Positive Psychology Perspectives Across the Cancer Continuum: Meaning, Spirituality, and Growth

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To live is to suffer, to survive is to find some meaning in the suffering

(attributed to both Friedrich Nietzsche and Roberta Flack)

Cancer Survivorship

Through both public health and public relations efforts, cancer survivorship has come to denote the state or process of living after a diagnosis of cancer, regardless of how long a person lives (National Cancer Institute [1]). By this definition, a person is considered to become a cancer survivor at the point of diagnosis and to remain a survivor throughout treatment and the rest of his or her life [1]. The term "survivor" was chosen with great care by the National Coalition for Cancer Survivorship to explicitly promote empowerment of those with cancer [2]. There are an estimated 12 million cancer survivors in the United States, representing approximately 4% of the US population [3], and an estimated 25 million survivors worldwide [4]. Many survivors are in longer-term survivorship; for example, approximately 14% of cancer survivors in the United States were diagnosed over 20 years ago [3].

The cancer experience from diagnosis through longer-term survivorship has been described as a continuum comprising different phases, including living with cancer, living through cancer, and living beyond cancer [5, 6]. The demands on survivors differ across these phases, leading to different emotional reactions and coping responses. Further, the roles played by each of the three positive psychology constructs considered here, meaning, spirituality, and growth, may differ across these phases (see Table 7.1).

The first phase, living with cancer, refers to the time of diagnosis and active treatment. Fear, anxiety, and pain resulting from both illness and treatment are common. While in primary treatment, cancer often becomes life's central focus not only for the cancer patient but also for his or her family and friends. Primary treatment may involve intensive and immediate coping with medical issues, decision-making, and the many chaotic emotions that ensue, including fear, hope, pain, and grief [7].

The second phase, living through cancer, refers to the time following remission or treatment completion. The transition period from primary treatment to longer-term survivorship is a critical time, setting the course of psychological adjustment for years to come. While a relief in many ways, this transition is often highly stressful in its own right [8, 9], due in part to reduced frequency of visits and access to medical providers, changes in daily routines, adjustment to treatment-related side effects, and uneasiness about being on one's own after having such close relations with medical providers [7, 10]. Psychologically, survivors are often in a state of watchful waiting, with high fears of recurrence [9, 11].

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Table 7.1 The Roles of Meaning, Spirituality and Growth Across the Cancer Continuum

	Living with cancer	Living through cancer	Living beyond cancer
Cancer-related involvement	Diagnosis and active treatment	Transition from primary treatment and regular contact with health-care providers	Longer-term survivorship
Role of cancer in one's life	Cancer and treatment is life's central focus	Attempts to resume a "new normal" life; cancer focus reduced. Transition from patient can be jarring	Long-term implications of being a cancer survivor
Potential roles of meaning	Sources of meaning as support Violations of global meaning	Reconsideration and reconstitution of global beliefs and goals	Cancer as part of one's life narrative. Sense of life meaning often enhanced
Potential roles of spirituality	Spiritual crisis. Turning towards spirituality for strength and support	Reconsideration and reconstitution of spiritual beliefs and goals	Revised spiritual global meaning
Potential roles of growth	Possibilities of positive outcomes may provide hope Most reports illusory, function as coping	Reflection on changes experienced; identification of positive changes	Maintenance of life changes or return to pre-cancer baseline

The third phase, living beyond cancer, refers to a time when the "activity of the disease or likelihood of its return is sufficiently small that the cancer can now be considered permanently arrested" [5, p. 272]. Even after survivors enter this phase, a sense of vulnerability, fears of recurrence, and psychosocial problems related to their cancer experience are common [12]. However, longer-term survivorship affords individuals opportunities to reflect on and embellish their narratives to include their cancer experience, and to feel they have made some meaning from their cancer [13]. Being a cancer survivor often becomes an important aspect of self-identity [14].

The Meaning-Making Model

The meaning-making model addresses two levels of meaning, global and situational [15]. Global meaning refers to individuals' general orienting systems. Situational meaning comprises initial appraisals of a given situation, the processes through which global and appraised situational meanings are revised, and the outcomes of these processes. Components of the meaning-making model are illustrated in Fig. 7.1. In this section, the elements of this meaning-making model are briefly described. This model then serves as the framework to discuss the roles of meaning, spirituality, and growth in the context of cancer.

Global Meaning

Global Meaning consists of the structures through which people perceive and understand themselves and the world, encompassing beliefs, goals, and subjective feelings of purpose or meaning in life [15, 16]. Global meaning consists of cognitive, motivational, and affective components, termed, respectively, global beliefs, global goals, and a sense of meaning or purpose [17–19].

Global beliefs concerning fairness, justice, luck, control, predictability, coherence, benevolence, personal vulnerability, and identity comprise the core schemas through which people interpret their experiences of the world [20, 21]. Global goals are individuals' ideals, states, or objects towards which they work to be, obtain, accomplish, or maintain [22, 23]. Common global goals include relationships, work, health, wealth, knowledge, and achievement [24]. Subjective feelings of meaning refer to a sense of "meaningfulness" or purpose in life [19, 25]. This sense of meaningfulness comes from seeing one's life as containing those goals that one values as well as feeling one is making adequate progress towards important future goals [25, 26]. Together, global beliefs and goals, and the resultant sense of life meaning, form individuals' meaning systems, the lens through which they interpret, evaluate, and respond to their experiences.

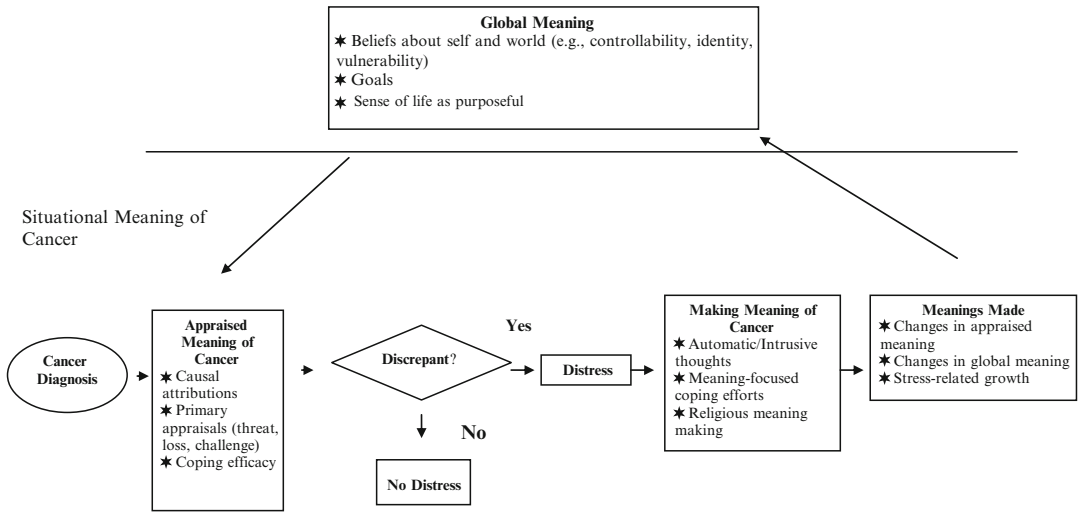

Fig. 7.1 The Meaning-making Model in the Context of Cancer

Situational Meaning: The Meaning of Potentially Stressful Encounters

Meaning is an important part of everyday life [27], informing people's ways of understanding and functioning, although such influences are typically subtle and unnoticed. However, confrontations with highly stressful experiences such as serious illness bring meaning to the fore [28, 29]. People assign meanings to, or appraise, potentially stressful situations [30]. These appraised meanings are to some extent determined by the specifics of the particular situation, but are also largely informed by individuals' global meaning.

Stress as Discrepancy Between Global and Situational Meaning

The meaning-making model is based on the notion that stress occurs when people perceive discrepancies between their global meaning (i.e., what they believe and desire) and their appraised meaning of a particular situation [17, 18]. This discrepancy-related stress motivates individuals to resolve their problems and dissipate the resultant negative emotions [31]. Confrontation with a severe stressor is thought to have the potential to violate or even shatter global meaning systems (i.e., individuals' global beliefs about the world and themselves and their overarching goals). Such violations or discrepancies are thought to initiate individuals' cognitive and emotional processing—"meaning-making" efforts—to rebuild their meaning systems. Meaning-making involves efforts to understand and conceptualize a stressor in a way more consistent with their global meaning and to incorporate that understanding into their larger system of global meaning through assimilation and accommodation processes [15].

Resolving stressful events entails reducing discrepancies between appraised meanings and global meanings [32–34]. Discrepancies can be reduced in many ways, and, to this end, people engage in many types of coping (e.g., [13, 35]). People may engage in problem-focused coping, taking direct actions to reduce the discrepancy by changing the conditions that create or maintain the problem. When encountering stress, individuals can also engage in emotion-focused coping, much of which is targeted at directly alleviating distress, albeit temporarily, by disengaging mentally or behaviorally (e.g., focusing on some distraction). Emotion-focused coping, by definition, does not reduce discrepancies, which may be why it is generally associated with distress [36].

Stressful situations vary in the extent to which they are amenable to problem-focused coping, such as planning and actively focusing on changing the problematic situation (e.g., [37, 38]). Problem-focused coping is generally considered the most adaptive type of coping [36], but low-control situations such as trauma, loss, and serious illness are not amenable to direct repair or problem-solving. In such low-control situations, meaning-making coping is particularly relevant and potentially more adaptive [39]. Meaning-making refers to approach-oriented *intrapsychic* efforts to reduce discrepancies between appraised and global meaning. Meaning-focused coping aims to reduce discrepancy by changing either the very meaning of the stressor itself (appraised meaning) or by changing one's global beliefs and goals; either way, meaning-focused coping aims to improve the fit between the appraised meaning of the stressor and global meaning.

Following highly stressful events, individuals' meaning-making processes typically involve searching for some more favorable or consistent understanding of the event and its implications for their beliefs about themselves and their lives. Meaning-making may also entail reconsidering global beliefs and revising goals (see [40]) and questioning or revising their sense of meaning in life [25].

This rebuilding process is assumed to lead to better adjustment, particularly if adequate meaning is found or created (for reviews, see [17, 41, 42]). However, protracted attempts to assimilate or accommodate may devolve into maladaptive rumination over time if satisfactory meanings cannot be constructed [43]. That is, meaning-making is helpful to the extent that it produces a satisfactory product (i.e., *meaning made*) [17].

Meanings Made

The products that result from meaning-making, termed *meanings made*, involve changes in global or situational meaning, such as revised identity, growth, or reappraised situational or global meaning. The outcomes of the meaning-making process involve changes in global or situational meaning. As illustrated in Fig. 7.1, individuals may make many different types of meaning through their meaning-making processes. Among these are a sense of having "made sense" (e.g., [44]), a sense of acceptance (e.g., [45]), causal understanding (e.g., [20]), transformed identity that integrates the stressful experience into one's identity [46], reappraised or transformed meaning of the stressor (e.g., [35]), changed global beliefs (e.g., [47]), changed global goals (e.g., [48]), a revised or reconstituted sense of meaning in life (e.g., [20]), and perceptions of growth or positive life changes [31].

Meaning in the Context of Cancer

Both global and situational meanings influence the processes of coping with cancer across the continuum from diagnosis through treatment and longer-term survivorship. Further, these influences may vary across this continuum (see Table 7.1). A diagnosis of cancer can shatter aspects of a patient's extant global meaning. For example, most people hold views of the world as benign, predictable, and fair and their own lives as safe and controllable [33, 49]. A cancer diagnosis is typically experienced as being at extreme odds with such beliefs (e.g., [50]), setting in motion processes of distress and meaning-making that ultimately lead to changes in survivors' situational and global meaning.

Appraised Meaning of Cancer

People appraise the meaning of their cancer diagnosis based on the information they receive from their healthcare providers and other sources along with their own understanding of the disease of "cancer" (e.g., time course, severity) [51], their appraisals of their ability to manage the illness and its anticipated impact on their future [51], and their general sense of control over their life [52, 53]. Research indicates that the meanings that survivors assign to their cancer experience predict not only their coping and subsequent adjustment but also their treatment-related

decisions and their well-being (e.g., [54, 55]). For example, a study of prostate cancer survivors found that those who appraised their cancer as a loss had higher levels of depression, while those who appraised their cancer as a threat had higher levels of anxiety [55]. Similarly, a study of survivors of a variety of cancers found that threat appraisals were related to higher levels of distress, although challenge appraisals were unrelated to distress [56].

Applying Lipowski's [57] taxonomy of illness appraisals in a large sample of breast cancer survivors, Degner et al. [58] found that shortly after diagnosis, most survivors appraised their cancer as a "challenge" (57.4%) or as having "value" (27.6%); few appraised their cancer as "enemy" (7.8%), "irreparable loss" (3.9%), or "punishment" (0.6%). These appraisals were mostly unchanged 3 years later, and survivors who had initially appraised their cancer as a challenge or as having value reported less anxiety at follow-up. Cross-sectionally, at follow-up, women who appraised the cancer negatively (i.e., "enemy," "loss," or "punishment") had higher levels of depression and anxiety and poorer quality of life than women who appraised their cancer in more positive ways. Similar findings were recently reported by Büssing and Fischer [59].

Control appraisals have also been linked to survivors' well-being. For example, in the above-mentioned study of survivors of various cancers [56], appraised uncontrollability of the cancer was related to higher levels of distress, although appraised self-controllability of the cancer was unrelated to distress. Similarly, a study of ovarian cancer patients found a strong negative relationship between women's appraised control over their illness and their psychological distress [60]. Some research has shown that appraisals are also related to physical health. In studies of colorectal [61] and prostate [62] cancer survivors, having a belief that nothing could cure most cancer was related to all-cause mortality 15 years later, controlling for many confounding factors. The authors speculated that these associations may be due to health protective behaviors, adherence to recommended medical protocols, or more lax monitoring of disease recurrence.

Attributions for the cancer are another type of appraisal survivors make [63]. Attributions involve assigning a cause to the cancer; such attributions may change over time through meaning-making processes. In those cases where the attribution is derived not through a fairly quick and automatic process but through cognitive processing over time, such attributions may be more accurately viewed as reattributions, a product of meaning-making [17]. Unfortunately, virtually no studies have differentiated attributions from reattributions or examined processes of timing and change. Further, most studies assessed attributions long after the initial diagnosis of cancer was made. Thus, survivors in most existing research are reporting on their reattributions rather than their initial understanding of their cancer. Therefore, the majority of research on cancer attributions is reviewed in the subsequent section on meanings made.

This section simply notes that different types of cancer may elicit different types of causal attributions, which may be evidenced in initial appraisals. For example, Costanzo and her colleagues [64] proposed that because of the lack of information on environmental or behavioral causes of gynecological cancer, women with gynecological cancers were less likely to attribute their cancer to specific causes and more likely to attribute their cancer to chance or God's will. In that study of gynecological cancer survivors, God's will was mentioned as a factor contributing to the development of cancer by 39% of the sample, ranking third only behind genetics/heredity and stress. Further, in the factors perceived to prevent a cancer recurrence, prayer was mentioned by 90% of the sample, ranking third only behind medical checkups and a positive attitude. God's will, assessed as a separate factor, was mentioned by 69% of the sample.

Cancer as Violation of Global Meaning

Receiving a diagnosis of cancer can violate important global beliefs such as the fairness, benevolence, and predictability of the world as well as one's sense of invulnerability and

personal control [10, 65, 66]. Beliefs in a loving God may also be violated [67]. Further, having cancer almost invariably violates individuals' goals for their current lives and their plans for the future [68].

According to the meaning-making model, the extent to which having cancer is perceived as inconsistent with global beliefs such as those regarding identity (e.g., I live a healthy life style) and health (e.g., living a healthy lifestyle protects people from illness) and global goals (e.g., desire to live a long time with robust health and without disability) determines the extent to which the diagnosis is distressing. Different types of cancer and the specifics of an individual's illness (e.g., prognosis, treatment) likely influence the situational meaning given and the extent of discrepancy with global meaning (e.g., [69]).

Several studies of cancer survivors have examined how global meaning violations may arise from having cancer. For example, a cross-sectional study found that gastrointestinal cancer patients appraised their cancer as highly discrepant with their beliefs and goals; greater discrepancies were related to more anxiety and depression [70]. A longitudinal study of survivors of various cancers found that the extent to which the cancer was appraised as violating their beliefs in a just world was inversely related to their psychological well-being across the year of the study [13]. Similarly, a study that did not directly measure appraisals of violation but that likely reflects those found that compared to women without a diagnosis of breast cancer, women diagnosed with breast cancer reported lower levels of perceived control over their lives; findings were especially strong for breast cancer survivors who had received chemotherapy [71]. These links between discrepancy of appraised and global meaning with adjustment in cancer survivorship have seldom been directly examined, and much remains to be learned about perceptions of belief and goal violation.

Making Meaning from the Cancer Experience

Researchers have posited that meaning-making efforts are essential to adjustment to cancer by helping survivors either assimilate the cancer experience into their pre-cancer global meaning or helping them to change their global meaning to accommodate it [66]. Many researchers have proposed, therefore, that meaning-making is critical to successfully navigate these changes ([29, 66, 72, 73]. Indeed, it is hard to imagine that survivors could come through a cancer experience without some reconsideration of their lives vis-à-vis cancer [29, 72, 74, 75]. However, some researchers have suggested that survivors sometimes simply accept their cancer experience or, once it has ended, have little need to think or reflect on it [76, 77].

According to the meaning-making model, meaning-making following cancer involves survivors' attempts to integrate their understanding (appraisal) of the cancer together with their global meaning to reduce the discrepancy between them [15, 78]. Yet to assess meaning-making, many studies have employed overly simple questions, such as "How often have you found yourself searching to make sense of your illness?' and "How often have you found yourself wondering why you got cancer or asking, 'Why Me?'" (e.g., [79]).

Such assessments do not adequately measure meaning-making [17]. Survivors' meaning-making processes involve deliberate coping efforts, such as reappraising the event, reconsidering their global beliefs and goals, and searching for some understanding of the cancer and its implications for themselves and their lives (e.g., [66, 80]). In addition, meaning-making processes apparently often occur beneath the level of awareness or without conscious efforts (e.g., in the form of intrusive thoughts; [32, 66]).

In addition, although meaning-making is presumed to be adaptive [17, 66], many studies have found that survivors' searching for meaning is typically related to poorer adjustment (e.g., [79, 81, 82]). For example, a study of breast cancer survivors completing treatment found that positive reinterpretation, attempting to see the cancer in a more positive light or find benefits in it, was unrelated to adjustment, while emotional processing, attempting to understand the reasons underlying one's feelings, was actually associated with subsequently higher levels of distress [83].

A cross-sectional study of long-term breast cancer survivors found that searching for meaning was related to poorer adjustment [75], and a study of prostate cancer survivors shortly after treatment found that meaning-making efforts were related to higher levels of distress both concurrently and 3 months later [79].

Such findings are not inconsistent with the meaning-making model, however, because these studies not only failed to adequately assess meaning-making, but they also failed to comprehensively examine all of the components of the model, such as belief and goal violation. Further, many were conducted cross-sectionally, although longitudinal assessments of appraised meanings and discrepancies between situational and global meaning and examination of change in them over time are necessary to truly capture this assimilation/accommodation process.

In addition, the meaning-making model proposes that meaning-making per se is not necessarily adaptive and, in fact, may be indistinguishable from rumination, without attention to whether meaning has actually been *made*. Few studies have distinguished between adaptive meaning-making and maladaptive rumination; this lack of discrimination may account for the lack of more consistently favorable effects of meaning-making [13, 43]. According to the meaning-making model, when cancer survivors search for meaning, either through deliberate efforts or through more automatic processes, and achieve a reintegration of their cancer experience and their global meaning, they experience less distress *and* engage in less subsequent meaning-making [13]. However, when meaning-making efforts fail, the cancer experience may remain highly distressing. Unable to assimilate their cancer experience into their belief system or accommodate their previously held beliefs to account for their experience, survivors may experience a loss of personal or spiritual meaning, existential isolation, and apathy [10] and may persist in meaning-making efforts even years afterward (e.g., [75]), accounting for the positive relationship between searching for meaning and distress.

To date, few studies of cancer survivorship have assessed both the search for and the finding of meaning and tested their combined effects on adjustment in survivors. A study of breast cancer survivors in the first 18 months post diagnosis found that women who never searched for meaning and those who searched and found meaning did not differ on negative affect, but both groups had less negative affect than women who were searching but had not found meaning over time [82]. Further, the abovementioned study of younger adult survivors of various cancers assessed meaning-making (as positive reappraisal) and meanings made (growth, reduced discrepancies with global meaning). Results indicated that positive reappraisal led to increases in perceived growth and life meaning, which was related to reduced violations of a just world belief. This process was related to better psychological adjustment [13].

An intriguing but largely overlooked aspect of meaning-making in cancer survivorship is that meaning-making efforts may have different effects on well-being at different points along the survivorship continuum. For example, some researchers have proposed that during primary treatment, when patients are dealing with the impact of the diagnosis and making treatment decisions, effective coping may be more problem-focused, dealing with the immediate demands of the crisis, while meaning-making may be especially important during the transition to longer-term survivorship [10]. The transition to longer-term survivorship, as survivors return to their everyday postprimary treatment lives, may allow more time and energy for more reflective approaches to longer-term psychosocial and existential issues and may change the effects of such processing [75, 83].

Meaning Made from the Cancer Experience

People are thought to make meaning of stressful experiences primarily by changing the meaning of those experiences (i.e., their situational meaning), but sometimes violations of global meaning are too great to be assimilated, and people must turn to processes of accommodation, which produce shifts in global meaning [20]. Researchers have identified a number of products of meaning-making

in cancer survivorship. The global meaning change most studied among cancer survivors is that of stress-related growth, the positive changes people report experiencing as the result of stressful encounters [31]; growth is so widely studied that it warrants its own section below. In addition, researchers have identified other psychological phenomena that may be conceptualized as outcomes or products of the search for meaning in cancer survivors. Among these are understanding regarding the cancer's occurrence (usually assessed as reattributions) and the integration of cancer and survivorship into identity [46].

Causal understanding of cancer. As noted above, many studies have focused on the attributions cancer survivors make; because these studies are usually conducted long after the diagnosis, survivors' reported attributions likely reflect considerable meaning-making. Research with cancer survivors has indicated that most survivors have ideas or explanations regarding the cause of their cancer (e.g., [63]. However, simply possessing an explanation does not necessarily reflect adequate meaning; in fact, many causal attributions are associated with *greater* distress (e.g., [64, 84]). Instead, the specific cause referred to determines an attribution's ability to establish meaning and thus its relations with adjustment. For example, one literature review on attributions made by breast cancer survivors concluded that attributions to predictable and controllable causes such as pollution, stress, or lifestyle factors such as smoking were associated with better adjustment [85]. However, feeling that one caused one's own cancer (self-blame) has consistently been shown to be negatively related to adjustment among cancer survivors (e.g., [86]).

The link between having made meaning by identifying causes of the cancer and adjustment is therefore more complicated than it might first appear. This is illustrated in the abovementioned study of women with gynecological cancers [64], in which most attributions (e.g., genetics/heredity, stress, hormones, and environmental factors) were related to elevated levels of anxiety and depression. However, survivors who attributed their cancer to potentially controllable causes were more likely to be practicing healthy behaviors. Similarly, women citing health behaviors as important in preventing recurrence reported greater anxiety, but were also more likely to practice positive health behaviors. Further, health behavior attributions interacted with health practices in predicting distress. For example, among women who had not made positive dietary changes, appraising lifestyle as important in preventing recurrence was associated with greater distress, whereas for those who had made a positive change in diet, lifestyle attributions were associated with less distress. Thus, it appears that behaviors consistent with attributions can be effective in reducing discrepancies in meaning and therefore related to better adjustment.

Integration of cancer and survivorship into one's life narrative and identity. Another potentially important outcome of meaning-making involves the integration of the experience of cancer into survivors' ongoing life story and sense of self [87]. Surviving cancer has been described as a process of identity reconstruction through which survivors integrate the cancer experience into their self-concept, developing a sense of "living through and beyond cancer" [88, 89]. The extent to which having cancer becomes interwoven with other experiences in survivors' narratives may reflect successful making of meaning, having come to terms with the cancer. Such narrative integration is widely viewed as an important aspect of recovery (e.g., [66]). Little quantitative research has studied the cancer recovery process in terms of narrative reconstruction, although many qualitative accounts suggest that this is a promising approach (e.g., [90]).

A few studies have examined the extent to which cancer survivors embrace labels that refer to their cancer status and how that identification relates to their well-being. An early study by Deimling and his colleagues [89] examined cancer-related identities in a sample of older, long-term survivors of a variety of cancers. Asked whether they identified themselves as survivors (yes or no), 90% answered affirmatively. Other labels were endorsed less frequently: 60% identified as ex-patients, 30% as victims, and 20%

as patients. However, considering oneself a victim or a survivor was unrelated to aspects of adjustment, such as mastery, self-esteem, anxiety, depression, or hostility. It should be noted that this study was conducted prior to the mid-1990s, when the term "survivor" began to be actively promoted [2]. A more recent study of long-term survivors of colon, breast, or prostate cancer by the same group of researchers using the same measurement strategy found that 86% of the sample identified as a "cancer survivor," 13% saw themselves as a "patient," and 13% identified as "victim" [91].

Several other studies have addressed post-cancer identities. Asked which term best described them, over half of a sample of longer-term prostate cancer survivors chose "someone who has had cancer" and a quarter chose "survivor," with smaller numbers choosing "patient" or "victim" [76]. Only identifying as a survivor was related to having more positive affect, and no identity was related to negative affect. Finally, in a study of younger adult cancer survivors asked about their post-cancer identities, 83% endorsed "survivor" identity, 81% the identity of "person who has had cancer," 58% "patient," and 18% "victim" (all at least "somewhat") [14]. Endorsements of these four identities were minimally correlated with one another. Those who more strongly endorsed 'Survivor" and "Person who has had cancer" identities were more involved in many cancer-related activities, such as wearing cancer-related items and talking about prevention. Survivor identity correlated with better psychological well-being and victim identity with poorer well-being; neither identifying as a patient nor a person with cancer was related to well-being. However, the extent to which these survivors felt their cancer experience was central to their identity was inversely related to their psychological well-being [92].

Spirituality and Cancer Survivorship

The proliferating literature on spirituality in cancer survivorship provides strong evidence that spirituality typically plays myriad roles in the lives of those with cancer (for reviews, see [93–96]). Spirituality is often pervasively involved in survivors' global and situational meaning, including their making meaning of the cancer, across the phases of survivorship [97]. Because the present chapter focuses specifically on cancer survivorship, information on how religiousness and spirituality are more generally involved in global meaning is not reviewed here; readers are referred to Park [47]. This section specifically focuses on meaning in the situational context of cancer survivorship.

Spirituality and Appraised Meaning of Cancer

At diagnosis, individuals' pre-cancer spirituality may influence the situational meaning they assign to their cancer, including its appraised meaning and the extent to which their global meaning is violated by that appraisal. Some studies have found that global religious beliefs are related to the ways that cancer patients approach their illness. For example, a study of patients in treatment for a variety of cancers found that although religious beliefs (e.g., "I believe that God will not give me a burden I cannot carry") were not directly related to psychological adjustment, those with higher religious beliefs had a higher sense of efficacy in coping with their cancer, which was related to higher levels of well-being [98]. Another study found that women diagnosed with breast cancer who viewed God as benevolent and involved in their lives appraised their cancer as more of a challenge and an opportunity to grow [67].

Religious beliefs about God's role in suffering, also known as theodicies, may also play an important role in how patients deal with their cancer. One study identified five types of theodicy beliefs: that their suffering is God's punishment for sinful behavior, that they will become a better person as a consequence of their suffering, that a reward for suffering will come in Heaven, that God has a reason for suffering that cannot be explained, and that by suffering with illness, one shares in the suffering of Christ [99]. To date, no research has examined how these different theodicies influence coping with and

adjustment to cancer, but recently developed theodicy measurement tools [100] should facilitate such inquiry.

Studies assessing associations of religious causal attributions and control appraisals with well-being in cancer survivors have produced mixed results. In a sample of recently diagnosed cancer patients receiving chemotherapy, appraisals that God was in control of the cancer and that the cancer was due to chance were related to higher self-esteem and lower distress regarding the cancer, while control attributions to self, natural causes, and other people were unrelated [101], and a study focusing more specifically on different types of religious attributions in a sample of young to middle-aged adult survivors of various cancers found that attributing the cancer to an angry or punishing God was related to more anger at God and poorer psychological adjustment [102]. However, in a sample of prostate cancer survivors, causal attributions to God, regardless of their negative (God's anger) or positive (God's love) nature, were related to poorer quality of life. In addition, prostate cancer survivors who reported having a more benevolent relationship with God reported perceiving less control over their health [67]. Attributions of the cancer to God's will in the abovementioned study of gynecological cancer survivors were related to worry about recurrence, but not to anxiety or depressive symptoms [64].

Spirituality and Meaning-making from the Cancer Experience

Meaning-making often involves spiritual methods. For example, people can redefine their cancer experience as an opportunity for spiritual growth or as a punishment from God, or may reappraise whether God has control of their lives or even whether God exists [103]. Researchers typically assess religious meaning-making with subscales from the RCOPE measure [104], which includes a benevolent religious reappraisal subscale (sample item: "saw my situation as part of God's plan") as a component of a broader "positive religious coping" factor and a punishing God reappraisal subscale (sample item: "decided that God was punishing me for my sins") as a component of a broader "negative religious coping" factor.

Studies of people dealing with cancer have generally indicated that positive religious coping is weakly and inconsistently related to adjustment and well-being in cancer survivorship [93, 95]. In contrast, negative religious coping, although less frequently used, tends to be strongly and consistently associated with poorer adjustment and quality of life (e.g., [105, 106]). However, studies of coping with cancer have not separated out the religious meaning-focused coping subscales from other types of positive or negative religious coping nor examined the resultant meanings made through meaning-making.

Further, different types of spiritual and religious coping efforts may be differentially related to well-being depending on the particular phase of the continuum under study. For example, one study suggested that during the diagnostic phase, private spirituality may be particularly relevant [107]. However, few studies have examined spirituality and meaning-making across phases. One important exception, a prospective study of breast cancer patients from pre-diagnosis to 2 years post surgery, found that the use of different religious coping strategies changed over time, and that during particularly high stress points such as pre-surgery, religious coping strategies that provided comfort, such as active surrender of control to God, were highest, while religious coping processes reflecting meaning-making remained elevated or increased over time [108].

Spiritual Meanings Made from the Cancer Experience

Through the meaning-making process, survivors often make changes in how they understand their cancer (changed appraised meaning). They may also make changes in their global beliefs and goals. These changes often have a religious aspect. For example, through meaning-making, survivors may revise their initial understanding of their cancer; these reappraised meanings may be of a religious nature. Summarizing findings

from a qualitative study of breast cancer survivors, Gall and Cornblat [109] noted, "When used in the creation of meaning, relationship with God allowed some women to reframe the cancer from a disruptive, crisis event to a 'blessing' and a 'gift.' These women believed that the cancer served some Divine purpose in their lives and so they were better able to accept it" (p. 531). At this point, little quantitative research on reappraised religious meanings has been conducted.

Changes in global religious or spiritual meaning in cancer survivorship are also common [110]. Cole and her colleagues have studied the myriad positive and negative religious and spiritual changes that survivors report in great detail. They have documented that cancer survivors often report that they have become more spiritual and have a stronger sense of the sacred directing their lives but survivors may also believe less strongly in their faith or feel spiritually lost because of their cancer. Interestingly, these two directions of perceived change were uncorrelated in a sample of survivors of a variety of cancers, although positive spiritual transformations were related to higher levels of emotional well-being and quality of life while negative spiritual transformations were inversely related to well-being and quality of life. Cancer survivors with a more advanced stage of cancer or with recurrence were more likely to report positive spiritual transformation, but these factors were not related to spiritual decline. That study did not report whether time since diagnosis (or place on the survivorship continuum) was related to spiritual transformations or its relations with well-being [111]. Such changes in spirituality are usually studied as part of the broader phenomenon of stress-related growth, discussed in the following section.

Stress-Related Growth and Cancer

Stress-related growth, the positive life changes that people report experiencing following stressful events, has garnered increasing research interest in recent years (see [112], for a review), particularly in the context of cancer [31, 113]. Myriad studies of survivors of many types of cancer have established that a majority of survivors report experiencing stress-related growth as a result of their experience with cancer [114]. Reported positive changes may occur in one's social relationships (e.g., becoming closer to family or friends), personal resources (e.g., developing patience or persistence), life philosophies (e.g., rethinking one's priorities), spirituality (e.g., feeling closer to God), coping skills (e.g., learning better ways to handle problems or manage emotions), and health behaviors or lifestyles (e.g., lessening stress and taking better care of one's self) [31].

Stress-related growth has also been referred to as "posttraumatic growth," "perceived benefits," "adversarial growth," and "benefit-finding" [113]. This growth is thought to arise as people attempt to make meaning of their cancer experience, trying to understand their cancer and its implications for their lives within the framework of their previous global meaning system or coming to grips with it by transforming their understanding of the world and themselves to enable the integration of the cancer experience into their global meaning system [13, 115].

Stress-related growth is a subjective phenomenon; that is, it reflects a survivor's *perceptions* of change rather than directly reflecting objective change. This subjective nature creates one of the controversies surrounding stress-related growth: Is it "real" or illusory [116]? Research from other areas of psychology suggests a substantial gap between perceptions of positive change and measured change [117], which has also been demonstrated in the few studies that have compared self-reported and actual growth [118, 119].

Some researchers have suggested that stress-related growth may be either an effort to cope (i.e., a form of meaning-making) or an actual outcome of coping (i.e., a form of meaning made), depending on the specifics of the person and the point at which he or she is in the cancer continuum and meaning-making process [31, 113]. For example, a cancer patient experiencing distress who is struggling to deal with difficult treatments may search for some more benign way to understand the experience, voicing how in some ways

this experience is a good one because of the positive changes he or she is experiencing. Another may look back at his or her cancer experience from the vantage of posttreatment and identify ways that the experience has favorably changed him or her. The former may be more suspect as an actual meaning made while the latter may more accurately reflect meaning made from the experience. However, more research is needed to determine the conditions under which reported growth reflects meaning-making versus meaning made. One study examining growth in survivors from presurgery to 1 year later found that growth was unrelated to well-being at any point cross-sectionally, but increases in growth over time were related to higher levels of well-being [120], suggesting that "real" or adaptive growth may occur only over time.

Another controversial issue regarding stress-related growth is its relationship with indices of well-being. Although some have argued that perceptions of growth constitute a positive outcome in and of themselves (e.g., [121]), most researchers have endeavored to ascertain relations between stress-related growth and indices of well-being. Although extensive research has been conducted on this topic, results are inconclusive. Cancer survivors' reports of growth following their cancer experience are sometimes (e.g., [122]), but not always (e.g., [123, 124]), related to better psychological adjustment. Many studies on this topic fail to control for potential confounds such as optimism, positive affectivity, or neuroticism, which may account for some of the inconsistency. Also drawing skepticism regarding the relevance of stress-related growth for adjustment are the emerging findings that survivors' reports of negative changes wrought by the cancer appear to be much more potent predictors of well-being than reported positive changes [75, 125].

Positive Psychology and Interventions with Cancer Survivors

Along with the increasing recognition of the importance of meaning-making in the lives of cancer survivors has come the development of a number of meaning-based psychosocial interventions for those with cancer. Some of these interventions are existential in nature, focusing on broader issues of meaning in life (e.g., [126]; see [97], for a review). Breitbart and his colleagues (e.g., [127]) have developed a palliative care therapy for those with cancer, aiming to identify and enhance sources of meaning and patients' sense of purpose as they approach death.

Other interventions more explicitly target processes of meaning-making. For example, Virginia Lee and her colleagues have developed a brief, manualized intervention, the Meaning-Making intervention (MMi), designed to explicitly promote survivors' exploration of existential issues and their cancer experiences through the use of meaning-making coping strategies [28]. Cancer survivors receive up to four sessions in which they explore their cognitive appraisals of and emotional responses to their cancer experience within the context of their previous experiences and future goals. In several pilot studies, participants in the experimental group reported higher levels of self-esteem, optimism, and self-efficacy [28] and meaning in life [128], demonstrating preliminary effectiveness of a therapy that explicitly promotes meaning-making. Interventions specifically focusing on spirituality in survivorship have also been developed (e.g., [129]) although little empirical evaluation of such interventions is yet available.

Chan et al. [130] noted that while meaning-based interventions are proliferating, "there is a sad lack of a corresponding body of controlled outcome studies, without which we cannot answer two central questions: (1) Can meaning-making interventions facilitate or catalyze the meaning construction process? (2) How much (if any) improvement of the psychosocial well-being of patients is attributable to the catalyzed meaning construction process?" (p. 844). An important challenge for interventionists is conducting well-designed outcome studies evaluating meaning-making interventions in terms of not only their effects but also the mechanisms bringing about those effects.

Noting that some interventions focused on broader issues of stress management have

demonstrated that stress-related growth is often a by-product of those interventions (e.g., [131]), some researchers have advocated for interventions that explicitly promote stress-related growth (e.g., [132]). However, given the lack of understanding of growth and controversies regarding its meaning vis-à-vis well-being, others have suggested that an explicit focus on interventions targeting stress-related growth may be premature (e.g., [65]).

Future Research in Positive Psychology and Cancer Survivorship

As this chapter makes clear, much remains to be learned about cancer survivors' meaning-making processes, spirituality, and stress-related growth. The present review is based on the meaning-making model, which provides a useful framework for examining many different phenomena relevant to survivors' psychological adjustment. To date, the literature on meaning-making does not provide strong support for meaning-making processes as requisite for psychological adjustment in cancer survivorship. However, as noted earlier, extant studies have not adequately tested the model. An adequate test of this model awaits studies that thoroughly assess the range of meaning-making efforts, both deliberate and automatic, and whether there are any meanings made (e.g., adaptive changes) resulting from efforts at meaning-making. To date, no study of cancer survivors has fully assessed the components of the meaning-making process and much remains to be learned about meaning and meaning-making in cancer survivorship. Such studies will need to attend closely to the specific characteristics of the survivors under study and the demands placed on them depending on their location within the survivorship continuum.

Research on issues of spirituality suggests that this is a very important part of survivors' adjustment across the continuum. Both existential and more traditionally religious aspects of spirituality appear to be important [133] and should be examined separately and in combination. A better understanding of spirituality and its unique place in survivors' meaning-making and adjustment across the phases from diagnosis through survivorship is desperately needed. In addition, the phenomenon of stress-related growth, which often reflects spirituality as well as many other aspects of life, is poorly understood. The questions raised here (How do these appraisals reflect reality? Is growth helpful?) await sophisticated research approaches.

Acquiring a better understanding of the ways by which survivors create meaning through their experiences with cancer holds great promise for better appreciating the ways in which survivors differ in their adjustment and the myriad influences on this process. This knowledge should help to identify those needing more assistance in adjusting to survivorship including informing interventions for those who may need help returning to their "new normal" lives.

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