Chapter 2
Developing "Allostatic Leaders": A Psychobiosocial Perspective

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2.1 Introduction

Academic, business, and popular books, journals, magazines, and Internet sites discuss a couple of dozen major leader types including in alphabetical order: adaptive, affiliative, authoritative, autocratic, charismatic, coaching, coercive, courageous, cross-cultural, democratic, facilitative, innovative, inspirational, laissez-faire, pacesetting, participative, principle-centered, resonant, servant, situational, strategic, team, thought, transactional, transformational, virtuous, and visionary (Bean-Mellinger, 2017; Blanken, 2017; Boyatzis & McKee, 2005; Covey, 1991; Day & Antonakis, 2012; Heifetz, Linsky, & Grashow, 2009; Johnson, 2017; Kilburg, 2012; Lewin, Lippit, & White, 1939; Northouse, 2013; Raza, 2017; Thornton, 2013).

Each of these and other leader types have merit and describe different types of effective leaders that appear to depend on individual differences among leaders, whom they lead, and the situations in which they lead. However, the ever-increasing list of leader types raises questions about the value of parsing leader types in so many ways and whether, in contrast, there is a way to describe an overarching leader type that could serve as an umbrella over the various leader types and could help guide education, development, and assessment of leaders. This is not to say that the

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M.G. Clark, C.W. Gruber (eds.), *Leader Development Deconstructed*,
Annals of Theoretical Psychology 15, DOI 10.1007/978-3-319-64740-1_2

dozens of types are not real or that they lack value; instead, they may best suit individual leaders, particular groups of followers, and situations, yet still be subsumed under a broader term and description.

This chapter takes a psychobiosocial approach in an attempt to identify an overarching leader type. We use the term "psychobiosocial" rather than "biopsychosocial" to highlight and underscore the psychological (behavioral, cognitive, and motivational) aspects of the leader with consideration of relevant biological and social contributing factors. We include biological factors within the leader and biological responses of leaders to stressful situations in our effort to identify a holistic definition of effective leaders. We include social factors because leaders influence others to execute leadership (Day, 2001).

To begin our search for an overarching leader type, we first considered the intellectual approach of field theory in the social sciences offered by Kurt Lewin (1936)—the Father of Experimental Social Psychology and mentor of Leon Festinger, Stanley Schachter, Morton Deutsch, Albert Pepitone, Robert Zajonc, and other major contributors to social psychology—to help identify an ideal leader type that can serve as an umbrella concept and term. We chose this particular theoretical approach because of its relevance to relationships among individuals and its inclusion of motivations, cognitions, and behaviors. We also decided to use Lewin's bold intellectual approach because Lewin and his students initiated the scholarly study of leadership, identifying the three leader types of autocratic, democratic, and laissez-faire (Lewin et al., 1939) and other aspects of leader-follower relationships and behaviors (see Cartwright & Zander, 1968 for review).

We next decided to consider the stress literature because this extensive conceptual and research literature provides a multidisciplinary perspective about psychobiological responses to challenging situations (physical and social). Our rationale for drawing from the stress literature and responses to stressors (positive [eustress] and negative [distress]) is that everyone experiences stress; leaders operate under and are "tested" under stress; and the role and influence of leaders are particularly pronounced under stressful and challenging situations (Heifetz, 2000; Kolditz, 2007). In addition, studies of stress have provided information and insights that have revealed psychobiological mechanisms and responses among a wide variety of individuals.

We believe that the inclusion and integration of these two conceptual and research literatures reveal an overarching leader style for which an appropriate term is "allostatic leader." This term describes leaders who consider, respond, adapt, learn, and change in response to situations and demands to optimize their influence and effectiveness in present and future situations. This chapter reviews major points from field theory and the stress literature to explain why we suggest the term "allostatic leader." Then, we provide suggestions regarding how to develop allostatic leaders.

2.2 Field Theory Relevant to Leaders

Kurt Lewin (1890–1947) was a research psychologist in the early twentieth century who believed that the social sciences should be based on sound principles and experimental evidence that is then applied to practical issues and social problems.

He is considered the founder of experimental social psychology and was a role model, mentor, and inspiration to many social psychologists. Lewin focused much of his research attention on leadership, group dynamics, communication, and social justice (Lewin, 1939, 1992)—all of which are relevant to this chapter and the volume in which it appears. With regard to this chapter's particular goal—to identify an overarching leader type—it is Lewin's broad conceptualization of psychology and field theory that is particularly useful and relevant in that social psychology examines relationships between individuals in dyads and within groups.

Lewin offered the elegantly simple but conceptually deep "equation" that behavior (B) is a function of the person (P) and the environment (E): $B = f(P, E)$ (Lewin, 1936). This equation was proposed to incorporate influences of "nature" and "nurture" on behavior, rather than favoring one influence over the other—an unusual position to take during the early twentieth century when the influence of nature vs. nurture on human behavior was a debate (Snibbe, 2004). Further, Lewin intended that this formulation would draw from evidence and concepts from all aspects of psychology (e.g., child psychology, animal psychology, psychopathology, social psychology) in order to explain individual behaviors (of leaders and followers, for example) within social groups, networks, and situations as described in his field theory (Lewin, 1951).

Lewin's field theory proposed that each person's behavior is a function of his or her "life space": $B = f(L)$. Behavior includes all sorts of actions and reactions: innate and learned; intentional and unintentional; and planned, controlled, and impulsive. Moreover, behavior is a function of the entire situation, $B = f(S)$: physical, psychological, and social; past, present, and future. Lewin reasoned that the entire situation, or life space of an individual, can be usefully considered as the person (P) and the environment (E). With regard to the person (P), Lewin included all aspects of the person; with regard to the environment (E), Lewin included all aspects of influence on the person. To understand Lewin's reasoning, especially for purposes of this chapter, it is relevant to know that he was educated in biology and spent some time as a medical student, but decided to alter his educational focus to philosophy and experimental psychology, and spent his career integrating information and approaches from these fields to apply them to real world and especially socially relevant issues (Schachter, personal communication, 1976). Lewin's writings about the person (P) focused on personality, attitudes, beliefs, knowledge, skills, needs (innate drives), and quasi-needs (drives developed by associations and learning). We submit that P also includes one's physical characteristics; genetic makeup, predispositions, and epigenetics; gross anatomy and neuroanatomy; and central and peripheral physiological systems and functions (including the hypothalamic-pituitary-adrenal axis and psychoneuroimmunologic processes). E includes physical, psychological, social, and cultural environments, as well as past, present, and anticipated experiences.

To understand Lewin's equation, it is also important to know that he valued and championed the Gestalt psychology approach in that the combination of different variables (i.e., aspects of P and of E) can and does result in "wholes" that are greater than the sum of the individual parts. It is noteworthy that his equation used a comma between the major factors (rather than a plus sign, multiplication sign, or other specific but limited mathematical operation) and that he expressed the equation as a

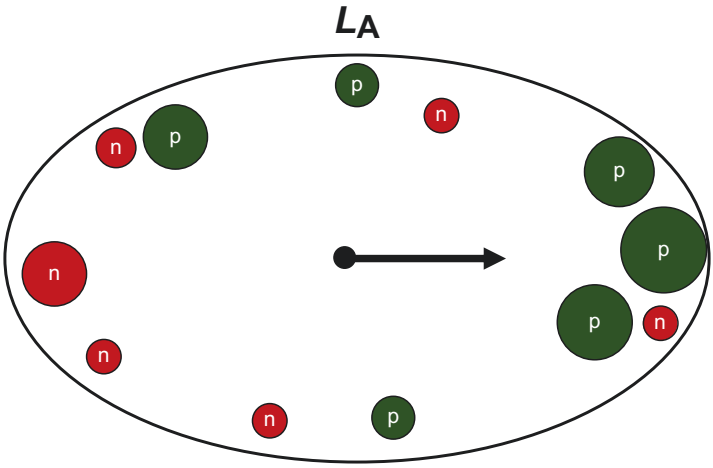

Fig. 2.1 Life space (*L*) of person A, where p and n represent positive and negative goal regions, respectively. The size of each region represents its importance or magnitude for A. The point represents where A is (psychologically) in *L*. The arrow represents A's locomotion (behaviors) based on tensions and forces (motivations and cognitions)

function (*f*). This particular mathematical notation allowed for the Gestaltist result of behavior (*B*) to have various "values" because of other influences that might best be expressed as a mathematical coefficient or exponent, depending on the individual and the life space, rather than behavior (*B*) resulting in a single value based on some narrow consideration of person and environment.

With regard to life space (*P* and *E*) and behaviors, it is important to understand (1) the role of forces, tensions, locomotion, and goal regions within one's own life, and (2) the influence of others' behaviors and life spaces. Interactions of behaviors and life spaces occur among leaders and followers; leaders and other leaders; and followers and followers. Lewin proposed that within a given life space, there are goal regions with positive and negative valence, depending on whether it represents something that the individual is drawn to (a positive valence goal region) or something that the individual is motivated to avoid (a negative valence goal region); see Fig. 2.1. Examples of positive goal regions in a given life space could include successful completion of an educational degree or program, attaining a particular job or promotion, or finding and developing a meaningful personal relationship. Examples of negative goal regions in a given life space could include failure or poor performance in an educational program, poor performance or losing a job, or an abusive or unfulfilling personal relationship. The magnitude of each goal region is represented by its size. Within a given life space, the individual (represented by a point) is at a certain "location" with "forces" acting on the individual that depend on current position relative to the various positive and negative goal regions within the life space. These forces are analogous to motivations, emotions, and influence of motivations and emotions. These forces give rise to "tensions" which can be considered as explicit and implicit cognitions (including attention to, thinking about, plan-

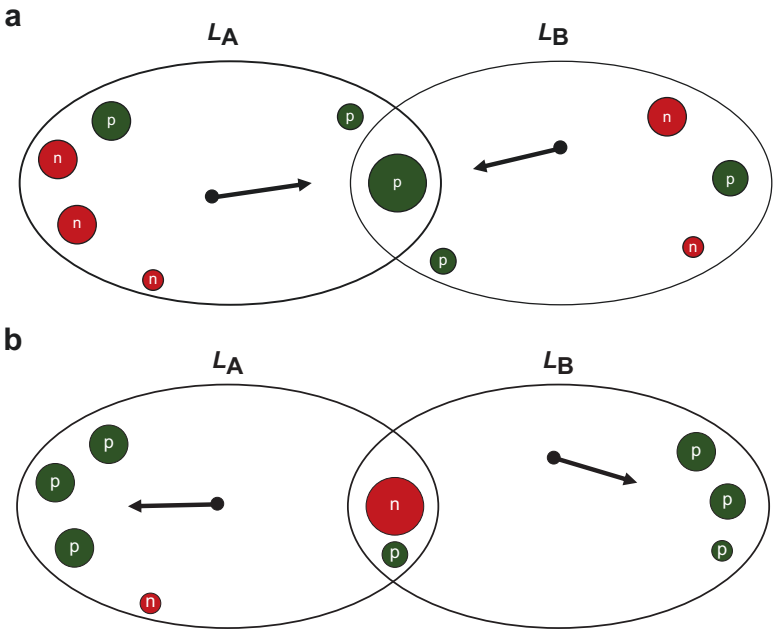

Fig. 2.2 (**a**) Life spaces (*L*) of persons A and B where they are motivated to come together and increase their relationship based on shared, positive goal regions. (**b**) Life spaces (*L*) of persons A and B to move apart and decrease their relationship based on different, unshared, positive goal regions

ning for, dreams, and so on) as well as emotions (positive and negative) and biological states relevant to one's psychological location within the life space. These tensions then give rise (or not) to "locomotions" or movements/actions within that life space (represented by an arrow) that "locomote" the individual toward or away from the various goal regions, based on the goal regions' valences and quantities (or strengths of influence). In these ways, Lewin included motivations/emotions, implicit and explicit cognitive processes, and actions in the perceived and actual "movement" of the individual within the life space. In addition, Lewin's theory accounted for behaviors that are influenced by aspects of physical and social reality (based on perception of most if not all individuals) as well as behaviors that are influenced by individual perceptions, including dreams and thoughts that may differ from reality as a result of sane or insane states of mind.

To further complicate and to fully consider and determine our behaviors, Lewin proposed that each of our individual life spaces interact with the life spaces of other people who are relevant to us; see Fig. 2.2. Figure 2.2a presents an example of two different people who share a positive goal region of substantial magnitude. As a result, these two individuals are drawn together. If several individuals also had the same, overlapping, positive goal regions, they would likely come together and form a cohesive group. A leader who either is part of that positive, shared goal region or influences others to share a powerful, positive goal region would be an effective leader.

Figure 2.2b, in contrast, presents an example of two different people who are "pushed apart" as they are drawn to goal regions that are distant from each other and away from a shared goal region which is negative within their life spaces. If a leader contributes to this decreased likelihood of the individuals working together, then the leader is ineffective at best or, perhaps, even toxic in the worst-case scenarios. In an attempt to describe exactly how these many life spaces interact, Lewin chose the mathematical principles of algebraic and geometric topology (or "rubber sheet" geometry)—a maximally flexible and non-Euclidian mathematical formulation that emphasizes physical relationships rather than discrete metrics. Lewin conceptualized influences within and among individuals as hodological spaces—i.e., interactive curvilinear vectors such as those that meteorologists use to represent the directions, magnitudes, speeds, and velocities of winds within a tornado or hurricane.

The conceptual and mathematical complexity of Lewin's field theory and the changes within psychology following World War II (including Lewin's own shift to study leaders and socially relevant topics) contributed to a decline in study and application of field theory after the mid-twentieth century. We believe that it is valuable to include the variables (*B*, *P*, *E*) and relationships among variables and among people in field theory to guide a psychosocial conceptualization of leaders. Moreover, we believe that it is appropriate to include biological variables to forge a psychobiosocial perspective about leaders and to identify an overarching effective leader type.

2.2.1 Section Summary

Lewin's field theory proposes that individuals' behaviors (*B*) are a function of psychological and biological aspects of the person (*P*) and their physical, psychological, and social environments, including what has been, what is, and what is expected, including physical and psychological realities (*E*). Individuals' actions (or locomotions) within their life spaces (*L*, or *P* and *E*) depend upon motivations and cognitions (forces and tensions); goal regions (with positive or negative valence of varied quantity depending on their relative, perceived importance); and interactions with other individuals whose motivations, cognitions, and behaviors depend upon their life spaces (*L*), *P*, and *E*. This psychobiosocial conceptualization is relevant to understand individuals in various roles—including the role of the leader. With this background in mind, we next consider the stress literature as a source of information to reach our goal of identifying an overarching leader type. We chose this particular literature because stress is experienced by everyone; the stress literature is extant and well documented; and this literature is multi- and interdisciplinary, drawing from biology, psychology, and social interactions.

Following from Lewin's emphasis on what constitutes life space (*L*), it is relevant that physical and psychological stressors powerfully affect the environment (*E*), and that biological and psychological characteristics of the individual person (*P*) affect immediate and long-term responses to stressors and stressful situations. In addition,

under stress, leaders become more influential and followers turn to leaders for direction and guidance (Heifetz, 2000). Therefore, it is relevant to consider what is known about stress and stress responses to understand effective leaders and their behaviors.

2.3 The Stress Literature Relevant to Leaders

Stress is a psychobiological process that begins with the perception (an aspect of *P*) of a threat or challenge in the form of physical or psychological stimuli (aspects of *E*) (Baum, Gatchel, & Krantz, 1997; Lazarus & Folkman, 1984; Mason, 1971; McEwen, 2007; Selye, 1946). If the stimuli (i.e., aspects of *E*) are perceived to demand physical and psychological resources (aspects of *P*), then there is an integrated psychological and biological response by the organism (aspects of B) that acts to preserve or maintain physical or psychological well-being (i.e., aspects of *P*). Whether or not the stimuli are perceived as a threat depends on individual characteristics (i.e., aspects of *P*), which include but are not limited to biology, personal experience, and coping mechanisms. All elements of Lewin's formulation (*B*, *P*, *E*) can interact and affect each other. If the physiological and/or psychological response is compromised in some way (e.g., overactive or underactive), then physical or psychological injury or disease may occur. Responses to acute, moderate stressors (or challenges) usually are effective and may be adaptive. In contrast, responses to repeated, chronic, or extreme stressors often are disruptive to health. The influence of others (either to increase or to attenuate stress responses) adds the social element to this psychobiosocial perspective. How we respond to stressors, whether we adapt, and whether the adaptation is short-lived or results in change and preparation for future stressors/challenges are particularly relevant to the search for an ideal leader type.

2.3.1 Adaptive and Non-adaptive Responses

Stress can have adaptive (usually beneficial) or non-adaptive (oftentimes harmful) effects depending upon timing, duration, intensity of the stressors (aspects of *E*), and individual differences (aspects of *P*). The acute psychological and biological effects of the stress response usually are adaptive and beneficial. The activation of the sympathetic nervous system, for example, mobilizes bodily systems to meet the demands placed on them. The activation of psychological processes, such as cognitive appraisal, allows individuals to draw from past experiences and available resources to respond effectively to the threat or challenge. The simultaneous activation of these systems to respond to stressors is essential to maintain psychological and physical well-being. When these systems are disrupted by repeated, chronic, or traumatic stressors or physical disease or injury, then the responses may be insufficient and even those responses that are acutely adaptive may break down

(McEwen, 2004; Selye, 1946). As the psychological and biological systems fail to operate effectively, becoming either non-responsive or overactive, the consequences may be increased insult or injury to psychological and physical well-being.

2.3.2 Adaptation

Early conceptualizations of stress were influenced by Darwin (1859), especially by the notion of "survival of the fittest" (i.e., organisms that adapt to their environments have increased likelihood of survival, whereas organisms that do not adapt die). The concept of adapting to an environment was extended by Claude Bernard (1957). Bernard suggested that an organism's ability to move freely (i.e., *B* in Lewin's terms) in the external environment (one aspect of *E*) depends on the capacity of the individual organism's (*P*) internal environment (or *milieu intérieur*) to respond to threats from the external environment. For example, the cold-blooded lizard's body temperature depends entirely on the external environment, so its ability and motivation or drive to move is strongly affected by external environmental conditions. The warm-blooded mammal, in contrast, has internal temperature regulation that is modestly affected by temperature in the external environment, so it has greater freedom of movement (*B*) within a given environment (*E*) that depends on its own (*P*) needs or biological drives. These concepts of adaptation are relevant to behaviors and biological systems and greatly influenced by Cannon (1935), who made major contributions to the stress literature.

2.3.3 Homeostasis and the Fight or Flight Stress Response

Walter B. Cannon introduced the term "homeostasis" to describe the function of biological systems to maintain balance and stability and to return to a given state after exposure to stressors or challenges (Cannon, 1935). Cannon focused on responses of several biological systems during the stress response, including release of adrenalin (epinephrine) from the adrenal medulla; decrease in digestive activity; increase in blood flow to the heart, lungs, brain, and large muscles; and decrease in blood flow closer to the surface of the skin. Consistent with Darwin's emphasis on survival, Cannon reasoned that these particular biological responses to challenges/stressors must work to maintain or restore homeostasis in the face of threats. In addition, Cannon offered a psychobiological explanation that included descriptions of behaviors that accompanied the biological system responses to stress and described these responses as "fight or flight" (Cannon, 1914).

It is important to note that these biological and behavioral responses or adaptations were focused on operating in acute, challenging situations, and that these responses served to restore homeostasis. This concept of adaptive responses to acute situations certainly is important and we believe that it parallels responses of "adaptive leaders" (e.g., appropriate and varied responses to particular situations to optimize success and

survival). This concept, however, is not in our opinion the most overarching type of effective leader because it does not include learning, growth, or change with experience. The ideal leader—or "allostatic leader"—responds, adapts, learns, and changes with experience to become even more effective in subsequent situations. The conceptual basis for the choice of the word "allostatic" is discussed below.

Cannon also observed a point where homeostasis was no longer attainable, and the body's ability to adapt in the face of change "broke down," resulting in injury, illness, and death. In this way, he recognized the limits of the acute, adaptive response and foreshadowed later notions about stress responses that also inform the search for an overarching, ideal leader type. In other words, unless a leader learns from and changes after adapting to challenges and demands, the leader may burn out after repeated challenges. The ideal leader becomes stronger after repeated responses, adaptation, learning, and change and becomes better prepared for new challenges.

2.3.3.1 Breakdown of Adaptation

Hans Selye (1936) is credited with applying the term "stress"—which was originally used in physics—to the psychobiological responses to physical and psychological threats and challenges. Selye (1946) defined stress as a nonspecific response of the body to any demand for change and contributed to our understanding of the role of hormones in the stress response. He used general adaptation syndrome (GAS) to describe what happens to the body after repeated or chronic exposure to stress. GAS has three distinct stages: alarm reaction, resistance, and then exhaustion. The alarm stage describes reaction to stimuli before the organism has adapted. Resistance occurs after repeated exposure to the same stimuli and there is some adaptation in the responses. If and when adaptation is no longer possible or cannot be maintained, then exhaustion occurs and future resistance is minimal.

Another important contribution of Selye is the concept that similar stress responses can occur when exposed to either positive ("eustress") or negative ("distress") stimuli (Selye, 1973). Eustress occurs in response to an event or a circumstance perceived as positive (e.g., new job, new relationship, marriage), whereas distress occurs in response to an event or a circumstance perceived as negative (e.g., losing a job, divorce, death of a loved one). Following from this notion, leaders are under stress when they experience successes and failures. This stress can be magnified as leaders focus on the successes and failures of the people for whom they are responsible. As a result of this barrage of stressors, it is particularly important that successful leaders adapt, learn, and change after exposure to all types of stressors in ways that will help them respond to subsequent stressors and challenges more effectively and with less disruptive response.

2.3.3.2 Biological Stress Response

The stress response is primarily mediated by nervous, endocrine, and limbic body systems. Immediate response to threatening stimuli or stressors happens through activation of the sympathetic branch (SNS) of the autonomic nervous system, which

mobilizes parts of the body to meet the demands of the stressor (e.g., increased heart rate, blood flow) and suppression of the parasympathetic system to reserve energy for the SNS systems (e.g., decreased digestive activities). Activation of the SNS is what Cannon (1914) describes with "fight or flight."

A longer lasting stress response is mediated through neuroendocrine pathways and specifically the hypothalamic-pituitary-adrenal (HPA) axis and associated chemicals, corticotrophin-releasing hormone (CRH), adrenocorticotropic hormone (ACTH), and cortisol. The process starts with the synthesis of CRH in the paraventricular nucleus of the hypothalamus, which is then secreted through the median eminence to the pituitary through a portal circulation system (Guyton & Hall, 2006). CRH in the anterior pituitary triggers the synthesis and release of ACTH into the bloodstream. When ACTH reaches its target tissue in the adrenal cortex, it signals the synthesis and release of other hormones. One hormone that is especially important in the stress response is cortisol. Cortisol has many actions in the body and its role is to mobilize energy to meet the demands of the stressor. Specifically, as a glucocorticoid, cortisol increases the level of glucose (sugar/energy) in the blood to be used by the brain, heart, and muscles by metabolizing fat stores and inhibiting insulin (Costanzo, 2010). Cortisol also inhibits the immune system to reserve energy for other systems (Costanzo, 2010).

Limbic input to the stress response process is characterized by "higher order" brain regions such as the amygdala, hippocampus, prefrontal cortex, and insula. These regions and associated neurotransmitters help to assign salience to incoming stimuli based on past experience and emotional content of the incoming information. This additional information contributes to the appraisal of whether or not the stimuli are threatening or exceed the resources available to meet the demands of the threat, which ultimately drives the activation of the SNS or HPA systems when necessary. This higher order preprocessing is what led the field of stress science to examine the psychological contributions to the body's stress response.

2.3.3.3 Psychological Stress Response

The early conceptualizations by Bernard, Cannon, and Selye focused on biological aspects of the stress response. William Beaumont emphasized the role of psychological variables in the stress process. While treating abdominal wounds, Beaumont observed inhibited digestive activity in response to extreme emotional states such as anger or anxiety (Faraday, 2005). John W. Mason integrated Beaumont's psychobiological observations with those of Bernard, Cannon, and Selye and proposed that the stress response includes the integrated activity of multiple endocrine systems, cognitive variables, personality factors, and environment/situational variables (Mason, 1968a, 1968b, 1968d)—reminiscent of Lewin's broad inclusion of aspects of *P* and of *E* to influence *B*. Mason argued that psychological factors were necessary for the adrenal response to occur and that this psychoendocrine response was primarily anticipatory (Mason, 1968c, 1971). Moreover, Mason and colleagues suggested that psychological "defenses" could be learned and used to alter the way threats are perceived to attenuate the perception of danger and the stress responses (Bourne, Rose, & Mason, 1967).

2.3.3.4 Appraisal

Richard Lazarus and Judith Folkman built upon Mason's psychobiology of stress to include cognitive and emotional factors. They defined stress as a relationship between the person and the environment that is appraised by the person as taxing or as exceeding his/her resources and endangering his/her well-being (Lazarus & Folkman, 1984)—Lewin's influence continued 50 years after his "equation" was introduced. The cognitive process of appraisal and the idea that a threat can be down-graded based on a person's experiences or perception are what Mason described as "psychological defenses" (Bourne et al., 1967). Lazarus and Folkman (1984) also pointed out that individuals can develop psychological coping mechanisms to alter perceptions of and reactions to stress (Lazarus & Folkman, 1984).

2.3.3.5 Individual Differences

The early conceptualizations of stress did not consider individual differences. In contrast, Mason's focus on the role of psychological variables and Lazarus and Folkman's emphasis on appraisal encouraged consideration of individual differences. Taylor, Klein, and colleagues (Taylor, 2006; Taylor et al., 2000) postulated that males and females respond differently to stress. Whereas "fight or flight" response is the predominant stress response of males, Taylor, Klein, and colleagues suggested that females (humans and animals) may have adapted and evolved to have an additional stress response system described as "tend and befriend" which is mediated through other chemicals (e.g., oxytocin) to deal with stressors. This distinction broadly tracks the survival-optimizing roles of females vs. males with females of any species that may be pregnant or responsible for caring for their young. It is likely that both types of stress response are available and can be expressed (effectively Lewin's *B*) by most if not all individuals, but that the predominant behavioral response depends on the individual (Lewin's *P*) or the situation (Lewin's *E*). With regard to effective leadership, the optimal response to challenge/threat/stressors should depend on the individual, resources available (physical and psychological), and the situation. The ideal leader responds optimally to the situation and to the needs of the individuals in the group being led.

2.3.3.6 Allostasis

Although the stress research summarized above continues to be valuable, this field has further developed in terms of underlying biological mechanisms as well as at the broader conceptual level. Sterling and Eyer (1988) and McEwen (2005) introduced the terms "allostasis," "allostatic load," and "allostatic overload" to provide an integrated explanation of stress responses that are protective and stress responses that are destructive or at least not sustainable. Further, allostasis considers social environment (or *E*) as well as the physiological and psychological variables

described above (or *P*). This way of conceptualizing stress responses (i.e., that includes psychology, biology, and social environments) is relevant to the present chapter, its psychobiosocial perspective, and the search for a way to describe an overarching leader type that will respond effectively to challenging and stressful situations.

The terms "allostasis" and "allostatic overload" have been offered to capture the protective and damaging effects of the biologic response to stressors, respectively (McEwen, 2005). These terms emphasize adaptive and subsequent effects of the physiologic mediators that maintain homeostasis in response to demands. In contrast to "homeostasis"—the stability of physiologic systems to maintain life—"allostasis" describes "the superordinate system by which stability is achieved through change" (McEwen, 2005, p. 316). Allostasis involves several biological systems and adaptive processes, including alterations in HPA-axis hormones, hormones of the autonomic nervous system (e.g., epinephrine, norepinephrine), and inflammatory markers (e.g., cytokines), and is generally adaptive in the short term. Over time and in response to various stressors, repeated responses and adaptations to stressors result in shifted and reset homeostatic set points and ranges; this process of responding, adapting, and changing is the central characteristic of allostasis.

The emphasis of allostasis on adaptation and change to survive distinguishes it from homeostasis, which involves a return to a baseline (or particular range around that baseline) after challenge and an acute response (sometimes referred to as "adaptation" but which involves a short-term and not a lasting change). Allostatic overload is used to describe situations in which the systems (psychological or biological) are not resilient, do not return to a safe range, and do not adapt and change. As a result, allostatic overload leads to pathophysiological or psychopathological end points. McEwen (1999, 2000, 2003, 2004, 2007) characterized allostatic overload by examining the effects of HPA axis over activation and excess glucocorticoids, like cortisol, on specific brain regions like the hippocampus, amygdala, and prefrontal cortex (PFC). These areas, which are essential for memory, emotional processing, and executive function, respectively, are both affected by stress and involved in regulating the stress response. Functionality of these areas can be disrupted with repeated activation by stress hormones, which can lead to problems with memory, emotion regulation, and inhibition and in turn result in dysregulated HPA axis function and further allostatic overload. While we borrow the term allostasis to describe characteristics of a leader who can adapt to challenging situations and learn to minimize the energy required to meet future challenges, it is also relevant to highlight how unchecked stress for a leader can manifest in psychological problems like memory, emotional regulation, and decision making or executive function. Therefore it is critical for a leader to manage his/her stress.

The allostatic leader's dominant responses are developed and changed based on experience to optimize performance and survival of the leader and the group that is led. Allostatic overload for the leader would result in burnout and inability to lead effectively. Therefore, it is important to develop leaders who can avoid allostatic overload.

2.3.4 Section Summary

Allostasis refers to change to become stronger and more effectively responsive to future challenges. It differs from short-lived or acute adaptation and it differs from homeostasis—a return to safe values or ranges without subsequent change. Response, adaptation, and change in response to stressors and experience are central to the concept of allostatic leadership. We suggest that defining and developing allostatic leaders is an optimal strategy to create ideal leaders and that other effective leader types can be subsumed under this umbrella. The following sections discuss allostatic leaders and how to develop them.

2.4 Allostatic Leader

Heifetz et al. (2009) described "adaptive" leaders—a leader type that we agree is extremely important and effective. According to Heifetz et al. (2009), adaptive leaders use their skills and insights to deal with challenging situations; manage themselves depending on environmental demands; and help other people tolerate discomfort as they experience "disequilibrium" of challenging conditions. Although adaptive leaders respond effectively to challenging situations, it is not clear that they learn from and change as a result of these adaptations and experiences. Perhaps they do or, instead, they might return to the pre-situation state (similar to a return to homeostasis after disruption and response); see Fig. 2.3. Although the adaptive leader can respond effectively to a given situation or challenge, this type of leader is no better prepared for future challenges.

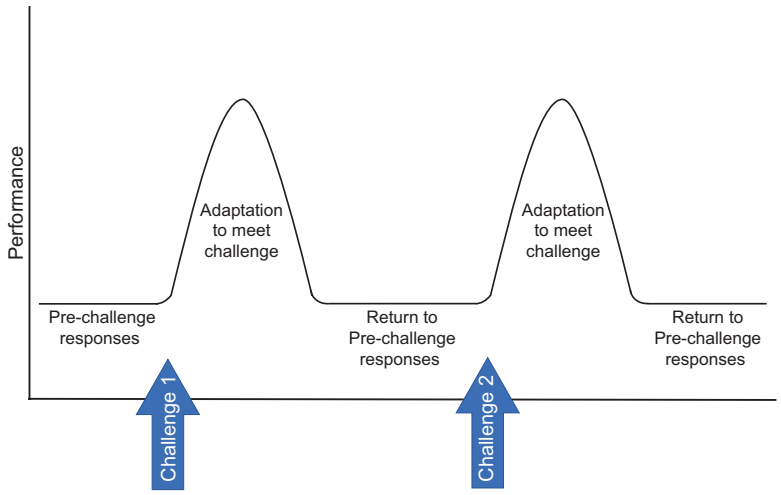

Fig. 2.3 Adaptive leaders respond to challenges/stressors/situations and then return to pre-challenge levels

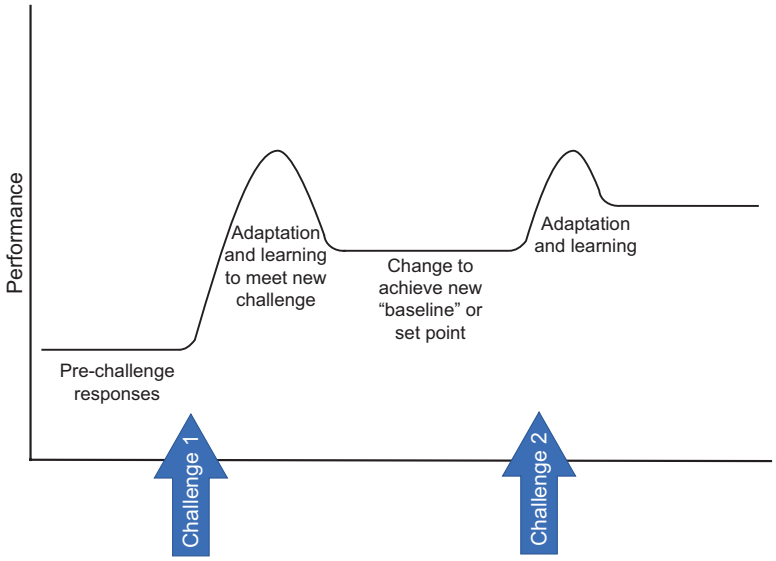

Fig. 2.4 Allostatic leaders respond to challenges/stressors/situations and then change to respond to future challenges more effectively

To a great extent, descriptions of adaptive leaders are consistent with Lewin's equation (by considering the person and the environment) and with phenomena involved in stress responses (i.e., responses followed by return to baseline ranges or homeostasis). We agree that these aspects of adaptive leadership are valuable. However, we believe that the "adaptive" leader type does not go far enough to reach an overarching ideal leader type. Instead, ideal leaders should adapt, learn, and change as a result of their experiences in various situations and environments (or *E*) and alter aspects of self (or *P*) to prepare them to respond optimally to future situations. In other words, leaders should become "allostatic leaders" who flexibly adapt, learn, and change to attain increased capacity to meet future challenges and minimize the likelihood of burnout or "allostatic leader overload"; see Fig. 2.4. The allostatic leader responds effectively to the challenge and is more prepared to respond to subsequent challenges, including more rapid and appropriate responses with less effort (or less change from the new baseline or set point).

2.4.1 Section Summary

The concept of "allostatic leaders" as an ideal, overarching leader type draws from the insights offered by Kurt Lewin's psychobiosocial field theory of human behavior and social relationships and from the concept of "allostasis" which emphasizes adaptive change to maintain physical and psychological well-being in the face of

stressors, threats, and challenges. Allostatic leaders adapt to, learn from, and change in response to experiences and challenges in order to increase capacity to meet future challenges and to minimize burnout.

2.5 Developing Allostatic Leaders

This section discusses how to develop allostatic leaders. A conceptual framework for allostatic leaders is briefly presented that is designed to guide leader and leadership education and development (see Grunberg, Barry, Kleber, McManigle, & Schoomaker, in press, in this volume for more details). Then, three particularly important categories of growth are presented: understanding and enhancing emotional and social intelligence; coping with and managing stress to maintain performance and to minimize burnout; and entraining effective dominant responses which will become pronounced under stress.

2.5.1 The FourCe-PITO Conceptual Framework for Leader and Leadership Education and Development

Recently, Callahan and Grunberg (in press) offered a definition of leadership as well as a conceptual framework for leader and leadership education, development, and assessment. According to these authors, "Leadership is the enhancement of behaviors (actions), cognitions (thoughts and beliefs), and motivations (reasons for actions and thoughts) to achieve goals that benefit individuals and groups" (Callahan & Grunberg, in press; Eklund, Barry, & Grunberg, 2017). Further, these authors offer four major domains of leadership: character, competence, context, and communication that operate across four levels of interaction and awareness: personal, interpersonal, team, and organizational (see Callahan & Grunberg, in press; Eklund et al., 2017; Grunberg et al., in press).

In brief, the FourCe-PITO leadership framework provides guidance regarding the major elements for educating and developing leaders and, therefore, can be applied to allostatic leaders. With regard to this overarching leader type, consistent with Lewin's inclusion of "*P*" of the person (which relates to character, competence, and communication) and "*E*" (which relates to context), it is relevant to include all aspects of the FourCe-PITO framework with an emphasis on interactions among the elements of this framework. All leaders need to learn and develop in each of the four C domains across each of the levels of interpersonal interaction. With regard to character, for example, integrity, trustworthiness, self-confidence, humility, and self-awareness are key elements to become effective leaders. With regard to competence, leaders must develop role-specific skills and knowledge as well as transcendent leadership skills and knowledge, such as critical thinking, decision making,

and conflict resolution. With regard to communication, effective leaders must be skilled both at receiving and sending information, verbally and nonverbally. With regard to context, leaders must be aware and adapt to various physical, psychological, social, and cultural environments and situations, including stress. To become true allostatic leaders, development in each aspect of the FourCe-PITO framework is essential. Because allostatic leaders must learn to grow and change with experience, the following sections highlight several specific topics and ways to increase the likelihood of this type of growth and change.

2.5.2 Emotional Intelligence (EI or EQ) and Social Intelligence

The phrase emotional intelligence can be used to describe an individual's capacity to recognize, discern, label, and manage emotions of self or others (Goleman, 1998). "High" emotional intelligence has been related to better leadership. There are four domains that make up emotional intelligence: self-monitoring and self-awareness, self-management, social awareness, and relationship management. One must first attend to or be aware of emotions of self or others (aspects of *P*), and then one must practice management (aspects of *B*) of the emotions of self or others. Emotional intelligence is important for interpersonal interactions and leader-follower relationships are dependent on emotional intelligence. A leader needs to be able to perceive the emotions of others as well as generate and regulate his/her emotions (Mayer & Salovey, 1997). Emotional intelligence can be a leadership attribute (i.e., it comes naturally to some leaders) or it may require training and practice to accomplish it fully and genuinely. For a complete review and discussion of leadership competencies, which fall under these domains, see Goleman (1998); Morey, Goleman, Boyatzis, and McKee (2013); and Boyatzis and McKee (2005).

Effective leaders are able to attend to others, the context in which the interaction is taking place, and the context from which the other person is coming simultaneously (two levels of *E*). The best way in which to accomplish this level of awareness is to plan for it, practice potential responses, and then interact/respond when ready. An example of a time that this level of awareness may be necessary is in the case of a difficult communication such as dealing with unprofessional behavior. Before reprimanding or critiquing the subordinate, the leader should: (1) collect all available information about the unprofessional behavior (e.g., talking to others that were involved); (2) determine the exact information that will be discussed with the subordinate (e.g., the leader will not likely divulge all the details that were shared with him/her, usually to protect the person who brought the unprofessional behavior to the leader's attention); (3) plan when and where the interaction will take place with special consideration for managing the situation (e.g., in a private place, with a neutral third party if necessary [human resources personnel], near the end of the work day, before the behavior is likely to happen again) and schedule it with the

other people; (4) practice or rehearse how the interaction will go to include making an outline of points to cover if necessary, and thinking through how the other person will react; and (5) during the course of the interaction be sure to attend to cues from the person receiving the feedback and adjust as necessary. This process may seem labor intensive to do each time a leader needs to interact with a subordinate, but the allostatic leader is able to integrate and automate these steps so that energy, effort, or time needed for every interaction is reduced. But the allostatic leader never underestimates the value of practice. Practice is vital to reaching this level of emotional intelligence, which allows the leader to anticipate emotions/feelings/reactions of others and plan and respond accordingly.

The allostatic leader works to observe people in the context of the situation, tries to understand different perspectives and how the context is impacting not just emotions but also thoughts and behaviors, and then adapts their responses to what is observed. This ability to adapt one's behavior to perform appropriately in social situations, by assessing those situations, is called self-monitoring (Snyder, 1974, 1987) and is also part of "social intelligence." Like emotional intelligence, social intelligence is important for a leader. A person with social intelligence is able to perceive and interpret social situations and is flexible and adaptable in their behaviors (Zaccaro, 2002). The higher an individual moves up in an organization, where he/she is likely to experience more complex social situations, the more important social intelligence becomes (Zaccaro, 2002). Social expressivity and social control reflect greater amounts of social intelligence, and high self-monitors are more effective in social situations and more likely to emerge as leaders. Further, socially skilled leaders perform better under stressful situations (Halverson, Murphy, & Riggio, 2004). The allostatic leader has both high emotional and social intelligence, exercising a mastery over each aspect of Lewin's eq. *B*, *P*, and *E*.

Being aware of and regulating emotions of self and others are difficult in general, but are particularly difficult under conditions of stress, when it is arguably most important to get it right. Given that most interpersonal interactions are likely to take place for a leader under stressful conditions, it is important to understand how the experience of stress interferes with one's ability to effectively manage emotions of self and others. The experience of stress decreases the capacity for attending to people around you (Boyatzis & McKee, 2005). This reduced capacity may intensify the attention paid to self, at the expense of attending to emotions of others. A resulting overemphasis of one's own emotions can create a distorted view of the emotions of others and reduce the effectiveness of any ensuing interpersonal interaction. Further, stress forces black/white thinking versus integration of multiple perspectives/points of view (Boyatzis & McKee, 2005). This limits perspective and sets the stage for ineffective interpersonal interactions.

Understanding the effect of stress on emotional intelligence gives the leader a starting place when considering, planning, or navigating interpersonal interactions (*P* x *E*). For example, if a leader knows that an individual is particularly stressed over an upcoming assignment, then the leader can take that into consideration when attempting to motivate that individual to prepare for and complete said assignment. In contrast, this is preferred over focusing on the completion of the assignment at the

expense of the individual who must complete it. Recognizing stress in others may be easier than having an awareness of or the ability to regulate one's own emotions, especially during interpersonal interactions. For this reason, a leader should learn how certain stressful situations affect them and what their reactions look like at that time. To accomplish this task, the leader needs to reflect on their emotions, reactions, and behaviors and try to understand how they contributed to the situation (Boyatzis & McKee, 2005). The allostatic leader asks: "What is my part in creating this situation? What did I do that seemed right and what may I need to change in the future?" This type of reflection is key to allostatic leaders' success and growth.

While it may be simple to define these concepts, putting them into practice is much more difficult, especially under stressful situations. For some direction and principles to incorporate to allow for more effective interpersonal interactions, we can look at dialectic behavioral therapy (DBT) for insight into improving interpersonal interactions. DBT is a therapy designed to help individuals who have intense emotions change the thoughts and behaviors associated with those emotions (aspects of *P*, with a focus on *B*). This change is accomplished by recognizing and accepting the emotions and accepting that the emotions need to change so that they do not lead to problems with health and life (Linehan, 1993).

Two specific DBT principles that have been developed for parents which may be helpful for leaders to practice are (1) giving people the benefit of the doubt or consideration that they are "at their best," and (2) when there are intense emotions (e.g., anger, frustration) suppressing/controlling the first action that comes to mind. When leaders perceive others as "doing their best," leaders are more likely to be thoughtful and rationale in response to reactions or behaviors of others (Harvey & Rathbone, 2015). Without first passing judgment or presuming malice as a motivation in others, leaders will be more effective. By taking time to assess what is actually underlying the other person's emotions or behaviors, leaders can determine the optimal approach to each situation. When leaders experience intense emotions (*P*), it is wise to control that emotion or not to engage rather than make a mistake that is difficult to overcome. On the other hand, if the inclination is to avoid (*B*) a situation, then the leader may need to press into the interaction to ensure that the issue does not persist or become enflamed because of unresolved problems. Modulating one's responses and, at times, acting the opposite of one's knee-jerk reaction sometimes result in more effective responses because it can lessen the emotional intensity (Harvey & Penzo, 2009) and allow for interaction to occur (or not) which can facilitate communication, building a relationship and trust. These principles, when incorporated and practiced, can facilitate better interpersonal interactions and allow leaders more flexibility in decision making and in communications with others.

These simple practices may grant a leader some margin to enact some other practices that may be slightly more complicated. For example, sometimes leaders need to push their followers, but sometimes leaders need to pause, and recalibrate their interactions with others in order to be more effective. An allostatic leader is one who recognizes the needs of each situation, and can also anticipate, plan, and act accordingly in future situations.

Further, organizations are often action oriented versus reflection oriented, pushing the bottom line versus paying attention to how the process is impacting the people

contributing to the results. It is up to the leader to step in and take a strategic pause for self or others (Boyatzis & McKee, 2005). This capacity necessitates competence in the leader's job and position, but also the confidence to step out and put the needs of followers before the results the organization is expecting. The leader must slow down, assess their own and their followers' frustration, and then try to channel it away from subordinates. The allostatic leader has the flexibility, fluidity, and ability to adjust, learn, and change to respond with increased effectiveness to each subsequent situation (*E*) and to control emotional (*P*), cognitive (*P*), and behavioral (*B*) responses. The allostatic leader is not going to get bent out of shape by the demands of each situation and will not be inhibited by fear of failure, rejection, or looking bad. Instead, they understand and take steps in each Lewinian domain (*B*, *P*, and *E*) to be better prepared for each situation.

Allostatic leaders certainly experience stress, but they develop effective coping strategies to help minimize the burden of that stress, manage responses to stress, and avoid burnout (i.e., physical, behavioral, or mental collapse). The next section discusses several available strategies to manage stress.

2.5.3 Stress Management and Coping Techniques to Minimize Burnout

The preceding section discusses how stress impacts emotional and social intelligence and how an allostatic leader can respond within that context. This section addresses how the allostatic leader can work to decrease personal stress levels to minimize its impact and to prevent burnout. Reducing stress targets the elements of Lewin's equation by optimizing health-promoting behaviors (*B*), cognitions and emotions (*P*), and social environment (*E*).

Responses to stress can have positive or negative effects on performance, depending on whether the stressor is acute or chronic, whether the stressors are perceived as predictable and controllable or not, and characteristics of the individual who is experiencing the stress. It is also relevant to the present discussion of leaders to recognize that moderate amounts of stress usually have positive effects on performance, whereas minimal or maximal amounts of stress often have negative effects on performance. This inverted U-shaped relationship between stress (or arousal) and performance was described by Yerkes and Dodson (1908) and is generally true across people and situations. The difference of stress responses among people is characterized by how much arousal is associated with peak performance and the demands of the task at hand; the maintenance of optimal performance while exposed to stress; and to what extent performance deteriorates with exposure to increased levels of stress. Stress management usually refers to reducing high levels of stress that disrupt performance and health, including physical and psychological well-being. More broadly, it could refer to adjusting or "managing" stress to put it in the optimal performance range. The allostatic leader will be most effective when they can maintain moderate arousal in themselves and others. Managing stress and enhancing well-being can be achieved through increasing certain health-promoting

behaviors, cognitions, and motivations, and decreasing those that are harmful to health. This section describes the relationship between stress and some of these behaviors and cognitions.

Exercise. Regular physical exercise is associated with greater life satisfaction and happiness (Stubbe, de Moor, Boomsma, & de Geus, 2007). People who engaged in physical exercise two to three times per week reported less depression, anger, and stress (Hassmen, Koivula, & Uutela, 2000). Leisure activities, including Tai Chi (Wang et al., 2010), yoga (West, Otte, Geher, Johnson, & Mohr, 2004), and social activities (Trainor, Delfabbro, Anderson, & Winefield, 2010), also enhance psychological well-being (Pressman et al., 2009) as evidenced by improved mood and self-esteem, and reduced anxiety and feelings of social isolation. As discussed above with regard to the Yerkes-Dodson curve, there is an optimal arousal level. Therefore, physical activities are most beneficial in moderation. Leaders should participate in exercise and other leisure activities as part of their regular routines. For allostatic leaders, it is particularly important to engage in activities that will optimize ability to adapt, learn, and change in order to meet new challenges more readily, more effectively, and more efficiently; so any preparation that increases well-being is valuable.

Eating. A nutritious diet of fruits, vegetables, lean meat, fish, and whole grains is associated with physical and psychological well-being (Blanchflower, Oswald, & Stewart-Brown, 2013; Jacka et al., 2010; Tsai, Chang, & Chi, 2012), whereas diets high in processed or fried foods, refined grains, sugary products, and beer are associated with poorer health (Jacka et al., 2010). Undereating can result in psychological distress (Carter, Kruse, Blakely, & Collings, 2011) and poor nutrition that, in turn, affects mood, cognitive processing, and behaviors (DeWall, Deckman, Gailliot, & Bushman, 2011). Further, decreases in self-control as a result of hypoglycemia, or low glucose, especially in the part of the brain responsible for self-control (prefrontal cortex [PFC]), may be related to increases in aggressive and impulsive behaviors and interfere with judgment and decision making (DeWall et al., 2011). This emotional manifestation of a state of physiological need is important to consider when attempting to manage stress especially in leadership situations. Leaders need to be aware of the importance of good nutrition to maintain mental alertness and ability to respond well, physically and psychologically, to various situations.

Sleep. Sleep hygiene is relevant to performance and well-being (Steptoe, O'Donnell, Marmot, & Wardle, 2008). Most healthy adults require 7–9 h of quality sleep each night (National Sleep Foundation, 2015). Getting insufficient sleep is common among leaders and lack of sleep becomes a stressor. There is substantial evidence that insufficient sleep is related to several negative psychological and physical outcomes including compromised cognitive function, increased emotionality, compromised optimistic outlook and social functioning, and increased pain to name a few (Haack & Mullington, 2005). In contrast, 8 h of quality sleep increases optimistic outlook and social functioning (Haack & Mullington, 2005). The available data are somewhat mixed regarding extension of sleep on health and performance. Long sleep has been linked to greater mortality in the case of cardiovascular, metabolic, and other diseases, but it is unclear what role sleep plays beyond the

disease or simply being in bed and sedentary (Cappuccio, D'Elia, Strazzullo, & Miller, 2010; Knutson, 2010). There are some studies available that show that extending sleep or "sleep banking" can maintain performance during subsequent periods of sleep loss (Rupp, Wesensten, Bliese, & Balkin, 2009) and it is likely that individuals are carrying around a "sleep debt" so getting more sleep is generally encouraged (Dement, 2005). It is necessary for leaders to monitor effects of insufficient sleep on performance for not only themselves, but also their followers, and make adjustments when possible.

Awareness. Stress management techniques, as mentioned above, include physical activities and behaviors to prepare for stress and to reduce deleterious stress responses. In addition, stress management uses techniques that focus on the cognitive domain. Mindfulness and mindfulness meditation have become increasingly popular because they are associated with better leadership (Boyatzis & McKee, 2005), decreases in perceived stress (D. C. Johnson et al., 2014), and increased performance (Jha et al., 2015). Mindfulness meditation involves manipulating awareness, an aspect of consciousness and perception of one's environment. More concretely, people who "detach" from work during off hours are more satisfied with their lives, experience less stress, and become fully engaged at work (Sonnentag, 2012). Allostatic leaders have the ability to be fully present when engaged in the act of leadership, but also to completely detach periodically to recharge or, in toxic situations, to preserve their own capacity to respond to demanding or stressful situations. Ultimately, the allostatic leader is able to enact this level of cognitive manipulation or mindfulness even under conditions that are out of his/her control. Leaders may be able to use biofeedback techniques (e.g., monitoring heart rate variability and galvanic skin response) to map their response to stressors and practice controlling those physiological reactions, so they can more effectively respond to stress.

Beliefs/appraisals (e.g., optimism). Optimism—holding generally favorable expectancies for their future (Carver, Scheier, & Segerstrom, 2010)—is related to less stress (Augusto-Landa, Pulido-Martos, & Lopez-Zafra, 2011), whereas pessimism—believing that bad things will happen in the future (Merriam-Webster, 2015)—is associated with increased stress. Optimism is associated with better psychological and physical health, more persistence in educational efforts, and better relationships, especially under stress. In contrast, pessimism is associated with less life satisfaction (Chang, Maydeu-Olivares, & D'Zurilla, 1997) and more depressive symptoms (Chang et al., 1997; Chang, Sanna, & Yang, 2003). The ability to generate vivid mental imagery of positive future events, instead of focusing on negative thoughts or "thinking traps" (catastrophizing, focus on negative), is associated with greater psychological well-being (Blackwell et al., 2013) and reduced stress. An allostatic leader must be able to have an optimistic outlook especially under stress.

Spirituality. A full discussion of spirituality as it relates to leader development is beyond the scope of this chapter as there is some debate about how to define and quantify the association between the constructs; see Dent, Higgins, and Wharff (2005) for a systematic review of the topic. For the purposes of this chapter it is important to point out that religiosity and spirituality are related to well-being

(Ellison & Fan, 2008; Koenig, 1994; Levin & Chatters, 1998; Patrick & Kinney, 2003). In particular, spiritual fitness enhances resilience, health, and well-being (Pargament & Sweeney, 2011) and may help a leader manage stress. Further, some experts suggest that organizations are more effective and perform better when their leader uses his/her personal spiritual values to make decisions and set standards (for a review see Dent et al., 2005). Of note, however is that consideration for the religiosity or spirituality of individuals within the organization should not be overlooked and should be incorporated into the other considerations leader make with regard to social and emotional intelligence. Spirituality relates primarily to *P*, but also may include *B* when considering religious practices (e.g., attending services, confession) and *E* for social elements of some religions.

Social support. According to Cohen and Wills (1985) social support is the perception of and access to help, assistance, and understanding provided by other people, which can reduce or "buffer" stress and the effects of stress. Structural social support is the availability of social ties like marital, family, or church affiliations (McNally & Newman, 1999) and functional social support means that the support provided is not only available, but is also able to meet an individual's needs. Quality of the social environment determines how work stress affects morale and psychological health where the absence of social support puts individuals at risk for developing physical and psychological problems (Berkman & Syme, 1979; Helgeson, Cohen, & Fritz, 1998; House, Robbins, & Metzner, 1982; Reifman, 1995). The topic of social support in leader development outside of Lewin's theory or the biological aspects is more fully considered in this volume by Gosnell in the chapter entitled, "Leading with Support: The Role of Social Support for Positive and Negative Events in Leader Development."

Successful integration into a social group leads to a sense of belonging and increased self-worth (Greenberg & Jones, 2012). For the leader, the health-promoting effects of social support, which buffer harmful effects of stress on health (Cohen & Wills, 1985), can be seen in positive neuroendocrine and immune response biomarkers (Cohen, Sherrod, & Clark, 1986; Uchino, Cacioppo, & Kiecolt-Glaser, 1996), reduced psychological despair (Thoits, 1985), and increased motivation to take care of self (van Dam et al., 2005). With regard to followers, when social support is lacking from leaders and peers more stress and more unfavorable work outcomes occur (Burke, Moodie, Dolan, & Fiksenbaum, 2012). Allostatic leaders seek out social support for themselves and create or contribute to environment in which individuals feel supported. Some examples may include individuals who feel supported to do their jobs well, as a valued member of the team, to offer their own point of view, to offer a counterpoint or different perspective, and to speak up when the situation calls for it.

Managing stress can be difficult and is an ongoing process. An allostatic leader understands how health-promoting behaviors and cognitions can be used to reduce stress for themselves and others, and practices these techniques to optimize performance and minimize burnout. While a certain amount of stress can be managed, stress is unavoidable even as an allostatic leader grows, learns, and changes to meet the ever-increasing demands of leading. Because of this fact, an allostatic leader

must develop dominant responses that are effective under stressful situations and social support provides a clear mechanism for effective coping (see Chaps. 6 and 12 in this volume for further discussion of social support).

2.5.4 Developing the Dominant Response

It is well established that dominant responses (i.e., the more likely response to a given situation which either is correct or incorrect, depending on knowledge, skills, and practice) become exaggerated under stress (Zajonc & Sales, 1966), including the stress experienced when observed or judged by other people. Allostatic leaders need to be sure to develop "correct" and "best practices" as dominant responses because so many of their decisions and actions are made under stress and even when a given environment or stressor may seem mundane or lack challenge. The fact remains that others (followers and observers) are watching, judging, and evaluating the leader—all conditions that maximize the operation of dominant responses.

The easiest way to develop desirable dominant responses is to practice over and over again, remembering that practice per se does not make perfect; instead, perfect practice makes perfect. To develop as an allostatic leader with regard to this goal, begin by identifying specific areas that need improvement and then start to slowly change the thought process or behavior. For example, if a leader is inclined to be defensive when receiving push-back or apparent criticism from subordinates, then practice to change this behavior. The leader can start by first not offering any response at all, but instead take all the information into consideration and allow some time to process exactly what is being conveyed. After taking that pause, the leader can then examine what the "first response is likely to be. Once that response has been reviewed, then make a judgment about whether or not that response is necessary in the situation. Further, assess whether responding in that way would improve effective interactions with subordinates. If not, then attempt to reconcile why the response is occurring (i.e., what can the leader be doing better or how do they need to change based on the feedback and/or the situation) and what alternative response is necessary to be effective. This change can be made by calling on all the principles discussed above regarding emotional and social intelligence and reducing stress if necessary. Then finally, trying out different kinds of responses until one works better than being defensive, practicing that correct" response, and ultimately work to have a more effective dominant response in the future.

2.6 Conclusion

The concept of "allostatic leaders" is an ideal, overarching leader type within a psycho-biosocial framework. It is influenced by field theory of human behavior and social relationships and "allostasis"—a concept which emphasizes adaptation and change to

maintain stability when exposed to subsequent stressful conditions. Allostatic leaders adapt to, learn from, and change in response to experiences and challenges to increase capacity to meet future challenges and to minimize burnout. Allostatic leaders take on challenges and learn from mistakes. Allostatic leaders are effective regardless of the context which includes stress levels of self and others, emotions of self and others, and presence or absence of social support and/or constraints.

Acknowledgements The opinions and assertions contained herein are the sole ones of the authors and are not to be construed as official or reflection of the views of the Walter Reed Army Institute of Research, Uniformed Services University of the Health Sciences, or Department of Defense. We especially thank Erin S. Barry for her valuable input preparing this chapter. We also thank Hannah G. Kleber for her suggestions and LTC Matthew Clark for his thoughtful review and edits.

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