gives older adults the ability to live more independent lives.

As stated earlier in this chapter, older adults utilize technologies to a lesser degree compared to younger cohorts despite the apparent benefits of use. The reasons for this are numerous and include a lack of adequate training and experience with technology, decreased access, impaired physical and cognitive abilities that may prevent mastery, and decreased confidence in the ability to successfully use (Cotten et al., 2017), among others. Despite these barriers, older adults are able to use technology to their benefit should the technology be designed with their specific needs in mind and with adequate technology education. Tailoring technologies to the needs of older adults and providing tailored training may go a long way in giving older adults the equipment and skills needed to enhance resilience more successfully and live more functionally independent lives regardless of their life circumstances and of the challenges they face.

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Conclusion: The Key to Successful Aging

Barbara Resnick, Lisa P. Gwyther and Karen A. Roberto

Abstract This book provides a comprehensive look at the many aspects of resilience and the ways in which older adults can develop resilience, be resilient, and overcome challenges experienced throughout the aging process. The chapter authors provide several different conceptualizations of resilience. For example, Allen et al. (Chap. 1) note that resilience encompasses the processes of being mindful and prioritizing behaviors, thoughts, and feelings that facilitate contentment within one's specific developmental, physical, emotional, and spiritual context. Smith et al. (Chap. 2) refer to resilience as a long, ongoing process developed across the life course through previous experience of hardship, such as the death of a loved one, the loss of a job, and a serious illness. Rosowsky in Chap. 3 defines resilience as the ability to bounce back and recover after a major stress or negative life event. Across the many definitions and descriptions of resilience provided, resilience is conceptualized to reflect an effective response to some type of adversity or challenge, whether this is physical, psychological, economic, political, environmental, or social. Further, Resnick notes that ultimately the goal with resilience is to not only bounce back and recover but to bounce forward and establish resilient reintegration and growth from the challenging experience.

Keywords Resilience · Successful aging · Self-efficacy · Optimism
Recovery

This book provides a comprehensive look at the many aspects of resilience and the ways in which older adults can develop resilience, be resilient, and overcome challenges experienced throughout the aging process. The chapter authors provide several different conceptualizations of resilience. For example, Allen et al. (Chap. 1) note that resilience encompasses the processes of being mindful and prioritizing behaviors, thoughts, and feelings that facilitate contentment within one's specific developmental, physical, emotional, and spiritual context. Smith et al. (Chap. 2) refer to

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resilience as a long, ongoing process developed across the life course through previous experience of hardship, such as the death of a loved one, the loss of a job, and a serious illness. Rosowsky in Chap. 3 defines resilience as the ability to bounce back and recover after a major stress or negative life event. Across the many definitions and descriptions of resilience provided, resilience is conceptualized to reflect an effective response to some type of adversity or challenge, whether this is physical, psychological, economic, political, environmental, or social. Further, Resnick notes that ultimately the goal with resilience is to not only bounce back and recover but to bounce forward and establish resilient reintegration and growth from the challenging experience.

Resilience is thus central to aging because adversity is inevitable at points throughout the life span and certainly as we age. Some adults will be fortunate enough to survive till old age, with "old" varying from 50 to 75 years of age (World Health Organization, 2018), without multimorbidity. Even for these individuals, there will be some physical, sensory, and psychosocial changes and challenges common to older adults such as visual impairment, disability (e.g., kyphosis), role loss, loss of friends and family, or a beloved pet. Responses to these challenges are as varied as the challenges themselves. Some individuals become depressed or disengaged when faced with age-associated changes such as graying of hair or wrinkling of skin. Others respond by seeking cosmetic interventions, using behavioral interventions (facial exercises), humor, or simply take pride in the changes as a badge of honor associated with growing old (e.g., I earned these gray hairs!).

Resilience and Aging Successfully

Even in the face of normal aging, resilience is relevant and being resilient is likely to facilitate aging successfully. Successful aging is generally conceptualized as the older adult who has, by virtue of good luck, family history, and adherence to healthy lifestyle behaviors, avoided physical, cognitive, or functional changes that influence quality of life or active engagement. The image of a successful older adult tends to be the 95-year-old runner who wins his or her age group in the Boston marathon, or the individual featured on greeting cards who can display flexibility that most of us never could achieve as children. The truly successful older individual, however, is someone who has demonstrated resilience and at age 95, with multiple comorbidities optimizes function, volunteers, or continues to be actively engaged in meaningful activities, or is simply happy reviewing his or her prior life activities. It is the individual who has a hip fracture and participates fully in rehabilitation activities and remains determined to return home, or the individual who recognizes cognitive changes with a decline in short-term memory and buys a bigger calendar to write him or herself reminders and cues for what to do on a daily basis.

Resilience and Exercise

Exercise, and adherence to exercise throughout life, has been described as one of the best interventions to optimize the likelihood of aging successfully (Rao, Chou, Bursley, Smulofsky, & Jezequel, 2014; de Vries, van Ravensberg, Hobbelen, Olde Rikkert, & Staal, 2012). There is no question that there are numerous, well-supported benefits to exercise throughout the life span. For example, exercise can decrease progression of degenerative joint disease, prevent osteoporosis of the lumbar spine (Palombaro, 2005), decrease incidence of falls and fear of falling, increase gait speed, increase muscle strength and overall fitness and function, improve cognitive function, and improve quality of life and overall well-being (Rhodes, Janssen, Bredin, Warburton, & Bauman, 2017; Dunsky, Yahalom, Arnon, & Lidor, 2017; Chan & Chen, 2017; Plummer & Bradley, 2017). It is those who are motivated to be resilient, however, who engage in regular exercise activities, regardless of underlying physical challenges, pain, or fear. Thus, it may not simply be exercise that is the secret to successful aging. Rather, it may be the individual's predisposition and learned behavior to be motivated and resilient and adapt to physical challenges or overcome other barriers to engaging in exercise such as time, competing activities, and responsibilities.

Moving Forward and Preparing the Baby Boomers

Throughout this book, we embrace the conceptualization of resilience as a process or behavioral response that can be strengthened, improved, and called upon to establish, maintain, or regain a state of physical, psychological, or emotional equilibrium over time. Building resilience is a lifelong process and can be facilitated through numerous pathways and approaches. Interventions to strengthen resilience include developing positive interpersonal relationships, incorporating social connectedness with a willingness to extend oneself to others, developing and recognizing strong internal resources, having an optimistic or positive effect, keeping things in perspective, setting goals and taking steps to achieve those goals, developing and maintaining high self-esteem and high self-efficacy, building one's determination, and deliberately looking for joy in each day and through each experience.

The chapters in this book provide wonderful examples of how to recognize, develop, and strengthen resilience in older adults across all three areas. There are examples and discussions of using civic engagement and volunteer or paid employment to achieve physical, emotional, and psychosocial benefits. Preparing current work environments to assure the safety and optimal job satisfaction of older employees is critical. Likewise, environmental interventions to assure that older adults can travel to and safely access sites of employment (volunteer or paid employment) as well as community resources and activities are critical.

There are also numerous examples throughout the chapters to address the special challenges of optimizing resilience and successful aging among older adults with cognitive impairment. Using narratives is one way in which older adults with cognitive impairment can share life stories with families and have such stories become enduring heirlooms for future generations. Social remembering and talking with others about shared experiences is another way in which to engage an individual with cognitive impairment in an enjoyable successful experience that builds self-esteem. I do this often in my own clinical practice as I have patients I have had the opportunity to work with for over 30 years. I help them recall prior successful recoveries and use those experiences to help them believe that they will recover from yet another challenge.

The Baby boomers may be a generation that is more comfortable with self-help and support group activities compared to the current cohort of older adults. Self-help, self-care, or support activities may be particularly useful for older adults with chronic illnesses to strengthen resilience and live out their remaining years with multiple chronic conditions. Increasingly, there are social networks to provide this type of support with virtual support groups for individual disease processes and associated symptoms.

Another special group of older adults anticipated to grow exponentially in the future are those with lifelong mental health disabilities (e.g., depression, bipolar, anxiety, schizophrenia, or personality disorders). These individuals may benefit from self-help activities such as exercise. Dr. Rosowsky reminds us in Chap. 3 that old dogs can learn new tricks and that small changes in resilience can make a difference in successfully coping with aging.

Positive Interpersonal Relationships

Interpersonal relationships are instrumental in developing and maintaining resilience and include interactions with family, friends, colleagues, and other acquaintances that the individual interacts with for physical, social, or psychological purposes. With regard to resilience to physical or psychological challenges, relevant interpersonal relationships include interactions with healthcare providers encountered through any variety of healthcare situations. Providers may not realize, however, how critical their words are in terms of influencing resilience among patients.

Currently, within health care, there is a strong focus on appropriately educating patients and honestly providing information about disease states and anticipated outcomes. At the same time, there is a mandate to provide patient-centered care. Patient-centered care means checking in with patients to find out what the individual patient wants to know in terms of disease details, treatment details, and potential outcomes. Maintaining hope for individuals is critical, even if that hope is focused on a comfortable and peaceful death. In my own personal experience dealing with the recent treatment of esophageal cancer which involved extensive radiation, chemotherapy, and surgery I would have greatly benefited from verbal encouragement from my oncology team that focused more on telling me "you can do it" versus providing me repeatedly with the horrific course of treatment I would be enduring.

Developing Strong Internal Resources: Self-efficacy, Self-esteem, Determination

Self-efficacy, which is the belief that one can engage in a course of action to achieve a certain outcome, has a major influence on resilience. The first step in being resilient is to believe in one's ability to overcome the challenge. In addition to self-efficacy, self-esteem may be helpful with regard to being resilient. Self-esteem is one's appraisal of his or her self-worth. Individuals who have a positive sense of self-worth and think they bring some value to the world are likely to be more resilient. Determination, or hardiness, is another important component of resilience. This gets back to the personality aspect of resilience as there are just some individuals who are determined to recover, to get through, or to overcome the challenges they are faced with. These individuals are also more likely to seek out and find necessary resources to achieve their health-related goals.

Optimism, Positivism, and Keeping Things in Perspective

Optimism is one of the most commonly considered components of resilience or of a trait associated with resilience. Optimism is commonly conceptualized as a proxy measure of resilience. Repeatedly, it has been noted that having the ability to stay focused on positive outcomes in the face of challenges and avoid focusing on negative facts is critical to resilience. Alternatively, knowing how to avoid or overcome negative thoughts is also important. Optimism does not need to be rooted in truth to positively impact resilience and optimal coping. Unrealistic optimism may serve as an important buffer that can help individuals remain resilience in the face of challenges that might otherwise result in negative outcomes such as subsequent worsening of health, depression, or anxiety. Thus, taking a "la, la, la" approach when being forced to listen to too much information about treatments and side effects (e.g., nausea, pain, and suffering) may be helpful for some individuals. In my own recent experience with treatment for esophageal cancer, which was my second cancer experience, focusing less on the impact of treatment and more or just being resilient was helpful. Having already experienced chemotherapy and surgery for breast cancer, I had sufficient knowledge about treatment for cancers (e.g., the impact of chemotherapy and radiation in terms of energy level, ability to eat due to taste changes and nausea, hair loss or thinning). I did not find it helpful to be told repeatedly that breast cancer treatment was a “walk in the park” next to treatment for esophageal cancer. Nor did I find it helpful to learn about the side effects of treatment course. Conversely, I found that trying to be optimistic that I would/could endure the treatment and finding ways in which to cope with treatment were more useful. Healthcare providers in oncology and other areas would benefit greatly by asking particularly resilient patients how they coped with the challenges associated with treatment. This information could then be shared with other patients to build resilience.

Improving Socialization Practices

There is likely a personality aspect to socialization as there is with other components of resilience. Some people are more comfortable with social interactions than others. Maintaining and assuring adequate social resources, however, is critical to building resilience. Reaching out and making connections with others that you know can serve as a support during a challenging time is particularly important. Likewise, it is important to maintain social activities and interactions that you find of value. These might be work related, family related, or interacting with friends. Personally, what I found during my own course of treatment was to have the support from those I interacted with daily or frequently in my real world. Old friends and family who were not local were also supportive via email or phone calls. Virtual support to build resilience through social interactions is particularly helpful for individuals going through cancer treatment or recovering from surgery as talking can be exhausting. Moreover, when interacting virtually via email, it is sometimes easier to share thoughts and let the tears drop without anyone seeing them.

Strengthening Self-efficacy and Self-esteem

Self-efficacy is generally behavior specific (e.g., self-efficacy for diet, self-efficacy for exercise) although there is also generalized self-efficacy. Generalized self-efficacy is more comprehensive and more likely to be associated with individuals’ beliefs about personal abilities in general. General self-efficacy is defined as an individual’s belief in their capability to manage or perform tasks across a wide variety of situations and is associated with self-esteem. As noted previously, building general self-efficacy is best done by helping individuals feel successful in their ability to complete a task. Breaking a task down to small achievable goals, providing consistent positive reinforcement toward task completion, showing the individual how others similar to him or her have successfully completed the task, and being sure that the positive rewards and sensations associated with the activity are appreciated by the individual are all ways to foster a successful feeling.

Interventions that have been shown to be effective in strengthening self-esteem include such things as eliminating negative self-talk, recognizing one's self-worth, and being able to accept mistakes and rejection.

Creative Engagement

Drawing on prior creative talents and activities is helpful for individuals during times of crisis. Creative interventions have been shown to positively affect mental and physical health. One cheap and easy creative activity is journaling and simply writing about one's experiences during the crisis or stressful period. This not only provides a sense of creativity but is also therapeutic in terms of getting out frustrations and knowing that your story will live on, if only in a computer! For me, it was very therapeutic during frustrating or upsetting care situations to write about these experiences. Moreover, as I dealt with negative healthcare interactions, I would remind myself….it would just be another chapter in the book!

Technology-Based Interventions

The use of technology to provide psychological and social support is an important way in which to strengthen resilience. Participating in self-help communities online can help build confidence and provide the critically important social support to continue to adhere to treatment protocols or help adjust to new diagnoses. Further, social interactions via the Internet can help prevent loneliness and depression in times of crisis.

General Health-Related Interventions

Healthy interventions include such things as maintaining optimal nutrition, adhering to regular exercise, and participating in complementary and alternative medicine approaches. Exercise, as noted above, is well known to have the benefit of improving both physical and psychological health and helps to facilitate an overall sense of well-being. Selecting an activity that one can easily succeed in such as walking, swimming or biking or exercise classes for yoga, dance or other types of activities is important to make the exercise enjoyable and assure adherence.

The use of complementary and alternative medicine for some is useful to optimize mood and strengthen one's resilience. The use of vitamins and supplements (e.g., omega-3 fatty acids; ginseng), acupuncture, yoga, meditation, and pastoral care may be beneficial to some individuals and should certainly be tried.

Next Directions: A Daily Dose of Resilience

Next directions in resilience work need to focus on the development and implementation of interventions that strengthen resilience among older adults. The information and recommendations in this book for how to be resilient and overcome challenges across a variety of areas need to be translated into clinical settings and tested for effectiveness. The work in the area of genetics and resilience needs to continue so as to identify those individuals who may tend to be more resilient than others so that we can focus interventions to strengthen resilience on those most in need.

The Value of Resilience in Recovery

To demonstrate how important resilience is to recovery, I want to share my personal story of resilience. Following a year of increasing difficulty swallowing solid foods, I was diagnosed with a squamous cell esophageal cancer. This was my second cancer, the first being breast cancer 20 years earlier at age 41. Thus, I had some experience to draw upon as I began the rigorous treatment I had the opportunity to receive. YES, I mean opportunity. Patients are only treated for esophageal cancer if there is some hope that the tumor can be reduced via radiation and surgery and that the individual is healthy enough to endure an esophagectomy to really remove the tumor and surrounding cancer cells and hope for some years of recovery. Moreover, because of the aggressive treatment protocol, only individuals relatively free of comorbidities are eligible for the full course of treatment. Being a vegetarian, a daily exerciser, and free of any cardiovascular disease, I was eligible for the full array of treatment which included 6 weeks of daily radiation, 6 weeks of weekly chemotherapy, and then surgery for an esophagectomy. The surgery, which is an 8-hour process that involves at least a 2-week hospital stay, multiple chest tubes, a nasogastric tube, and gastrointestinal tube for tube feedings during the hospital stay and for a period post discharge.

The first day of treatment, as my husband kept reminding me, was like the first day of school…pretty hard. Those who educate us about the process are often the ones who are not dealing with these processes on a daily basis. In other words, just about everything, I was told was incorrect! The process was to be…blood work at 7 a.m. and then run down to radiation for my 8 a.m. treatment and then back up for chemotherapy after my blood work results were evaluated and the chemotherapy dosed and prepared. WRONG! I had the blood work and then ran down to radiation only to undergo more measurements but not to be treated as I was informed that I needed to get the chemotherapy first. Unfortunately, they did not have me on the schedule for morning chemotherapy. The nurse who had scheduled the treatment for the day had incorrectly scheduled me to have chemotherapy at 2 p.m.….a long wait from the 7 a.m. blood work and if done at 2 p.m. it would not allow sufficient time for radiation to occur afterward. Needless to say, my husband finally got tired of nicely waiting and marched back into the infusion area and asked what the rational was for the wait. Given that there really was none, I was escorted into the infusion area. All patients need someone to advocate for them!

The infusion rooms were rather pathetic looking, dirty, and dreary. Going with the first day of school analogy, I was ready to give up any dreams of getting a diploma and simply run out of that classroom. Memories of my first go around with chemotherapy 20 years previously all came rushing back like it was yesterday and I simply felt I could not go through it again. My husband reminded me that there was no choice, I could not continue living the way I was. I consented and moved forward with premedication and a good thing that was. Premedication included some intravenous Benadryl and steroids to decrease the risk of an allergic reaction. I was not going to negotiate on that and so didn't ask questions and just accepted what was given. As the Benadryl went in I felt the associated sleepiness overtake me and I laid myself back and went with the flow. We joked about the dirty room, took pictures so I could share them with the administration and decided we might have to help lead a fundraising project to pay for paint and clean up of the oncology area for patients that would follow me.

Premedication done, the chemotherapeutic agents, taxol, and cisplatinum were administered. Fortunately, I did not have an allergic reaction. Further, I did not notice a bad taste or nausea during or after the infusion. I felt poisoned as I did previously from chemotherapy and I knew the real impact was yet to come but was actually amazed to have tolerated the infusion better than my prior treatment experiences, albeit with different drugs.

From chemotherapy, I was now off to my first radiation treatment. I have to say this was just lovely. Feeling drugged already, I now had the opportunity to lie down on a relatively comfortable table, shut my eyes, and listen to a book on tape for about 20 min or so. Approximately, 8 h from start to finish I completed my first day at school.

Being Resilient and Tricks of the Trade to Cope

Everyone has their own way of being resilient and coping with challenges and discomforts associated with any disease-associated treatment or symptom. Prior successes or failures in a similar challenging experience influence resilience. I was able to build off prior cancer treatment. One benefit of my prior cancer experience (which was challenging in terms of the side effects to chemotherapy including nausea, inability to eat, and fatigue) was that I expected the worst—I was sure there would be nausea and that horrid metallic taste and that it would get worse at least for the first week post treatment. When I did not experience the same side effects with this course of treatment I was elated! Thus, one way of coping is to expect the worst and celebrate when those symptoms don't happen. Further, I found that I personally was energized by the knowledge that treatment had started and I was tolerating it. I knew at the same time that the effects of treatment would be cumulative and I had a long road ahead. That being said each day I got through was a celebration. Moreover, I was thankful for every moment that passed without nausea or too much pain and suffering. Feeling poisoned and fatigued during chemotherapy just have to be appreciated for what they are…bizarre.

Clothing for Chemotherapy and Radiation

A component of physical resilience is maintaining one's appearance. Looking nice has an impact on how you feel….at least that is my philosophy of life. So, first I decided there was no way I was wearing those ugly, huge hospital gowns for adults. I got several short and long pediatric size tops to serve as wraps that open in the front for my radiation. These were really easy for the radiation team to open and close as needed and were comfortable. I had a favorite pink top that I used during radiation. It fit perfectly over a skirt or pants.

AND yes dress for success as they say. I dressed to go to work after radiation which was my plan for each day. I could use the same work clothes I always wore with the exception of dresses as it was easier to just remove a top and put on my version of the hospital gown than it was to have to remove the entire dress. Chemotherapy clothes are more challenging to contemplate. Again my plan was to go to work after treatment and I wore my favorite outfits for chemotherapy days. The skirt that is soft and comfortable. The jacket or sweater top or whatever top you wear to work needs to allow for easy access to your arms. For me…it was a short sleeved top and jacket with nice wide three-quarter sleeves so intravenous access was easily accessible and so the jacket could fit over the access point without causing damage.

Taking Control of the Hair

The first time I had chemotherapy, I waited for my hair to come out and it made a horrific mess in the shower and on my pillow. This time I took control as I was told my hair was just likely to thin but not fully fall out. During my first weeks of treatment, I had my hair cut really short. Talk about silver linings—I have come to love this shortcut as I don't even have to blow my hair dry! Whether it is full hair loss or thinning make it a fun process—getting a new hairdo, or buying lots of fun and colorful hats as I did during my treatment for breast cancer.

Making Treatment Enjoyable

Personally, I found that radiation treatment was just lovely. All I had to do was lie down on a table, which they pad appropriately so it is not uncomfortable. Okay holding onto some hand grips with my arms over my head was a bit weird…but was tolerable none the less. The lights were dimmed and I put on my headphones, turned on my iPod, and rested for about 15 or 20 min. I couldn't do a thing! Not even scratch an itch or move my body an inch. If they needed me repositioned they did it for me. The staff in radiation were amazingly kind, caring, and interested in how I was doing. More importantly, they talked to me like I was a human being and not just another patient. They shared their own lives and asked about mine outside our secret little meeting place. This makes a big difference as social interaction and support help to build resilience.

When Eating Is a Challenge Maintaining Your Weight

Every esophageal cancer patient and every cancer patient is different in terms of ability to eat during treatment and maintain weight. Personally, I learned to enjoy eating oatmeal for breakfast, cream of wheat for dinner, a couple of yogurts or puddings I could tolerate for lunch, and lots of protein drinks and coconut water. I made it work and went with my favorite flavors of the moment. We joked about opening a hot cereal restaurant for those of us who were connoisseurs of this type of food. Eating became increasing difficult through the treatment such that by the end of the 6 weeks I was literally forcing in shot glasses of fluid to maintain hydration, soft-boiled eggs, and eventually some soup. Two of my four children created all sorts of options for me such as rice water, smoothies, and high protein soups. Their caring attempts strengthened my resilience and helped me force in sufficient amounts of food and fluid to sustain life with just some additional intravenous hydration needed for a few weeks at the end of the 6 weeks of radiation and chemotherapy.

Overcoming the Fatigue

Fatigue is something everyone can understand although the fatigue experienced during cancer treatment is a little bit different. You can sleep well and still feel fatigued. The ability to be resilient and start or continue an exercise regimen is critical during this period. I maintained my usual morning routine of running on the elliptic trainer and then usually walking in the afternoon as well. I truly believe this helped psychologically as well as physically. Walking to do errands or to work is also important to continue or to initiate. It may seem counterintuitive to some to exercise when fatigued but exercise really helps to address the fatigue, boost the immune system, promote healing, and certainly prevent the loss of muscle particularly among those of us who are older.

Enduring the HealthCare System

Unfortunately, our current healthcare system does not focus on building resilience. As patients, we are to consider ourselves lucky, which is true to some degree, to be eligible for exposure to this system, and to treatment. Over time I came to recognize that many of the patients or their significant others served as strong, if not obnoxious, advocates for themselves or their care recipient. I overheard them making sure appointments were set, blood was drawn, and they were taken back for infusion in a timely fashion. My first treatment day my husband had to do that for me. Follow-up appointments weekly with the radiation team or oncology team are lovely but for the most part are purely a social visit. Everyone asks how you are doing but I am not sure they really care to hear the response. My impression of most of this follow-up was that they didn't want to hear our stories but just checked off the required items. Was weight being maintained sufficiently? Were labs within a reasonable zone? Was the patient sitting up and functioning? They did not really want to hear how hard it was to get through each day particularly while trying to maintain a usual work schedule. Most of the time, I was coping with symptoms—nausea, pain, and fatigue. It always feels like the rest of the world was carrying on and I was being punished for some crime I didn't realize I committed. I constantly had to remind myself to be resilient and cope with the symptoms in the best way I could. For me, this was putting on my headphones and going for a walk. Finally, in my sixth week of treatment, I recognized that I was no longer safe to take care of patients and so took a leave from my clinical practice. One aspect of being resilient is acceptance of the changes that occur and I made myself accept this giving up of clinical work as a temporary issue rather than failure.

During the course of my treatment, I found that the nurses and the clinical technicians were even less caring and less helpful in terms of building resilience than the physicians I encountered. Going through cancer treatment is not a primary healthcare follow-up visit or an annual physical exam. Individuals come into the visits to get lab work to determine chemotherapy dosing and, in some situations, determine if they are able to continue therapy. Venous access is often compromised and it is a stressful activity getting labs drawn or intravenous set up. Every time you get blood work done it becomes more difficult to endure. The caring and concern and focus of the individual doing the venipuncture are critical. It does not take any longer to be kind when interacting with a patient, to be focused, to look in their eyes, and really ask how things are going. Don't ask your required question…how would you rate your pain or fatigue today? Ask qualitatively and then help the individual interpret the number. Humor is wonderful to use but take the lead from the patient and have the humor include him or her not be between you and some other worker. AND please educators and administrators teach staff not to complain about how busy they are in front of patients. This increases everyone's anxiety and doesn't help the situation. I often reminded the staff that I encountered during the course of my treatment that today it was me in the chair getting blood drawn or a treatment provided. Tomorrow it might be them. I explained that I sat on both sides of the treatment paradigm as the provider and as the patient.

My inpatient postsurgical experience was equally challenging in terms of having to endure the healthcare system. I used many of the same resilience techniques that I did during chemotherapy and radiation. I prepared by bring in my own personal gowns (my little girl Minnie Mouse gown being one of my favorites), a friend gave me a wonderful soft lap blanket for the bed, and I brought my own fragrant liquid soap and other toiletries for bathing. I was insistent on getting up and walking as much as I could tolerate, despite passing out on the team multiple times due to a drop in blood pressure. The push to get up out of bed and generally the help to do so came from me and/or one of my family members. My family, friends, and colleagues developed a schedule so that there was someone with me 24 h a day during my 5-week hospital stay. When my resilience dipped, it was the care, support, and investment of my family, friends, and colleagues that provided the social support inoculation I needed to maintain resilience and get through the pain from the surgery and the multiple chest tubes, the wasting, and starvation that occur following the surgery and the multiple interventions and tests that occur following this type of extensive and invasive surgical intervention.

I, unfortunately, endured multiple complications post surgery including a chyle leak and a surgical herniation requiring a second surgery. Maintaining resilience through these challenges was difficult and required humor, social support, and verbal encouragement to remind me that I had the strength and ability to overcome these complications. The healthcare system and providers were not particularly helpful in the management of the pain associated with the acute herniation or in their ability to address the low-fat feeding tube diet that was necessary with the chyle leak. Post surgery their only approach to pain management was really medication related and eventually I was told there was "nothing more they could do for my pain." This is not an effective way to build resilience to manage pain. I utilized my own resources which included squeezing the hands of my family members, positioning, books on tape, and watching movies for distraction.

The New HealthCare Approach to Build Resilience in Oncology and Other Areas of Health Care

The new approach to building resilience in healthcare needs to be patient centered. This approach includes assuring that providers not focus on the computer during the care interaction (okay so may be this is the old approach). Rather providers need to focus the interaction on acknowledging that treatment or impact of the disease or disease-related symptoms are pretty hard to handle and ask the patient about his or her coping strategies for eating, functioning on a day-to-day basis, and overcoming any associated symptoms. The provider needs to listen to the patient's "tricks of the trade" and take the time to learn and offer useful suggestions for symptom management instead of just ordering medications.

There are several specific ways in which providers can help build resilience. Little things like avoiding the routine and meaningless questions like asking the patient to rate his or her fatigue and instead asking an open-ended question like what is bothering you most today? Listening to the answer can be the first step to helping the patient build resilience and cope with the situation. Notice and acknowledge a haircut to ward off the thinning or loss of hair, share good tricks of the trade you may have heard about from others, and provide patients with the positive reinforcement for making it through another day. Tell the patient how amazing he or she is! Find the one thing that individual is doing correctly and praise him or her rather than admonish a patient for not adhering to a drug regimen or eating the wrong food. Encourage engagement in activities—usual work activities, creative activities, and social interaction. These activities, as noted above, can strengthen resilience.

Resilient Reintegration

Reflecting back on my course of treatment and the many challenges to resilience and my current status I believe I have achieved resilient reintegration. I learned much from this experience about the value of social support and the dedication and love of family and friends. I learned never to be afraid to offer support to others as they go through challenges themselves and to not forget those individuals over time. I learned to be more forgiving of myself in terms of work-related outcomes and to readjust my goals. I learned to appreciate the moments in a day when I don't have pain or symptoms associated with eating and to appreciate my reconditioned status and being able to get up from a squatting position on the floor to stand, run up and down the stairs and walk 5 miles a day without shortness of breath. Lastly, I learned to be a better healthcare provider and listen even more to patients, to maintain hope even when there is none and to always offer a solution to a problem identified.

Conclusion

The number of older adults in the United States will almost double between 2005 and 2030, and the nation is not prepared to meet their social and healthcare needs. We, therefore, have a tremendous opportunity and responsibility to work together to help all Americans develop, strengthen, and maintain optimal resilience to face the challenges associated with aging and associated comorbidities and optimize their function and physical activity and ability to age successfully in place. We all have within us the capacity to be motivated and resilient. Some individuals have innate resilience, and/or a well-practiced resilience and they will manage physical and emotional challenges and establish resilient reintegration (i.e., learn from the experience). Others will need the guidance of professionals, the use of social resources, services, or organized religious groups and the environmental support to strengthen or sustain resilience and overcome challenges. As you face your own aging and as you work with others, be creative, be optimistic, draw on your past successes and reach out to seek and accept help from others to be resilient, maintain resilience, and age well.

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