Career Resilience: An Integrated Review of the Empirical Literature

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Abstract

In this article, we review and synthesize the empirical literature on career resilience (CR) to develop a nomological network that describes the major components of the construct, and its relationships with other constructs. Specifically, we outline the antecedents and consequences of CR and describe their theoretical basis. We discuss the implications of the nomological network for future research on CR. Finally, we describe the practical implications of our model for individuals, managers, and organizations.

Much has been written about the turbulent environment in which careers are enacted today. A number of contextual factors such as technology, globalization, the economy, and changing workplace demographics have influenced careers in a variety of ways: how we choose careers, how we approach and develop our careers, and how we evaluate our careers. As a result of this turbulence, individuals are advised to be adaptive, nimble, employable, protean, and resilient. Particularly important in an era of organization restructures, job insecurity, and work intensification is the ability to be resilient, often characterized as the "ability to 'bounce back' from adversity" (Luthans, Vogelgesang, & Lester, 2006, p. 25). Cascio (2007), in a discussion of the future of careers, suggested that "career resilience is an essential survival skill in the 21st century" (p. 552).

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One of the first references to career resiliency (CR) was made by London (1983) who identified it as one of three domains comprising career motivation (the other two being career identity and career insight). He defined it as "a person's resistance to career disruption in a less than optimal environment" and contrasted it with career vulnerability which he described as "the extent of psychological fragility . . . when confronted by less than optimal career conditions" (p. 621). According to London, there are three subdomains of CR: self-efficacy, risk taking, and dependency. Individuals with high self-efficacy, a willingness to take risks, and less dependency (particularly in terms of need for approval) are likely to be career resilient. Subsequent research focused on developing scales to measure career motivation, which included a CR scale (Noe, Noe, & Bachhuber, 1990). Several studies were conducted and probably the most significant finding regarding CR was that it tended to increase as employees aged and gained more experience (London, 1993; Noe et al., 1990).

CR has also been found to be a dimension of career commitment. Carson and Bedeian (1994) constructed a measure of career commitment that identified three domains of this multidimensional construct: career identity, career planning, and CR. However, a study done comparing Carson and Bedeian's measures with Noe et al.'s found that the resiliency measures in these instruments were not related, appearing to measure a "different construct" (London & Noe, 1997, p. 69).

These early studies did not focus solely on CR, rather CR was treated as one dimension of broader career constructs. At the same time, however, practitioners were beginning to explore this notion of CR, particularly in response to the downsizing and restructuring of organizations that characterized the late 1980s and early 1990s (Collard, Epperheimer, & Saign, 1996). In 1994, a *Harvard Business Review* article was published describing programs intended to develop a "career resilient workforce" (Waterman, 1994). These publications differentiated "career self-reliance," defined as the "ability to actively manage one's work life in a rapidly changing environment" and an "attitude of being self-employed" (Collard et al., 1996, pp. 30-31) from CR which was considered " . . . the result or the outcome of being career self-reliant" (p. 34).

Collard, et al. acknowledged that many do not differentiate between these concepts. So it appears that CR became the preferred concept in subsequent literature. While these practitioner oriented publications may have done little to clarify the meaning of CR, they did present the idea that CR could be developed and that organizations need to assist in the development of employees' CR.

Since the 1990s, there has been an increase in academic publications on CR; this increase reflected the changing context of careers (Baruch, Szűcs, & Gunz, 2015). Certain careers where resiliency is likely to be needed, particularly "helping professions," have produced a lot of the literature regarding CR. For example, the teaching profession (e.g., Gu, 2014; Mackenzie, 2012; Mansfield, Beltman, & Price, 2014) and nursing (e.g., Coogle, Parham, & Young, 2007; Hodges, Keeley, & Troyan, 2008; Ngoasong & Groves, 2016) have been particularly interested in CR to assist in the retention of professionals in these fields.

However, career scholars have focused a lot of their research on career adaptability, employability, and protean careers rather than CR (Baruch et al., 2015; Lyons,

Schweitzer, & Ng, 2015). This is particularly evident in the field of human resource development (HRD; Luthans et al., 2006). This lack of attention by HRD is puzzling as there is growing evidence indicating resiliency can be developed (e.g., Caza & Milton, 2012; Youssef & Luthans, 2007). For example, traditional HRD interventions such as training and mentoring have been found to impact employees' resiliency (e.g., Cornum, Matthews, & Seligman, 2011; Kao, Rogers, Spitzmueller, Lin, & Lin, 2014; Luthans, Avey, Avolio, & Peterson, 2010). The purpose of this article is to provide a review of the extant literature on CR with a focus on how HRD can assist in creating new knowledge and new initiatives that will enhance the development of individuals' CR. Specifically, we will review the literature, describe some of the problems associated with the concept and literature, and finally, we provide implications for HRD practice and research.

Method

There have been several integrated literature reviews done on resilience. For example, reviews have been conducted on family resilience (Bhana & Bachoo, 2011), psychological resilience (Fletcher & Sarkar, 2013), personal resilience (Jackson, Firtko, & Edenborough, 2007), and resilience in childhood (Luthar & Zigler, 1991; Zolkoski & Bullock, 2012). To our knowledge, there has not been a systematic review of the CR literature. From this perspective, we view this as an integrative literature review focusing on an "emerging" topic "that would benefit from a holistic conceptualization and synthesis of the literature to date" (Torraco, 2005, p. 357).

To begin the process, a search was conducted using the keywords "career resilience" in the following databases: Academic Search Premier, ERIC, Business Source Premier, Business Source Complete, Health Source: Nursing/Academic Edition, PsycARTICLES, and PsycINFO. The search yielded 154 results of which six were duplicates, resulting in 148 publications. This list was further reduced to 114 journal articles eliminating books, thesis and dissertations, and conference papers from the review.

A staged review was conducted in which abstracts were read to determine if the article was conceptual or empirical. Sixty empirical articles were selected for further review; five of these were not in the original search, rather they were discovered through a more thorough reading of the empirical articles and reviewing the citations.

All of the empirical articles were read and a detailed table was created summarizing each study's methodology and major findings. This initial step was completed by the first author; the second author also read the articles to confirm the data. Any discrepancies between our interpretations of major findings were noted and discussed. After this initial review, 17 additional articles were eliminated for two reasons: (a) After a thorough review it was determined the study did not focus on CR, rather it either focused on another form of resiliency or CR was mentioned as an implication, not as a variable that was integral to the study and (b) portions of the same study were reported in various articles (Kennedy, 2007). When this occurred, the article reporting the most comprehensive findings of the study was retained. In total, 43 articles were included in this review. Table 1 summarizes the selected studies reviewed.

Table 1. CR Literature Reviewed.

Author/date	Research	Sample	Major findings
Abu-Tineh (2011)	Cross-sectional survey	n = 100, university faculty	CR of faculty members positively correlated with individual, departmental, and university learning
Akkermans, Brenninkmeijer, Schaufeli, and Blonk (2015)	Quasi-randomized Control trial	n = 173, Study 1: students in internship programs; n = 113, Study 2: newly hired temporary workers in a reintegration program at a multinational	Participants of a CareerSKILLS program significantly increased their CR in comparison with a control group that received no training
Arora and Rangnekar (2014)	Cross-sectional survey	n = 205, managers in public and private sector organizations	Psychosocial mentoring was positively related to CR. Career mentoring not related to CR
Arora and Rangnekar (2015a)	Cross-sectional survey	n = 233, managers in public and private sector organizations	Psychosocial mentoring partially mediated the positive relationship between emotional stability and CR
Arora and Rangnekar (2015b)	Cross-sectional survey	n = 450, managers in public and private sector organizations	Positive relationship between openness and CR was stronger for managers who were high on extraversion
Arora and Rangnekar (2016)	Cross-sectional survey	n = 254, managers in public and private sector organizations	CR higher among managers who were high on both conscientiousness and agreeableness
Botha, Coetzee, and Coetzee (2015)	Cross-sectional survey	n = 1,102 undergraduate students in economics and management	Participant self-directedness was positively related to CR
Bowles and Arnup (2016)	Cross-sectional survey	n = 160, early career teachers	Teacher resilience was highest among teachers who were Innovative, followed by Adapters, and least among Stabilizers
Brotheridge and Power (2008)	Cross-sectional survey	n = 680, public agency employees	CR was positively associated with employee's personal responsibility for careers, internal locus of control, supervisory support, and job resources. Career center usage predicted additional variance in CR
Carless and Bernath (2007)	Cross-sectional survey	n = 437 psychologists	CR (along with career planning and job satisfaction) was negatively correlated with the intention to change careers

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Table 1. (continued)

Author/date	Research	Sample	Major findings
Chiaburu, Baker, and Pitariu (2006)	Cross-sectional survey	n = 127, line employees in an organization	CR mediated the relationship between proactive personality trait and career self-management behaviors
Clendon and Walker (2016)	Open-ended survey, focus groups	$n1$ = 3,273, $n2$ = 46, older nurses	Maintaining personal fitness, self-care, flexible working, and high self-efficacy about being able to contribute to profession were associated with resilience
Coetzee, Mogale, and Potgieter (2015)	Cross-sectional survey	n = 143 employees in public services	Overall CR was positively related with positive affect and all eight career anchors (technical/functional competence, general managerial competence, autonomy, entrepreneurial creativity, security/stability, service/dedication to cause, pure challenge, and lifestyle). CRs relationship with entrepreneurial creativity, pure challenge, and lifestyle was stronger for people with low negative affectivity
Coogle et al. (2015)	Cross-sectional survey	n = 212, nursing assistants and aides for Alzheimer's patients	CR lower for direct-care providers with prior training in gerontology or geriatrics and for those who were also the primary caregiver for a relative with Alzheimer's disease
Gu and Day (2013)	Semistructured interviews	n = 300, primary and secondary school teachers	Resilience was lower among late-career teachers, because of demands such as government policies, disruptive pupil behavior, increased paperwork, heavy workloads, and poor health. Early and middle career teachers reported higher resilience when they had positive work environments (supportive leadership and collaborative culture) and an inner calling for teaching
de Bruin and Lew (2002)	Construct validation study	n = 202, employees in wide variety of organizations	Construct validity for Career Resilience Questionnaire was not supported; problems were found with formulation of items (long and cumbersome). Some items were not directly related to the core meaning of CR

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Table 1. (continued)

Author/date	Research	Sample	Major findings
DeCastro, Sambuco, Ubel, Stewart, and Jagsi (2013)	Semistructured and in-depth interviews	n = 128, 100 former recipients of National Institute of Health career development awards and their 28 mentors	Participants and their mentors reported the pervasiveness of professional criticism and rejection in academic medicine. Resilience was associated with emotional support from mentors, optimism, and passion, and negatively associated with financial constraints. Good mentoring bolstered resilience
Fourie and Van Vuuren (1998)	Scale development	n = 352, white-collar employees in one manufacturing and one insurance company	Four factors of CR were obtained: belief in oneself (signifies internal locus of control), disregard for traditional sources of career success (nonreliance on long-term employment), self-reliance (nonreliance on employment security), receptivity to change (positive attitude toward frequent changes)
Gowan (2000)	Cross-sectional survey	n = 171, U.S. Army personnel transitioning to civilian jobs	CR was not related to problem-focused coping, emotion-focused coping, harm appraisal, or benefit appraisal, but was positively related to self-esteem and self-efficacy. CR negatively related to future harm appraisal
Green, Bull Schaefer, MacDermid, and Weiss (2011)	Cross-sectional survey	n = 139 matched pairs, university faculty and their spouses	Negative emotional displays by partner during discussions of employee's devotion of time and energy to work was negatively related to CR and positively related to turnover exploration. Negative emotional displays mediated the effect of observed work–family conflict on CR and turnover exploration
Grzeda and Prince (1997)	Construct validation study	n = 94, managers and professionals who had lost jobs because of organizational downsizing	CR positively related to creativity and autonomy on Career Orientations Inventory (DeLong, 1988) and latent dimensions of persistence and perseverance on Sherer et al.'s (1992) self-efficacy measure
Gu (2014)	Semistructured interviews	n = 300, primary and secondary school teachers	Resilience is not just bouncing back from major adversities but rather a "complex, continuous and fluctuating process" (p. 521). It is influenced by the relative effectiveness of teachers in their jobs and by the strength of trust in teacher–leader, teacher–teacher, and teacher–student relations

Table 1. (continued)

Author/date	Research	Sample	Major findings
Hodges et al. (2008)	Semistructured and in-depth interviews	n = 11, new baccalaureate prepared nurses	Resilience involved learning about the culture of the organization, developing competency in skills, time management skills, discovering a fit with one's profession through reflection, reframing, and adaptation that ultimately results in increased self-efficacy and independence
Hodges et al. (2010)	Open-ended interviews	n = 19, new and experienced baccalaureate prepared nurses	Three core processes were involved in building resilience: (a) verifying fit with profession and organization through personal reflection, (b) building close positive relationships with colleagues, managers, patients, and families, and (c) optimizing their relationship with the environment such that positive aspects of the environment and negative aspects minimized
Johnson et al. (2014)	Semistructured interviews	n = 60, early career teachers	Eighteen positive conditions were found supporting teacher resilience within the following five themes: policies and practices, teachers' work, school culture, relationships, and teacher identity
Kao et al. (2014)	Cross-sectional survey	n = 209, insurance salesmen	Psychosocial mentoring was positively associated with CR and stronger with same-gender mentoring relationships. Career mentoring was stronger in cross-gender mentoring relationships
Kidd and Green (2006)	Longitudinal survey (12 months gap)	n = 220, research scientists in biomedical disciplines	Continuance organizational commitment was negatively related to CR whereas equitable treatment was positively related to CR. Among the Career Commitment factors, CR was the strongest predictor of intention to leave science (negative relationship)
Kidd and Smewing (2001)	Cross-sectional survey	n = 265, employees from variety of organizations	Although significantly positively related, supervisor support did not predict CR
Kolar et al. (2016)	Semistructured online interview	n = 96, early-career psychologists	Strategies fostering resilience were workload management, professional development, utilizing peer networks, reflection, exercising, and socializing

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Table 1. (continued)

Author/date	Research	Sample	Major findings
Lee et al. (2008)	Cross-sectional survey	n = 318, college students	The well-adjusted group (which perceived fewer career barriers) had the highest scores for resilience, hardiness, and career maturity
London (1993)	Cross-sectional survey	Study 1, n = 172; Study 2, n = 96, mid- and late-career workers in different industries	Age was positively associated with CR. Part-time employees rated themselves higher on CR than full-time employees
Lyons et al. (2015)	Cross-sectional survey	n = 1,988, employed managers and professionals	CR partially mediated the relationship between personality variables (such as emotional stability, self-efficacy, internal locus of control, and Protean self-directed) and career satisfaction. Values Driven Protean was negatively associated with CR
Mackenzie (2012)	Life history interviews	n = 19, Special Education Teacher Coordinators	A sense of vocation expressed as an "urge to serve" was most strongly associated with teacher resilience
Maher (2013)	In-depth interviews	n = 20, nurses	Nurses viewed changes and reconfigurations in work and family patterns as resilient responses to changing care needs at home, changing work circumstances, and changing career aspirations
Mansfield et al. (2012)	Cross-sectional survey	n = 259, graduating and early career teachers	Teacher resilience was observed to be a four-dimensional construct: emotional dimension, motivational dimension, social dimension, and profession-related dimension
Mansfield et al. (2014)	Semistructured interviews	n = 13, early career teachers	Teacher resilience was found to be a process that was influenced by personal (e.g., persistence, positive attitude, self-belief, and help seeking) and contextual factors (e.g., family support, friendship, and support from colleagues, mentors)
Morgan et al. (2009)	Cross-sectional survey	n = 749, primary teachers	Absence of positive affective experiences at work rather than occurrence of negative experiences influenced teacher commitment and efficacy, which research shows is associated with teacher resilience

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Table 1. (continued)

Author/date	Research	Sample	Major findings
Noe et al. (1990)	Cross-sectional survey	n = 273, employees in varied fields	Jobs that included feedback, autonomy, and use of wide range of skills were associated with all the dimensions of career motivation including CR
Noordin et al. (2002)	Cross-sectional survey	n = 323, middle-level managers in different organizations	CR was higher among managers from individualistic cultures than collectivistic cultures
Papatraianou and Le Cornu (2014)	In-depth interviews	n = 60, early career teachers	Support (listening and emotional support, tangible assistance, appreciation) from informal networks (colleagues, leaders, support staff, students, parents of students, and family and friends) was associated with career teacher resilience
Tomassini (2015)	Biographical interviews	n = 21, individuals from various occupations each of which had a minimum of three significant career changes	Three main drivers of career development emerged: reflexivity, self-identity, and resilience. A resilient attitude resulted from two main sources: a "fateful moment or event" or as a long-term characteristic related to everyday influences
Van vuuren and Fourie, (2000)	Cross-sectional survey	n = 352, employees in a motor vehicle manufacturing company and insurance	Compared CR with career anchors. A positive correlation was found between career orientation and belief in oneself (dimension of CR) and negative correlations was found between career orientation and own success ethic. No relationship found between career orientation and the other two CR dimensions
Wei and Taormina (2014)	Construct validation study	n = 244, nurses	Four dimensions of resilience identified: determination, endurance, adaptability, and recuperability. Conscientiousness was an antecedent to all dimensions except endurance. All dimensions positively associated with subjective career success. Chinese cultural values associated with endurance and recuperability

Note. CR = career resilience.

Next in this article we present a nomological network of relationships that lead to and from CR. A nomological network is a theoretical framework summarizing the dimensions of a construct and its interrelationship with other constructs (Cronbach & Meehl, 1955). It provides important implications for future research and practice. Although CR is a growing body of literature, as far as we know, no systematic attempts have been made so far to summarize the main antecedents and consequences of CR. The nomological network that we present here was developed based on our narrative review of findings from empirical studies published on CR. Figure 1 is a visual representation that assists in "the reader's understanding of how the topic is addressed in the literature" (Torraco, 2016, p. 416). Before presenting the interrelationships with other constructs, it is important to define CR and its dimensions. Then we discuss the various antecedents and consequences of CR that have emerged from our review.

Defining CR

A common theme in the literature on resilience is that there is little agreement on how to define the term (Caza & Milton, 2012). Our review of the CR literature uncovered that there are some major ambiguities with respect to the way CR has been defined and operationalized in the literature. As we mentioned in the introduction of this article, early work viewed CR as a dimension or a domain of broader concepts such as career motivation (London, 1983) and career commitment (Carson & Bedeian, 1994). More recent research has treated it as a distinct construct; however, the career literature has yet to settle on a common definition.

Several scholars have defined it as an *ability* of individuals to recover from career-related setbacks (Abu-Tineh, 2011; Chiaburu, Baker, & Pitariu, 2006). These definitions tend to ignore the multitude of environmental or contextual factors that contribute to any individual's recovery from career disruptions. In addition, we all know from our personal experiences that our ability to recover from stressful disruptions is not a constant or a fixed attribute (Caza & Milton, 2012).

Others have defined it as a *process*. Caza and Milton (2012, p. 896), for example, described it as a "developmental trajectory" and Mansfield, Beltman, Price, and McConney (2012, p. 365) defined CR as a "complex, dynamic and multi-dimensional phenomenon" and as "a process of development occurring over time, through person-environment interactions." The advantages of viewing CR as a process is that it takes into account the different mechanisms that can potentially influence how individuals deal with career disruptions and changes.

The literature reviewed suggests that CR is a complex phenomenon, involving an interaction between characteristics of the individual and the context. It becomes important when individuals are faced with change, adversity, and/or disruptions—all of which may be anticipated or unanticipated (Gu & Day, 2013). As the focus is on CR, the notion of time becomes important as a career is "the evolving sequence of an individual's work experience over time" (Arthur, Hall, & Lawrence, 1989). Given these elements, we define CR as *a developmental process of persisting, adapting, and/or flourishing in one's career despite challenges, changing events, and disruptions*
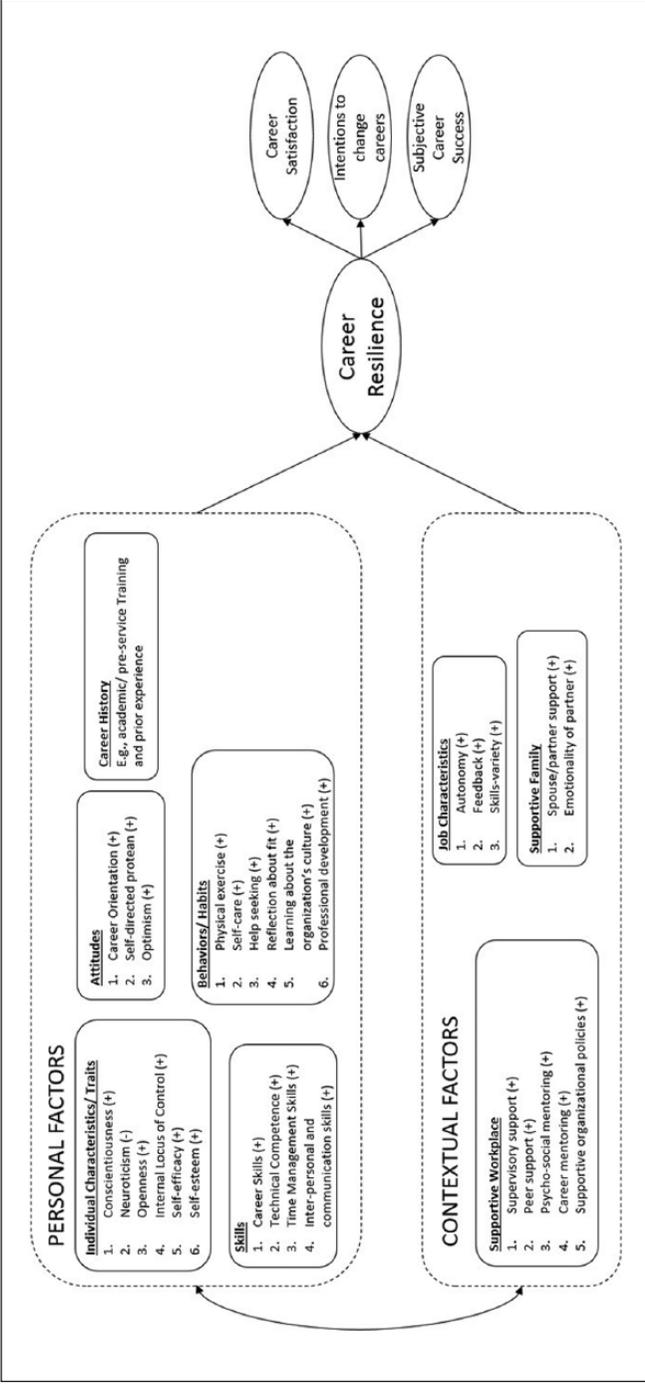
Figure 1. Nomological network of CR.
Note. CR = career resilience.

over time. Our definition highlights three aspects of CR. First, CR is not a one-time event, rather it is a process that unfolds over a person's career. Second, CR is developmental and is therefore a positive adaptation. Last, CR recognizes that setbacks in peoples' careers may happen because of challenges and disruptions in both their professional and personal spheres of life.

Antecedents

Personal Factors

We always admire people with extraordinary capacities to combat the adversities of life. The empirical work on CR has examined a variety of personal factors including traits or individual characteristics, attitudes, skills, behaviors, and career history. These findings will be briefly discussed in the following sections.

Personality. Individuals vary in their capacities to cope with life problems, and there is a long history of using personality traits to explain these differences (Penley & Tomaka, 2002). Not surprisingly, personality factors have also been used to distinguish career-resilient people from their vulnerable counterparts. According to the differential coping-choice model (Bolger & Zuckerman, 1995), personality traits not only influence people's reactivity to stressors but also their preference of coping strategies.

We identified 12 studies in our sample that had attempted to provide a description of the career-resilient personality profile. The studies varied dramatically in their focus. While some studies examined broad personality traits (such as conscientiousness and neuroticism), others examined more specific personality traits related to coping or careers (such as hardiness and self-directedness). There was also a study (Bowles & Arnup, 2016) that did not use any traditional personality trait inventory, and instead classified people into three different personality profiles based on their responses to the Adaptive Change Questionnaire (Bowles, 2006).

Given the diverse ways that the role of personality in CR has been examined, we decided to synthesize the relationship between personality and CR by comparing the examined traits of CR with the aggregate models of personality prevalent in the organizational literature (e.g., the Big Five and the Core Self-Evaluations models). We then highlight the traits that appear to be most strongly associated with CR.

Big-five personality traits

Conscientiousness. Conscientiousness refers to the tendency to be purposeful, organized, diligent, determined, and ambitious (Costa & McCrae, 1992). In our sample of studies, conscientiousness is the trait that was most frequently associated with CR. Four papers (viz. Arora & Rangnekar, 2016a; Carless & Bernath, 2007; Lyons et al., 2015; Wei & Taormina, 2014) examined the relationship between conscientiousness and CR, and all reported positive association between the two variables. In addition, Grzeda and Prince (1997), who were validating measures of career motivation that

includes CR, found that measures of persistence and perseverance had strong positive association with CR.

Indirect evidence of conscientiousness being related to CR also came from three other studies (viz. Botha, Coetzee, & Coetzee, 2015; Bowles & Arnup, 2016; Chiaburu et al., 2006) that examined traits similar to conscientiousness. Proactive personality was positively associated with CR (Botha et al., 2015; Chiaburu et al., 2006). Proactive personality refers to the proclivity to take personal initiative and persevere (Bateman & Crant, 1993). It is similar to conscientiousness in its common focus on goal-orientedness, achievement striving, and persistence (Bateman & Crant, 1993; Major, Turner, & Fletcher, 2006). Lastly, Bowles and Arnup (2016, p. 151), in their study of CR among teachers, labeled the second most resilient group as *adaptors*, a group that was "systematic in their thinking and more goal focused"—characteristics associated with conscientiousness.

Although studies report positive association between conscientiousness and CR, it is not clear how conscientiousness influences CR. None of the existing studies explore the mechanisms through which conscientiousness influences CR. However, certain mechanisms could be inferred from the stress literature. For example, conscientiousness may act as a general protective factor (Bartley & Roesch, 2011) against career-related stressors such that people high on conscientiousness may not be as adversely affected by career-related setbacks. Individuals high on conscientiousness may engage in proactive behaviors that prevent threatening or harmful situations from occurring (Aspinwall & Taylor, 1997). It is also possible that individuals high in conscientiousness may deal with setbacks by engaging in more effective coping strategies, such as task-oriented coping instead of emotion-oriented coping (Campbell-Sills, Cohan, & Stein, 2006; Saklofske, Austin, Galloway, & Davidson, 2007).

Neuroticism. Neuroticism refers to the tendency to experience psychological distress, anxiety, and depression (Costa & McCrae, 1992). The opposite end of neuroticism is referred to as emotional stability, and refers to the tendency to being anxiety and depression free (Costa & McCrae, 1992). In our sample, two papers examined the relationship between CR and neuroticism (viz. Arora & Rangnekar, 2015; Lyons et al., 2015), both of which found a negative association. Similarly, Lee, Yu, and Lee (2008) found a negative relationship between CR and trait anxiety, a trait comparable to neuroticism (Scheier, Carver, & Bridges, 1994). However, negative affectivity, another trait closely associated with neuroticism (Watson & Clark, 1984), was found to be unrelated to CR (Coetzee, Mogale, & Potgieter, 2015). Lastly, Bowles and Arnup (2016) labeled the least resilient group of teachers as *stabilizers*; they were cautious in their approach of teaching and were afraid to take risks—behaviors that would most likely be seen among people with high neuroticism. Overall, there appears to be a negative relationship between neuroticism and CR.

Arora and Rangnekar (2015) explored a mediating mechanism through which emotional stability influenced CR. They found that managers high in emotional stability were more likely to seek psychosocial mentoring opportunities which helped with CR. More mechanisms of how emotional stability/neuroticism and CR are related need to

be explored. For example, people high in neuroticism may engage in more disengagement coping (Carver, Scheier, & Weintraub, 1989)—that is, emotion-oriented coping focused on escaping feelings of distress. This might lead to them relinquishing goals which could be hazardous to their career.

Openness. Openness refers to the tendency of being curious, flexible, and imaginative (Costa & McCrae, 1992). Two studies in our sample (i.e., Arora & Rangnekar, 2016b; Lyons et al., 2015) studied the relationship between openness and CR, and both reported positive association. Indirect support for the positive association between openness and CR also came from Bowles and Arnup (2016) study on CR among teachers, who found that *innovators*—teachers who were free thinkers and used novel methods of teaching—were the most resilient group. Similarly, Grzeda and Prince (1997) found that measures of creativity and development orientation had strong positive association with CR.

None of the current studies provide insights into how openness influences CR. One possible mechanism may be that people high in openness will be more flexible with respect to their career- and family-role identities (Whitbourne, 1986), which could help them see any career-related setback from a more balanced perspective. As openness is associated with higher tolerance for ambiguity, individuals high on openness may also not stress out during uncertain times of organizational change. Instead, they may engage in cognitive restructuring of the setbacks (Connor-Smith & Flachsbart, 2007) and be more willing to adopt alternative goals and career strategies to recover from their career setbacks.

Extraversion. Extraversion refers to the interpersonal dimension of sociability and the proclivity to experience positive emotions such as joy and pleasure (Costa & McCrae, 1992). Two studies examined the relationship between extraversion and CR, one found a significant but weak positive relationship (Lyons et al., 2015) and the second found no relationship (Arora & Rangnekar, 2016b) between the variables. Arora and Rangnekar (2016b) also found that the positive relationship between openness and CR was stronger for people with high extraversion.

The relationship between extraversion and CR appears to be weak. Although this is speculative, this could be because only certain dimensions of extraversion appear to be related to CR. Coetzee et al. (2015) found a strong positive association between positive affectivity and CR, which might indicate that the proclivity to experience positive emotions may be related to CR but not the sociability dimension.

Agreeableness. Agreeableness refers to people's tendency to be trusting, caring, and sympathetic (Costa & McCrae, 1992). Positive association between agreeableness and CR was found in the only study that examined this relationship (Arora & Rangnekar, 2016a). Agreeableness also moderated the relationship between conscientiousness and CR, such that the relationship was stronger for people with high agreeableness. Although it is difficult to infer the exact nature of relationship between agreeableness and CR from one study, it is possible that the two factors are positively associated because

people high in agreeableness tend to have strong social networks (Bowling, Beehr, & Swader, 2005; Zhu, Woo, Porter, & Brzezinski, 2013), which could translate to higher social support that would enhance CR.

Core self-evaluations. The beliefs that people have about themselves have trait-like characteristics (Judge, Erez, & Bono, 1998). Judge et al. (1998, p. 168) called these trait-like beliefs core self-evaluations, and defined them as "fundamental premises that individuals hold about themselves and their functioning in the world." The four traits comprising core self-evaluations are self-esteem, generalized self-efficacy, emotional stability, and locus of control. In our sample, we found some studies that had examined the association of these traits with CR. As we have already discussed the relationship between emotional stability and CR under the umbrella of the Big Five personality traits, we focus our discussion on the remaining core self-evaluations.

Locus of control. Locus of control represents perceptions of control in life, where people with internal locus of control believe they control their lives and people with external locus of control believe just the opposite. Locus of control was examined in three studies (Brotheridge & Power, 2008; Lee et al., 2008; Lyons et al., 2015), and all these studies found a positive association between internal locus of control and CR.

Two other traits, viz. self-directedness (Botha et al., 2015) and hardiness (Lee et al., 2008), were positively associated with CR. Although these traits are not part of core self-evaluations, they are both strongly related to the internal locus of control dimension (De Fruyt, Van De Wiele, & Van Heeringen, 2000; Eschleman, Bowling, & Alarcon, 2010). Thus, they provide indirect evidence of the role of internal locus of control in CR.

Self-efficacy. Self-efficacy refers to people's perception of their ability to perform in different situations. It was examined in three quantitative studies (Clendon & Walker, 2016; Gowan, Craft, & Zimmermann, 2000; Lyons et al., 2015) and one qualitative study (Hodges et al., 2008). In all these studies, it was found to be positively associated with CR.

Self-esteem. Self-esteem is the overall value an individual places on oneself. Only one study explored its connection with CR (Gowan et al., 2000), and found a strong positive association between the two variables.

All in all, positive core self-evaluations seem to be associated with CR, although the extant studies have not examined the mechanism through which these traits may influence CR. Various possible mechanisms may be in play here. For example, individuals with positive core self-evaluations may experience fewer career setbacks, or maybe setbacks don't threaten their self-worth. It is also possible that people with positive core self-evaluations engage in more adaptive coping processes (Kammeyer-Mueller, Judge, & Scott, 2009).

Skills. Being resilient to setbacks that can derail careers is not just a matter of personality traits. It may also be a function of skills that are developed over a period of time.

These may include skills of calming oneself down, seeking support, challenging counterproductive beliefs in self, looking for alternative job opportunities, and many more. There are some popular press books that discuss resilience skills (e.g., Reivich & Shatte, 2003), but unfortunately not many studies have examined the specific skills associated with CR.

While personality traits may significantly contribute to CR, they tend to be relatively stable. Fortunately, there are also certain developable skills that are associated with CR, although we found only three papers that examined skills that enhance CR. Hodges et al. (2008) and Mansfield et al. (2012) found that having higher levels of technical and time-management helped with CR. They also found that communication and interpersonal skills led to people seeking support which also helped with CR.

Akkermans, Brenninkmeijer, Schaufeli, and Blonk (2015) identified six career competencies related to CR: reflection of motivation, reflection on qualities, networking, self-profiling, work exploration, and career control. More importantly, they provided evidence that these competencies could be enhanced through training. They put participants through a 2-week long CareerSKILLS program and compared their change in competency levels and CR with a control group that did not receive the program. Participants who underwent the program showed significant increase in the six career competencies and CR.

Akkermans et al. (2015) also provide a few insights about how career-management training programs may increase CR. One mechanism is through increased self-efficacy among participants to successfully engage in work- and career-related activities. Another mechanism is that CareerSKILLS training made participants aware about potential stressors and setbacks, thereby inoculating them against setbacks.

Attitudes. In our review, we found only five studies that had examined the influence of attitudes on CR. Two of these papers studied the influence of general attitudes such as optimism, eagerness to learn, liking challenges, and the attitude of not taking things personally on CR (DeCastro, Sambuco, Ubel, Stewart, & Jagsi, 2013; Mansfield et al., 2012). All these attitudes were associated with CR.

Career-related attitudes. Five studies (viz. Coetzee et al., 2015; Lyons et al., 2015; Mackenzie, 2012; Van Vuuren & Fourie, 2000) explored the relationship of career-related attitudes with CR. Career orientation—which broadly refers to the attitude of placing importance on one's career—was positively associated with CR (Coetzee et al., 2015; Van Vuuren & Fourie, 2000). Mackenzie (2012) and Johnson et al. (2014) noted a sense of vocation among the resilient teachers. Lyons et al. (2015) explored the role of more specific career attitudes, such as protean and boundaryless career orientations. Boundaryless career has been defined in multiple ways, but they all broadly refer to having a career focus beyond organizational boundaries. Contrary to expectations, Lyons et al. (2015) found that boundaryless career orientations were negatively associated with CR. Protean career orientation refers to the attitude of the individual rather than the organization being in control of one's career. Lyons et al. (2015) found

that self-directed protean orientation was positively associated with CR, but not individualistic values-driven protean orientation.

Although there aren't many studies exploring the relationship between attitudes and CR, it is easy to imagine how optimistic and self-directed attitudes may positively impact CR. Such attitudes may reduce the feelings of helplessness and hopelessness that might come from setbacks, and thereby help in sustaining motivation and problem-solving behavior that promote CR.

Behaviors. Does engagement in certain behaviors or habits enhance CR? This question was explored in seven studies. Abu-Tineh (2011) conducted a study on university faculty members and found that learning about organizational changes was associated with CR. The remaining six studies were qualitative in nature (Clendon & Walker, 2016; Hodges et al., 2008; Hodges, Troyan, & Keeley, 2010; Kolar, Treuer, & Koh, 2016; Mackenzie, 2012; Maher, 2013). These researchers observed numerous behaviors among people with high CR. They included *health habits* such as exercising to maintain personal fitness, yoga, meditation, and breathing exercises; *learning behaviors* such as engaging in professional development and learning about organizational culture; *boundary-setting behaviors* such as setting work-life boundaries and engaging in hobbies; and periodic *self-reflection* about one's fit to one's job and profession.

Because of the lack of large sample studies, it is difficult to make any definitive statement about which behaviors influence CR, but the categories of behaviors enumerated above appeared in multiple studies. So it is likely that some, if not all, of these behaviors may be significantly related to CR. The mechanisms through which each of these behaviors influence CR may again vary significantly. For example, health habits may enhance personal capacities to handle stress associated with career setbacks, learning behaviors may potentially reduce uncertainties about disruptive changes, boundary-setting behaviors may minimize the impact of disruptions in one area of life to other, and self-reflection may restore intrinsic motivation about one's profession.

Career history. Individuals' career histories can sometimes have significant positive and negative impact on their CR. This phenomenon was explored in a couple of studies. Coogle et al. (2007) hypothesized that having prior training in gerontology would be positively related to CR among nurses and aides working for the care of Alzheimer's patients. However, contrary to expectations, they found that such training was associated with reduced CR and satisfaction. Similarly, contrary to expectations, Gu and Day (2013) found that CR was lower among late-career teachers than among early- and middle-career teachers.

The counterintuitive results of the influence of career history could mean that people's history can impact them in unique ways. For example, while prior training can enhance work-related skills which enhance CR, they may also increase people's expectations from their careers. When people's expectations are not met in their profession, they may feel disappointed and show lower CR. Similarly, while long tenures in a career may enhance one's competencies and skills that are associated with CR, they may also cause burn out, especially if the career is stressful in nature.

Contextual Factors

Supportive workplace. In our sample, we found 15 studies that directly or indirectly examined the influence of supportive workplaces on CR. Eight of these studies were qualitative studies (DeCastro et al., 2013; Gu, 2014; Gu & Day, 2013; Hodges et al., 2010; Johnson et al., 2014; Mackenzie, 2012; Mansfield et al., 2014; Papatraianou & Le Cornu, 2014), and all of them found evidence of supportive workplaces positively impacting CR. Among the remaining quantitative studies, two examined the relationship between supervisor support and CR (Brotheridge & Power, 2008; Kidd & Smewing, 2001), though only Brotheridge and Power (2008) found support for this relationship. Kidd and Green (2006) also did a study on CR among research scientists, and found that equitable treatment at work was positively associated with CR. Three studies also found positive association between psychosocial mentoring and CR (Arora & Rangnekar, 2014, 2015; Kao et al., 2014). Lastly, Morgan, Ludlow, Kitching, O'Leary, and Clarke (2010) found that absence of positive affective experiences at workplace—which are characteristics of nonsupportive workplaces—was negatively related to CR.

Overall, there is strong evidence in favor of supportive workplace positively impacting CR. Support at workplace may come from formal channels such as from one's supervisors, or from informal networks within the workplace such as mentors, peers, and sometimes even from subordinates (Papatraianou & Le Cornu, 2014), but it appears that supportive environments are critical to the nurturance of CR. Like most of the variables discussed here, the mechanism through which supportive workplace enhances CR has not been examined well in the literature. However, as CR is an individual-level phenomenon, it can be inferred that supportive climate somehow enhances people's capacity to deal with setbacks. Probably, all of us, even the strongest among us are vulnerable when we are going through difficult times or have suffered some major setbacks. Without the support from significant others during these periods, many of us may give up. Individual capacities of CR, from this perspective, needs to be seen as finite.

Organizational support is also demonstrated by offering programs that further develop employees' skills and competencies. Akkermans et al. (2015) found that individuals who participated in a skill development program related to career competencies increased their perceived levels of CR. The authors explain that this happens because of increased self-efficacy and inoculation against setbacks. In other words, career-related skills can not only improve people's self-efficacy about handling career-related challenges, but can also help them anticipate certain types of career setbacks and prepare themselves for these events. This could be considered analogous to the warning indicators on a car's dashboard that alert drivers about low resources (e.g., fuel and oil levels) and malfunctions that can cause the car to completely breakdown in the near future.

Job characteristics. According to Hackman and Oldham (1975), certain job characteristics enhance intrinsic motivation about work. We found two studies in our sample that

explored the relationship between job characteristics and CR (Brotheridge & Power, 2008; Noe et al., 1990). Both these studies found that the job characteristics of autonomy, feedback, and skill variety were positively related to CR. Additionally, Grzeda and Prince (1997) also found that autonomy was positively related to CR. Similar to the other antecedents of CR, we do not know how the job characteristics influence CR. As proposed by Hackman and Oldham (1975), it may be that autonomy enhances a sense of responsibility among people which has been associated with CR (Brotheridge & Power, 2008). Similarly, the insights about performance that one may gain through feedback may help enhance self-efficacy that we know is positively associated with CR. Variety could also heighten the experience of meaningfulness at work that may enhance intrinsic motivation related to one's work.

Supportive family. There were three qualitative studies in our sample that concluded that CR is not just related to work-related experiences but also intertwined with people's experience with their families. Maher (2013) noted that disruptions in family life and employment affected each other. Mackenzie (2012) observed that having family obligations made teachers seek flexible work schedules, which if they received enhanced CR. Papatraianou and Le Cornu (2014) observed that having informal support from family and friends boosted CR.

Green, Bull Schaefer, MacDermid, and Weiss (2011) explored the connection between family experiences and CR quantitatively. They found that CR was lower among university faculty members whose spouses blamed them for their work–family conflict issues and displayed negative emotions when discussing these issues.

CR Outcomes

While the majority of the studies in our sample exclusively focused on the antecedents of CR, we also found five studies that treated CR as a mediator between the examined antecedents and certain career outcomes. For example, Chiaburu et al. (2006) found that CR mediated the relationship between a proactive personality and career self-management such that CR had a positive impact on career management. In this study, the authors contended that CR "is an important component in focusing proactive behaviors, because it brings together the necessary long-term commitment and persistence needed to engage in career self-management" (p. 623).

Two studies examined the influence of CR on intention to change careers. In both studies, those individuals who perceived themselves as career resilient were less likely to think about changing careers. Specifically, Carless and Bernath (2007) found that job satisfaction, career planning, and CR were significant predictors of intention to change careers among a group of psychologists, and Kidd and Green (2006) found CR was the strongest predictor of intention to leave science. These findings are as expected, that being persistent and having the capability to adapt to changing circumstances will help individuals continue in their chosen career.

The final two studies examined the relationship between CR and positive career outcomes—subjective career success and career satisfaction. Wei and Taormina (2014)

found a positive relationship between resilience and nurses' perceptions of career success. In another study, CR mediated the relationships between personality, career self-evaluation, and modern career orientation and career satisfaction (Lyons et al., 2015). As the authors of the study explained, being resilient when faced with career challenges and adversities will likely result in persistence in achieving career goals which will consequently lead to satisfaction in one's career progression.

Implications for Future Research

Construct Implications

Research on CR can flourish only when there is a minimum level of consensus on both what CR means and its philosophical boundaries. CR is a construct that has been defined in numerous ways in the literature, ranging from conceptualizations as varied as an ability (e.g., Abu-Tineh, 2011) to a desirable outcome (e.g., Van Vuuren & Fourie, 2000). Consolidating the varied views on CR, we defined CR as a *process*. Resilience has been defined as a process both in the psychological resilience (e.g., Egeland, Carlson, & Sroufe, 1993) and CR literatures (e.g., Mansfield et al., 2012). The advantages of defining CR as a process are many. For example, it is less restrictive than an ability or outcome, and takes into account the different mechanisms that help a person deal with career disruptions, thereby providing deeper insights into how people become more career resilient. However, currently there are no process-focused scales of CR. Instead, the scales currently used to measure CR are mostly subscales of broader constructs such as career motivation (London, 1983) and career commitment (Carson & Bedeian, 1994), and have many validity problems. This means that future research should focus on scale development and validation of CR.

　　Given the developmental aims of HRD, there is no doubt that CR is an important construct in the field. Keeping in line with the developmental orientation of HRD, we emphasized *individual* career development—and not *organizational* benefit—as the primary focus of CR. This is not to deny the benefits that organizations may accrue from high CR among their employees; however, these benefits are secondary and distal in nature. We hope this sets the agenda of future research of CR.

Implications for the Nomological Network

Antecedents. The majority of the current studies on CR focused on the antecedents of CR. However, there was general divide in these studies with the quantitative studies focusing on individual factors of CR and the qualitative studies exploring the contextual factors. Given this dichotomy in the current literature, future research may need to focus on using multiple methods to help with the triangulation of findings.

Causality. In our review, we found that several individual and contextual factors to be related to CR. However, as the majority of the studies in our sample were cross-sectional, it is impossible to make causal inferences about these factors. This means that

the causal links that we describe in our summary model are mostly hypothetical that need to be tested through longitudinal studies.

Reverse causality. Although we presented traits as antecedents of CR, it is equally possible that CR may have an impact on traits. According to the growing body of literature on whole trait theory (Fleeson, 2012), traits exhibit both stability and variation among individuals, where the variation primarily arises from the interpretive processes that people undertake in response to significant events in their life. From this perspective, factors such as conscientiousness and self-efficacy may not only influence CR, but CR may also enhance these characteristics among individuals through the internalized learning that people may have from adversities.

Consequences. The current literature has almost exclusively focused on antecedents of CR. This means that future studies need to give greater focus on the consequences of CR. An interesting unexplored career-related consequence that would be of relevance in the CR literature would be career longevity, which refers to the length of time that different professionals stay active in their career (Petersen, Jung, Yang, & Stanley, 2011). We know many professionals stay active beyond their official retirement age, and this may be strongly related to CR.

Future research could also explore noncareer consequences such as overall well-being and life satisfaction. Another consequence that may be of relevance is "learning from setbacks." As described in whole trait theory (Fleeson, 2012), people who engage in interpretive learning processes following significant life events can lead to changes in traits and attitudes.

Mediation and moderation analysis. The majority of the studies in the current literature do not explore the mechanisms through which a particular variable may impact CR. While it is important to know the variables that are associated with CR, this knowledge becomes practically useful when we gain insights into how the variable affects CR. In our analysis of the antecedents and consequences, we proposed several mechanisms through which the variables may be related to CR. Future studies could focus on testing some of these mechanisms.

With few exceptions, the current literature has also mostly focused on testing main effects. This means that there are tremendous opportunities for researchers to test for moderating effects in future studies. This will also provide us a more nuanced understanding of CR.

Methodology issues. Last but not the least, many of the current studies on CR suffer from severe methodological flaws. Most of the quantitative studies suffered from severe common-method bias and no measures were taken to correct for these biases. As recommended by Podsakoff, MacKenzie, Lee, and Podsakoff (2003), we suggest that the procedures of future studies be designed in a way that curtail such biases, or as a last recourse, at least employ stringent statistical remedies so that there can be greater confidence in the research findings.

Implications for Practice

This review of the literature suggests several implications for HRD practice. Today's chaotic and turbulent career environment is likely to continue, pointing to the need for individuals to develop CR. Both training and development and career counseling initiatives can assist in this endeavor.

Organizations have begun to offer training to help employees develop their resilience to handle chronic and/or acute stress. Military organizations, for example, have been at the forefront in offering resilience training to help soldiers (Seligman, 2011). A meta-analysis of studies examining the effectiveness of resilience building programs found they had a small, but statistically significant effect on various employee health and performance indicators (Vanhove, Herian, Perez, Harms, & Lester, 2016). This meta-analysis also determined that program effects diminished over time and that one-on-one delivery methods were found to be most effective. It appears most of the studies focused on developing employees' psychological resiliency so it is difficult to discern if training programs focused on developing CR would have similar content and yield similar results. The results of the studies we reviewed suggest it may be that any training that helps individuals increase their knowledge, skills, and competencies will develop their CR.

Increasingly HRD must recognize that career counseling is needed throughout employees' careers, not just as they are graduating from high school and/or college and embarking on their occupations (McDonald & Hite, 2015). HRD practitioners can assist employees in understanding the potential obstacles they are likely to encounter in their careers and help them to develop strategies to address them. They can counsel them on the importance of and how to build support networks. HRD practitioners can assist in mapping plans for additional skill development and help them develop alternative career plans in case they are necessary. They can also instill in them the belief they can handle disruptions and changes that may impact their careers (Lent, 2013).

This review of the literature found that contextual factors are associated with CR. Collard et al. (1996, p. 34) indicated that organizations "have a significant role and responsibility in providing an environment that helps build CR in its workers." Clearly HRD needs to assume a leadership role in ensuring their organization provides a variety of the support mechanisms that have been found to be critical in developing CR. This could include advocating for supportive organizational policies, such as flexible work schedules and work–life balance practices. HRD practitioners can assist managers in recrafting jobs that promote autonomy and increase skill variety; job characteristics that have been found to be related to CR.

Perhaps most importantly, HRD can help employees build supportive relationships which have been found to positively influence CR. Assisting employees in finding mentors, through informal or formal mechanisms, is one way to build these relationships. Another way is to coach and train managers regarding the important role they play in this process. They also need skill development to be effective supporters and developers of employees' careers.

Conclusion

CR is a construct that is both complex and complicated. It is complex because it could be viewed as an ability, a trait, an attitude, a habit, or a coping mechanism. It is complicated because individuals and corporations may have different agendas with respect to CR. While individuals may focus on the psychological and spiritual growth that may happen from adversities, corporations may be more interested in how CR affects their bottom line. Corporations might celebrate CR to the extent of "stigmatizing lack of resilience as a character flaw" (Britt, Shen, Sinclair, Grossman, & Klieger, 2016).

Yet, the complex environment in which careers emerge, develop, and grow clearly demonstrate the need for CR. While the research to date is limited, it does identify a variety of personal and contextual factors that influence CR. More research is needed to clarify definition ambiguities and to determine how CR impacts important career outcomes. The existing literature indicates HRD can play an important role in the development of employees' CR. We hope this review will serve as an impetus for more scholarly work to advance our knowledge of CR and to subsequently improve career development practices in organizations.

Declaration of Conflicting Interests

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