

ORGANIZATIONAL RESPONSE TO ADVERSITY: FUSING CRISIS MANAGEMENT AND RESILIENCE RESEARCH STREAMS

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Research on crisis management and resilience has sought to explain how individuals and organizations anticipate and respond to adversity, yet—surprisingly—there has been little integration across these two literatures. In this paper, we review the literatures on crisis management and resilience and discuss opportunities to both integrate and advance these streams of research. We identify unique lines of work on crisis and crisis management: crisis-as-an-event and crisis-as-process. We review complementary streams of research in the resilience literature and explore their implications for studies of crisis. Building on these reviews, we develop an integrative framework that is focused around key themes of both crisis and resilience, including capabilities for durability, organizing and adjusting, responding to major disturbances, and a feedback loop from these experiences. Following this, we offer a research agenda that centers on understanding and explaining the interaction between crisis and resilience as they occur in a dynamic process. We then discuss research opportunities that explore the dynamic relationship of resilience and crisis as it relates to leadership, time, complexity, and mindfulness. Finally, we note how researchers can consider the dark side of resilience.

INTRODUCTION

Organizations inevitably face adversity that threatens functioning and performance (Boin, 2009; Comfort, 2002; Drabek, 1985; Quarantelli, 1988; Whiteman & Cooper, 2011). As a result, scholars have sought to explain both the nature and impact of crises and how organizations effectively prepare for,

respond to, and overcome their various forms and degrees to preserve performance, to recover, or to prevent decline and even failure (Meyer, 1982; Perrow, 2011; Roux-Dufort, 2007; Sine & David, 2003; Sutcliffe & Vogus, 2003; Wan & Yiu, 2009). More recently, there has been a rise in the degree and range of challenges that threaten organizations including a severe global economic downturn; an increasing number of climatic episodes, natural catastrophes, and industrial accidents; devastating product recalls; information technology breaches and data security violations; virally disruptive social media trends; and the threat of terrorism (Choucri, Madnick, & Koepke, 2016; Laufer & Coombs, 2006; Perry & Quarantelli, 2005; Ritchie, 2004; Scholtens, 2008; Toubiana & Zietsma, 2016). In response to these trends, there have

We thank Elizabeth George, Sim Sitkin, and Laurie Weingart for their helpful suggestions on a previous version of this manuscript. Kathleen Sutcliffe gives special thanks to the Rockefeller Foundation for a summer 2016 Rockefeller Fellowship during which some of the research for this paper was conducted. We also thank presenters and participants in the 2015 Academy of Management symposium titled Repositioning Crisis Management.

been a number of calls for organizational research to better explain what we know about the crisis–organization interaction, including how to develop organizational resilience not only to respond to adversity but also to mitigate it before it arises (Van Der Vegt, Essens, Wahlström, & George, 2015; Williams & Shepherd, 2016a).

Despite the increasing need to better understand crises and crisis management, this stream of research has not played a prominent role in mainstream organization and management theory (Roux-Dufort, 2007; Roux-Dufort & Lalonde, 2013). In part, this may be due to a lack of consensus around the definition of crisis and its fragmented literature (Boin, 2004; Kouzmin, 2008) as well as its normative and prescriptive orientation. Relatedly, although scholars have become increasingly interested in understanding how and why some organizations are more resilient in the face of severe challenges, research on organizational resilience has largely been explored separately from crisis management; perhaps due to an assumption that resilient actors (i.e., individuals, organizations, and communities) *avoid crises*. That is, they circumvent major disruption to functioning before, during, and/or after adversity (Alexander, 2013; Bonanno, 2004; Bonanno, Brewin, Kaniasty, & La Greca, 2010; Sutcliffe & Vogus, 2003). Notwithstanding the mutual focus on positive functioning in the face of adversity, each of the literatures pays particular attention to explaining a different aspect of organizing such that each—*independent of the other*—offers an incomplete picture of the phenomenon. Integrating research on crisis management (i.e., the ability to return organizations and systems to normal functioning after a disruption) and resilience (i.e., the ability to maintain reliable functioning despite adversity) would seem to be a natural way to more generally strengthen theory of organizational functioning under adversity.

Consequently, we review the crisis management and resilience literatures, highlight various conceptions and derivations of these concepts as expressed in prior research, and identify key themes and empirical findings. Our review reveals that the differences and similarities in how crisis and crisis management are conceptualized and researched in the literature hold important implications for how scholars interpret and understand resilience. Thus, the crisis–resilience relationship likely provides new insights into how organizations anticipate, adjust, and respond to adversity. At the conclusion of our review, we present a process model as a way of representing the literature to emphasize

differences in how organizations interact with crises that occur over time (consistent with Huy, 2001; Langley, Smallman, Tsoukas, & Van de Ven, 2013). By fusing the two literatures, we lay the groundwork for a research agenda that seeks to extend our understanding of adversity by accounting for both the crisis management and resilience perspectives.

This paper proceeds as follows: we start by detailing the method we used to systematically identify the body of literature for our review. We then review the crisis management and resilience literatures and illustrate core themes related to organizing in the face of adversity. Finally, we integrate these themes and offer a research agenda to gain a deeper understanding of how organizations interact with adversity over time to build resilience.

A SYSTEMATIC APPROACH TO THE REVIEW

Accumulating and then synthesizing the literature “is a critical first step in priming the pump so that accumulated knowledge is made available for interpretation and use” (Rousseau, Manning, & Denyer, 2008: 507). To ensure that the body of research to be included in our review was sufficiently broad, deep, and rigorous, we followed established procedures of conducting systematic reviews (e.g., Gregoire, Corbett, & McMullen, 2011; Shepherd, Williams, & Patzelt, 2015). This included systematic searches on relevant keywords (e.g., resilience, crisis, and adversity) in both mainstream management *and* crisis management journals, which generated 384 articles. We then manually explored additional research that may have fallen outside of the initial search, focusing on frequently cited domain-specific book chapters, books, and other papers. With this body of literature, we systematically reviewed articles and inductively coded them into categories. We now turn to the content of our review.

ORGANIZATIONAL CRISIS IN THE MANAGEMENT LITERATURE

Management research on crisis has been highly fragmented largely due to a lack of agreement on the definition of the term crisis (Boin, 2004; Perry & Quarantelli, 2005), challenges in observing crises real time (Forgues & Roux-Dufort, 1998), and making comparisons across these unique events (Roux-Dufort, 2016) (for a detailed discussion of the evolving definitions, see James, Wooten, & Dushek, 2011). Despite the fragmentary nature of the crisis

literature, there are two broad conceptualizations of crisis: *crisis as an event* and *crisis as a process*.

Crisis as an Event

Some of the initial theorizing and research on crises began with the work of Hermann (1963: 64), who articulated three key components of an organizational crisis: (1) it threatens high-priority values of the organization, (2) it presents a restricted amount of time in which a response can be made, and (3) it is unexpected or unanticipated by the organization. Many of Hermann's core ideas are embedded in the definition of crisis that is most frequently cited in the literature today: "a low-probability, high-impact situation that is perceived by critical stakeholders to threaten the viability of the organization" (Pearson & Clair, 1998: 66). James et al. (2011) offer three additional (yet related) components—rarity of the event, significance of the event, and level of impact on stakeholders—as essential to understanding crisis (and its subsequent management).

The focus on surprising and disruptive events gave rise to typologies of crises (e.g., incidents, accidents, conflicts) (Gundel, 2005; Lagadec, 1991; Pauchant & Mitroff, 1992) and related crisis management techniques to effectively respond to the event (e.g., Drabek, 1999; Rosenthal, Boin, & Comfort, 2001). Importantly, in these studies the event (incident, accident, disaster, etc.) is the unit of analysis and studies typically examine what triggers the event (Lagadec, 2007; Shrivastava, Mitroff, Miller, & Miclani, 1988) and how the event disrupts or threatens organizational survival (Pearson & Clair, 1998; Sayegh, Anthony, & Perrewe, 2004). A surge of studies exploring shocking accidents, such as oil spills (Pauchant & Mitroff, 1992), the Challenger explosion (Starbuck & Milliken, 1988), terrorist attacks (Rosenthal, 2003), and so forth, have further enhanced the event orientation of crisis theorizing. Crises are seen as unanticipated contingent events (as opposed to routines, etc.) that are isolated in space and time, have a discernable source or cause (for classification), and are high impact (Pearson & Clair, 1998; Shrivastava, 1992; Weick, 1988).

From this crisis-as-event perspective one cannot completely plan for a crisis event given an inability to consider probabilities of potential risks as these events are inconceivable, unscheduled, and unexpected (Rosenthal, 2003; Topper & Lagadec, 2013). This has led to the traditional, frequently cited conception of effective *crisis management* as the "individual and organizational *readjustment* of basic

assumptions, as well as behavioral and emotional responses aimed at *recovery* and *readjustment*" (Pearson & Clair, 1998: 66 [emphasis added]). That is, the goal of crisis management is to bring a system back into alignment, which can only occur in the aftermath of an adverse event. Indeed, a key benefit of studying crises as events is seeking to understand the dynamics of a crisis in its most acute stage and how organizations react to bring things back into equilibrium as soon as possible (Lalonde & Roux-Dufort, 2010). This perspective has given rise to a number of studies exploring interorganizational collaboration, disaster planning and prevention, and emergent organizing as means for addressing crisis-induced needs, with a particular focus on alleviating suffering and preserving life and property (Foster, 2012; Quarantelli, 1997; Shepherd & Williams, 2014).

The crisis-as-event perspective by definition privileges research that investigates actors' reactions to rare and exceptional events, and, in many ways, neglects research that aims to understand how the crisis *was produced* in the first place (Roux-Dufort, 2016; Weick, Sutcliffe, & Obstfeld, 1999). Indeed, recently crisis management scholars (e.g., Quarantelli, 2005; Roux-Dufort, 2007, 2009) have suggested extending the scope of crisis management from a focus on the rare and exceptional *event* to investigate processes that may lead to a crisis event. Next, we examine the literature on the process perspective of crises to understand this complementary stream of research.

Crisis as a Process

In contrast to the event-centered perspective, which focuses primarily on exploring the aftermath of a crisis, the process perspective focuses on the need to understand crisis-fostering environments, processes of organizational weakening (Roux-Dufort, 2007), crisis evolution, and how organizations respond to stages of a crisis. A crisis-as-a-process perspective emphasizes that crises (1) develop over time and sometimes in phases, including strategic drift, incubation, triggering events, and resolution (Mitroff & Pearson, 1993; Roux-Dufort, 2016; Turner, 1976) and (2) form a disjunction in normal functioning—one that serves as a "fault line and hinge between a degenerative organizational past evolution and a future of change"—requiring a transition as actors interpret and process the "wave of meaning" in the new environment (Roux-Dufort, 2007: 106, 111). The process perspective suggests that there is a "genealogy of crises that may be potentially tracked long before the acute phase ...

[which] is the ultimate moment of a continuous cumulative process of organizational failures” (Roux-Dufort, 2009; Roux-Dufort, 2016: 27).

Extending research beyond rare, novel crisis events highlights various forms of adversity organizations face and the ways organizations enact, interact with, and respond to the environment *at different stages* of crisis. Moreover, it reinforces the recognition that triggering events are one component of crises. Beyond these events, other organizational occurrences hold the potential to develop, accumulate, and advance to such a degree that they escalate into triggering events. These occurrences could include system anomalies, organizational weakening, vulnerabilities, and everyday challenges that are unnoticed, ignored, misunderstood, or discounted (Cobb, Wry, & Zhao, 2016; Rudolph & Repenning, 2002; Turner, 1976).

Interestingly, much of the foundational literature on crisis and crisis management argues for a process definition of crisis. For example, Turner (1976) argued that there are six stages by which a crisis develops, which begins with (1) a notionally normal starting point and then evolves through (2) an incubation period, (3) triggering event, (4) onset or immediate consequences of a collapse, (5) rescue and salvage (first stage of adjustment) or ad hoc adjustments to permit work of rescue and salvage until (6) full readjustment and the establishment of new norms. Similarly, Milburn, Schuler, and Watman (1983) conceptualized crises as both an event and a process, with three major aspects: (1) antecedents, at the internal and external environment, (2) moderators of the antecedents to a crisis and the crisis to response relationships, and (3) individual and organizational responses. Finally, Shrivastava (1995) argued that crises are not events but processes extended in time and space.

A crisis-as-process perspective broadens the potential for research to investigate the “enigmatic origin of the event and the possible post-event futures . . . [which allows researchers] to talk not only about accidents but also about organizations” (Roux-Dufort, 2007: 108) and, we add, about organizing. For example, Rerup’s study (2009) reveals how a merger between two pharmaceutical companies led to a major crisis event when management failed to attend to weak signals (in this case, chain of command issues) over time and across multiple levels of the organizational hierarchy. That is, the inability to attend to weak signs of danger in a consistent way across the organization built up over time until they triggered a crisis event. In a related study,

Roux-Dufort (2009) found that an accumulation of organizational imperfections combined with managerial ignorance of those imperfections developed into organizational weakening over time, laying a foundation for a triggering crisis event to occur. Taken together, these studies represent an emerging and important shift in research that explores the incubation of crises as well as the evolutionary features of crises (e.g., weakening and strategic drift) that may (or may not) accumulate into a triggering event.

In summary, the *crisis as process* approach highlights the importance of preevent, in-event, and postevent crisis management. Specifically, a triggering event can arise from everyday unexpected occurrences that remain unnoticed, “incubate,” and accumulate into a pending crisis due to among other factors (1) erroneous assumptions, (2) information complexity, (3) a cultural lag in noticing and interpreting signals, and (4) a reluctance to imagine the worst possible outcome (Turner, 1976: 393–394). A process-centered perspective suggests that organizations may address (i.e., eliminate) the threat of crises *before*, *during*, and *after* the triggering event.

In Table 1, we summarize the different conceptions of crisis and crisis management. Having reviewed the foundational perspectives of crisis and crisis management, we now discuss the general themes that emerged from our detailed review of the literature.

Themes in the research on crisis management.

As we reviewed the literature on crisis and crisis management, we found—consistent with our discussion earlier—that much of the empirical research has focused specifically on the *response to crisis events*. With this as a context, we observed three primary themes: (1) crisis management as a normative and staged activity to restore equilibrium, (2) the role of leaders in crisis management, and (3) the importance of crisis management teams (CMTs).

Crisis Management as an Activity to Restore Equilibrium

Much of the empirical research has focused on a linear progression of response stages in the aftermath of a crisis event (Auf der Heide, 1989; Drabek, 1985; Pauchant & Mitroff, 1992; Pearson & Clair, 1998). These stages are seen as formulaic, sequential, and based on a bureaucratic model in which planning, preparation, and hazard mitigation are coordinated through a centralized decision-making entity (e.g., government, organization) (Canton, 2007; Comfort, 2007; Schneider, 1992; Takeda &

TABLE 1
Conceptions of Crisis and Crisis Management

Key Terms	Crisis as Event	Crisis as Process
Crisis	<ul style="list-style-type: none"> • Definition: Low-probability, unanticipated, high-impact (i.e., harmful) events that are unpredictable, surprising, and threaten the viability of the organization (Lagadec, 2007; Pearson & Clair, 1998) • Properties <ul style="list-style-type: none"> ○ Incident or accident is the unit of analysis (Pearson & Clair, 1998) ○ Events are contingencies isolated in space and time (Lagadec, 2007) ○ Possess a distinguishable origin, which has given rise to crisis typologies (e.g., Gundel, 2005; Pauchant & Mitroff, 1992) ○ Associated with uncertainty-inconceivable, unstructured, unplanned, and unexpected (Rosenthal, 2003; Topper & Lagadec, 2013); therefore, one cannot fully plan for or measure the probability of these events (Pearson & Clair, 1998) 	<ul style="list-style-type: none"> • Definition: Processes extended in space and time, where a “triggering event” is the result of a long period of incubation; that is, crises occur in phases (Roux-Dufort, 2007, 2016; Turner, 1976; Shrivastava, 1995) • Properties: <ul style="list-style-type: none"> ○ Crisis develop in stages-warning signals, acute stage, amplification, and resolution (Turner 1976; Fink 1986; Mitroff & Pearson 1993) for which the acute peak is the accumulation of dysfunctions and/or an isolated event (i.e., natural disaster) ○ Triggering events have a genealogy, which could include incubation of problems (Turner, 1976; Roux-Dufort, 2016) ○ Various features (organizational, institutional, etc.) make up the “sequences of disaster development, accumulating unnoticed until a precipitating event leads to the onset of the disaster and a degree of . . . collapse” (Turner, 1976: 379).
Crisis management	<ul style="list-style-type: none"> • Definition: Coordinating stakeholders and resources in an ambiguous environment to bring a disrupted system (i.e., organization, community, etc.) back into alignment (Sommer & Pearson, 2007). • Properties: <ul style="list-style-type: none"> ○ <i>Readjustment</i> of basic assumptions, as well as behavioral and emotional responses aimed at <i>recovery</i> and <i>readjustment</i> ○ Reaction oriented reduce the impact of the crisis and resume “normal” activities as soon as possible (Lalonde, 2004). ○ Focus on precrisis scenario planning, preparation, and postcrisis response (Kouzmin, 2008) 	<ul style="list-style-type: none"> • Definition: Managing attention to “weak signals” of crises-in process, in-event organizing, and postevent actions to protect a system and (when necessary) bring it back into alignment (Ansoff, 1975; Roux-Dufort & Laloonde, 2013; Portal & Roux-Dufort, 2013) • Properties <ul style="list-style-type: none"> ○ There are likely systematic patterns that influence various stages of the crisis process (Deschamps et al., 1997); studying the system could help capture the complexity and ambiguity surrounding crises (Kovoor-Misra, 1995) ○ Explain and integrate the many relations linking diverse stakeholders and issues and how these influenced the crisis process (Perrow, 2011; Shrivastava, 1995).

Helms, 2006). Following an exceptional event, environmental turbulence ensues due to disrupted structures, routines, and capabilities. Thus, research in this stream has sought to develop emergency-management policies and procedures (Comfort, 2007; Iannella & Henricksen, 2007) that identify coordination, communication, and other activities that enable a more effective disaster response (Comfort & Kapucu, 2006; Marcum, Bevc, & Butts, 2012), such as “clearly defined objectives, a division of labor, a formal structure, and a set of policies and procedures” (Schneider, 1992: 138; see also Quarantelli, 2005).

Effective crisis management involves five key phases of response: (1) signal detection, (2) preparation/prevention (i.e., planning), (3) containment/damage control, (4) business recovery, and (5) learning (James

& Wooten, 2010; Pearson & Mitroff, 1993; Schneider, 1992; Waller, Lei & Pratten, 2014). Although the effectiveness of crisis responses have been attributed to the interpretation of the event (Jackson & Dutton, 1988; Maitlis & Sonenshein, 2010), decision-making under high uncertainty (Anderson, 1983; Smart & Vertinsky, 1977; Tjosvold, 1984), and response strategies (Bechky & Okhuysen, 2011; Kahn, Barton, & Fellows, 2013), as we noted earlier in this review, there is much to be gained by exploring vulnerability to crises and the means for reducing that vulnerability (McEntire, 2013; Quarantelli, 2005). In addition, research emphasizing normative approaches to disasters has the opportunity to better integrate the numerous ad hoc organizing efforts that inevitably emerge in the aftermath of disasters (e.g., Lanzara,

1983; Majchrzak, Jarvenpaa, & Hollingshead, 2007; Shepherd & Williams, 2014; Williams & Shepherd, 2016b). Ad hoc organizing occurs after triggering events as actors spontaneously converge to the scene of the crisis to care for and offer help to alleviate others' suffering (for a review, see Drabek & McEntire, 2003). Failure to attend to and incorporate these forms of organizing in crisis management planning and integrate them into broader response efforts can lead to organizational conflict, failure to complete objectives, inefficiency, and (potentially) additional suffering among crisis victims (Marcum et al., 2012; Mendonca, Beroggi, & Wallace, 2001; Webb, 2004).

Leadership and Crisis Management

As a natural extension to the previous section on the normative aspects of crisis management, to understand exceptional crisis recovery a substantial body of research has examined the role of effective leadership (James et al., 2011). Crises are believed to represent an opportunity for managers to communicate with stakeholders (Barton, 1993; Simpson, Clegg, & Cunha, 2013), display leadership skills (Roux-Dufort & Lalonde, 2013; Van Wart & Kapucu, 2011), and particularly engage positive leadership (Brockner & James, 2008; James et al., 2011) so as to facilitate the organization's progression through stages of recovery to reduce the negative effect of the crisis (Auf der Heide, 1989; Drabek, 1985). In a crisis, some leadership styles are considered more effective than others in helping organizations to respond (Ballesteros, Useem, & Wry, in press; Bundy & Pfarrer, 2015; Stam, Van Knippenberg, Wisse & Pieterse, 2016). However, the effectiveness of leadership styles at least partly depends on the nature (and stage) of the crisis, what led to the crisis (e.g. natural disaster, industrial accident, gradual weakening) and how leadership style interacts with how leaders and organizations prepared for the possibility of an organizational crisis (Bundy & Pfarrer, 2015). Preparation for different crisis scenarios can influence how leaders react to the crisis, which in turn affects crisis response outcomes. For example, when the organization is at fault (i.e., industrial accident), acceptance of responsibility *and* the prior relationship a leader had with the organization likely shapes a leader's social approval, how organizational stakeholders perceive the crisis, and the organization's response (Coombs & Holladay, 2001). Leaders also engage in meaning making to help other stakeholders make sense of information during the throes of a crisis (Christianson et al., 2009), providing stability despite the potential for chaos (Schneider,

1992). Importantly, prior relationships are important in shaping effectiveness of meaning making, where a negative leader–organization relationship can negatively affect the organization's reputation (Coombs & Holladay, 2001).

However, despite the importance of leadership in planning and preparing for a crisis response, detailed planning and preparation cannot mitigate every potential crisis (Drabek & McEntire, 2003; Herbane, 2013; Neal & Phillips, 1995; Wenger, Quarantelli, & Dynes, 1990). Consequently, effective crisis response also involves ad hoc capabilities, such as improvising decision-making activities (Drabek, 1985; Stallings & Quarantelli, 1985) and role enactment (Webb, 2004), identifying and mobilizing resources (Kreps & Bosworth, 1993; Neal & Phillips, 1995; Shepherd & Williams, 2014), and establishing order through emergent communication and coordination techniques (Dynes, 2003; Wenger et al., 1990). Given the inherent limitations of the command-and-control approach to disaster response (Drabek, 2005; Dynes, 1994; Neal & Phillips, 1995), emergent leadership behaviors and the development of new norms (Schneider, 1992) are critical for addressing organizational and community demands in the crisis aftermath (Auf der Heide, 1989; Stallings & Quarantelli, 1985; Wenger, 1992). Furthermore, organizational and community leaders must be aware that emergent groups are likely to arise in response to crisis (Drabek & McEntire, 2003). Such groups have the potential to offer aid but may also present a number of challenges (e.g., confusion over who is in charge, congestion of people and supplies that create logistical problems, mixed messages in communication, and so on) (Drabek & McEntire, 2003; Wenger, Quarantelli, & Dynes, 1987). Therefore, effective leaders must harness the contributions of emergent groups while also minimizing the potential problems associated with such groups.

Beyond explorations of crisis leadership in responding to disaster events, a small set of studies also consider a more process-oriented approach to crisis management. The actions leaders take *before* a crisis can be influential in enabling them to successfully navigate their organization through a crisis (James & Wooten, 2010). For example, certain actions (e.g., deeply engaging in their contexts and directing their behaviors toward proactively searching for and making sense of potential trouble spots) have been shown to enhance performance under trying conditions (Barton, Sutcliffe, Vogus, & DeWitt, 2015). These studies underscore the importance of ongoing actions by leaders that are heightened

when organizations rely on those same leaders during the climax (i.e., triggering event) of a crisis. Leaders who can effectively notice “weak signs of danger” (drift in performance, etc.), and then organize action to bring those signals to the collective view can potentially address the adversity before it becomes a triggering event (Rerup, 2009). In contrast, if leaders remain “willfully ignorant” and retreat from the reality of accumulating imperfection and vulnerabilities in their organizations, then these imperfections will build up until reaching “a saturation point that takes them out of managers’ control” and results in a major disruption (i.e., triggering event) (Roux-Dufort, 2009: 6).

Teams and Crisis Management

In addition to leadership, many of the normative models for effectively managing crises focus on the nature of CMTs (see Mitroff, 1988; Mitroff & Pearson, 1993; Pearson & Sommer, 2011; Sapriel, 2003). Research on CMTs has generally tried to explain how actors can *minimize the impact of* and *then recover from* the disruption of a crisis to return to (or exceed) pre-event functioning. For example, the effectiveness of CMTs in recovering from a crisis depends on the type and extent of training (Undre et al., 2007; Young, 1998), the development of a shared (i.e., collective) understanding (Rentsch & Klimoski, 2001; Smith-Jentsch, Campbell, Milanovich, & Reynolds, 2001), and team composition [e.g., the homogeneity of dispositional positive affect (Kaplan, Laport, & Waller, 2013)]. Much of the research on these teams is grounded in ideas from the study of “high-reliability organizations” and/or organizations that are accustomed to rapidly changing environmental shifts (e.g., intermittent crises as a “normal” part of business) (Bierly & Spender, 1995; Bigley & Roberts, 2001; Colquitt, Lepine, Zapata, & Wild, 2011; Roberts, 1990; Weick et al., 1999).

Critical to adjusting to the rapidly changing work demands triggered by a crisis event are building a trusting CMT (Colquitt et al., 2011), balancing a bureaucratic team structure with flexibility (Bigley & Roberts, 2001), and establishing role development and flexibility (Bechky & Okhuysen, 2011). For example, CMTs can rapidly and flexibly reorganize resources to both reduce stressors to the system and (potentially) generate novel solutions that address changing conditions (Barton & Sutcliffe, 2009; Weick & Roberts, 1993). Kahn et al. (2013) argued that successful “relational systems” within organizations can facilitate crisis sensemaking such that teams and organizations end up better off

after the event than before it (consistent with Brockner & James, 2008; James et al., 2011). This “better off post-crisis” outcome is consistent with the notion of posttraumatic growth, which describes how positive psychological changes occur “as a result of the struggle with highly challenging life circumstances” (Tedeschi & Calhoun, 2004: 1; see also Hobfoll, Hall, Canetti-Nisim, Galea, Johnson, & Palmieri, 2007). Therefore, despite the potential threats posed by adversity, highly capable teams and other relational systems embedded in organizations can generate positive outcomes and facilitate a return to (or improvement upon) the status quo (e.g., James, et al., 2011; Kahn et al., 2013; Maitlis & Sonenshein, 2010). It is this tension around whether adversity can be successfully navigated by the organization via leaders or teams that presents an opportunity to better explain not only how organizations respond to challenges but also how an organization disarms challenges before they progress and trigger a crisis event.

Consistent with our earlier statements of research on crisis management in general, research on teams typically assumes the crisis-as-event perspective. Despite the dominance of this perspective, some studies explore the importance of leveraging multiple stakeholders and decision makers to help organizations attend to and act on organizational imperfections and/or drift before those issues are no longer controllable (Bazerman & Watkins, 2004; Chekkar-Mansouri & Onnee, 2013; Roux-Dufort, 2009). Although teams hold potential to benefit sensemaking, teams that are *reactive* and are established as crisis management groups can be prone to failing to make sense of the crisis and identify root causes, which can limit recovery and paralyze attempts to understand what has transpired (Roux-Dufort & Vidaillet, 2003).

An Inclusive Conceptualization of Crisis and Crisis Management

Having examined the literatures on crisis and crisis management, particularly how these concepts are defined, we propose that a more inclusive definition of these terms provides a basis for theoretical and empirical advancement; specifically, we offer definitions that acknowledge the complementary potential of the two conceptualizations of crises: crisis-as-event and crisis-as-process. We define crisis as *a process of weakening or degeneration that can culminate in a disruption event to the actor’s (i.e., individual, organization, and/or community) normal functioning*. And thus we define “crisis

management” as the actor’s attempt to bring a disrupted or weakened system at any stage of crisis back into alignment to achieve normal functioning. These definitions include both the daily perturbations that must be overcome—strategic drift or gradual weakening over time—as well as the exceptional low-probability events that dominate traditional crisis management studies (Cobb et al., 2016; Rudolph & Repenning, 2002; Turner, 1976).

Advancements in research on crisis management will likely come from integrating event and process crisis research to focus on the weakening or degeneration that precede triggering events (Boin & McConnell, 2007; Roux-Dufort, 2007). Indeed, research examining predictable surprises (Bazerman & Watkins, 2004) and the ways organizations anticipate and contain everyday unexpected occurrences (e.g., Weick et al., 1999) has grown. As a result, there is a desire to understand how organizations interpret and absorb various degrees of adversity that hold the potential to accumulate into a triggering event. This interest has led to a limited-but-promising body of research linking crisis management to resilience (see Aldrich, 2012; Boin & McConnell, 2007; McEntire, 2013; Van Der Veegt et al., 2015; Williams & Shepherd, 2016a).

In the following section, we review the literature on resilience. Following this review, we highlight opportunities to advance both crisis and resilience literature and theory through integration.

RESILIENCE IN THE MANAGEMENT LITERATURE

Resilience has been historically relevant in organizational scholarship (see Alexander, 2013; Linnenluecke, 2015; Sutcliffe & Vogus, 2003; Wildavsky, 1988); but, as noted earlier, it has been relatively absent in the crisis literature (Boin, et al., 2010: 11). Comfort et al. (2010) propose that this state of affairs may be due to the fact that researchers have spent most of their energy exploring the causes, dynamics, and aftermath of crises rather than trying to understand how organizations can resist adversity or proactively deal with uncertainty and change. Yet, as crisis researchers have shown repeatedly, the quality of an organization’s response to crisis “critically depends on the capacity to enhance improvisation, coordination, flexibility, and endurance—qualities that we typically associate with resilience” (Boin et al., 2010: 11). This suggests that linking crisis and resilience may provide a more complete understanding of the organization–adversity relationship.

At its roots resilience originally stemmed from *resilire* and *resilio*, which in Latin mean “bounce” or “jump back” (Alexander, 2013; Klein, Nicholls, & Thomalla, 2003). In the mid-1500s the term passed into Middle French (*résiler*), where it came to mean “to retract” or “to cancel,” and then it moved into English as the verb *resile*, meaning to “return to a former position” (Alexander, 2013: 2708). Over time, resilience has been studied in a number of disciplines including psychology (especially how children overcome adversity) (Bonanno, 2004; Flach, 1988; Masten, 2013; Waller, 2001), the organization sciences (Linnenluecke, 2015; Sutcliffe & Vogus, 2003), engineering (describing the strength and ductility of steel beams) (Rankine, 1867) and more recently in resilience engineering (e.g., Hollnagel, Woods, Leveson, 2006), and ecology (Holling, 1973) (referring to the capacity of an ecosystem to respond to a perturbation or disturbance by resisting damage and recovering quickly). Despite the clear interest across fields of study, some critics claim that because the concept of resilience has been defined, operationalized, and applied differently across multiple levels of analysis [e.g., individual (Bonanno, 2004, 2012), organizational (Manyena, 2006; Sutcliffe & Vogus, 2003), and system (Holling, 1973; Walker et al., 2004)], its usefulness as a scholarly construct has been stymied (Linnenluecke, 2015). Moreover, the study of resilience in the management and organizations’ literature is fragmented and there is general agreement that although theory surrounding resilience has proliferated, empirical studies have lagged (Van Der Veegt et al., 2015).

Definitions of Resilience

Resilience generally has been used to describe organizations, systems, or individuals that are able to react to and recover from duress or disturbances with minimal effects on stability and functioning (Linnenluecke, 2015; Sutcliffe & Vogus, 2003). At the *organizational level*, Meyer (1982: 520) used the term *resiliency* to refer to an organization’s ability (embodied in the existence of resources, ideologies, routines, and structures) to absorb a discrete environmental jolt and restore prior order. Wildavsky (1988: 77) suggested that resilience is one strategy for dealing with uncertainty and risk and defined it as “the capacity to cope with unanticipated dangers as they become manifest, learning to bounce back.” Gittell, Cameron, Lim, and Rivas (2006: 303) drew on existing research to propose that resilience is a “dynamic capacity of organizational adaptability that grows and develops over time.” In their early work,

Lengnick-Hall and Beck (2005: 750) define resilience as a capacity; “a unique blend of cognitive, behavioral, and contextual properties that increase a firm’s ability to understand its current situation and to develop customized responses that reflect that understanding.” In later work, Lengnick-Hall, Beck, and Lengnick-Hall (2011: 244) define resilience as “a firm’s ability to effectively absorb, develop situation-specific responses to, and ultimately engage in transformative activities to capitalize on disruptive surprises that potentially threaten organization survival.”

In extending the logic of organizational resilience to broader systems, Boin, Comfort, and Demchak (2010: 9) define resilience as the “capacity of a social system (e.g., an organization, city, or society) to proactively adapt to and recover from disturbances that are perceived within the system to fall outside the range of normal and expected disturbance.” Similarly, Hall and Lamont (2013: 33) argue that resilient systems (society, community, etc.) provide certain features that enhance organizational and individual capacities to “mount collective responses to challenges.” That is, certain features of a system (culture, social connections, etc.) play a role in how actors within that system experience and respond to adversity. Importantly, scholars in the systems tradition generally describe resilience as having multiple features, suggesting the workings of a dynamic process. Walker, Holling, Carpenter, and Kinzig (2004: 4) argue that “resilience of a system needs to be considered in terms of the attributes that govern the system’s dynamics.” A dynamic perspective, therefore, would involve an interaction between actors (i.e., organizations, individuals, and institutions) and the environment that allows for “a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks” (Walker et al., 2004: 5).

Much of what we know about *individual resilience* with a few exceptions comes from psychology (see Bonanno, 2004; Flach, 1988; Masten et al., 1990). In summarizing early work on resilience in children, Masten et al. (1990: 425) described resilience as a “process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances.” Bonanno (2004: 20) builds on this work, describing resilience as “the ability of adults in otherwise normal circumstances who are exposed to an isolated and potentially highly disruptive event, such as the death of a close relation or a violent or life-threatening situation, to maintain relatively stable,

healthy levels of psychological and physical functioning.” Ong et al. (2006: 731) define psychological resilience as a “relatively stable personality trait characterized by the ability to overcome, steer through, and bounce back” from daily adversity and challenge. When applied to the workplace, resilience has been defined as a developable “positive psychological capacity to rebound, to ‘bounce back’ from adversity, uncertainty, conflict, failure or even positive change, progress, and increased responsibility” (Luthans Avolio, Walumbwa, & Li, 2005: 2002). A recent *Academy of Management Annals* paper characterizes occupational resilience as the cognitive, emotional, and physical hardiness required in particular careers (e.g., artists, dancers, doctors, firefighters, teachers) (Kossek & Perrigino, 2016). Kossek & Perrigino (2016: 764) go on to argue that the construct “reflects the multiple ways in which individuals access resiliency resources (traits, capacity, processes of appraisal and adaptation, access to resources)” to respond to negative and positive stress triggers to adapt performance over one’s career.

In summary, resilience has been defined and used in a variety of literatures, demonstrating the broad appeal it has across fields and the opportunity to find common ground needed to build theory. As such, advancements in organizational research will likely come by integrating findings across levels. For example, organizational resilience is likely not just an “additive composite of individual” resilience (Lengnick-Hall et al., 2011: 245), but rather includes the interaction between an organization, its stakeholders, and the environment while confronted with adversity. In addition, perspectives on resilience include positively adjusting in the face of adversity (Weick et al., 1999), bouncing back from setbacks or challenges (Sutcliffe & Vogus, 2003), coping to absorb strain (Bunderson & Sutcliffe, 2002; Edmondson, 1999), and adapting through “processes that help organizations retain resources in a form sufficiently flexible, storable, and malleable to avert maladaptive tendencies” in dealing with the unexpected (Gittell et al., 2006: 303; Walker et al., 2004). Taken together, the multilevel and multi-stage nature of resilience is an essential foundation to understand what we know about resilience and how to advance research moving forward.

An Inclusive Definition of Resilience

These definitions highlight some important issues relevant to our analysis and integration. The first

issue, illustrated particularly in definitions of employee resilience, pertains to the basic essence of resilience—whether it is a trait, a capacity, or a process. As Kossek and Perrigino (2016) make clear, occupational (i.e., employee) resilience comprises all three. At the organization level, the issue is not so much whether an organization's capacity is fixed (e.g., trait-like) or malleable—most scholars agree that organizational resilience develops over time (Lengnick-Hall & Beck, 2005; Wildavsky, 1988); rather it is whether resilience is an outcome or a process. Resilience as an interactive process of relational adaptation has to do with understanding, responding to, and absorbing variations; maintaining, gaining back, and/or building new resources. An entity does not survive merely because of inner resources; rather it survives and thrives on the basis of its ability to adapt and/or dynamically relate to its environment. The outcome of resilience relates to the state of return. As Lengnick-Hall et al. (2011) propose, some see organizational resilience as a return to the status quo (where the organization left off), whereas others see resilience as an exploitation of current challenges to emerge stronger and more resourceful.

Relatedly, a second issue pertains to severity of the adversity. Resilience is generally inferred from a judgment that an entity has survived or thrived in the face of extenuating circumstances that posed a threat to good outcomes (Sutcliffe & Vogus, 2003). But, as Boin, Comfort, and Demchak (2010: 8) ask, what about the severity of that adversity: is resilience a capacity to deal with rare, devastating events, or it is a capacity to deal with a much wider range of disruptions and disturbances that fall outside “of the set of disturbances the system is designed to handle” (Boin et al., 2010: 8)? Research on employee and occupational resilience seems to suggest that resilience is more ordinary (e.g., Gittel et al., 2006; Lengnick-Hall and Beck, 2005, 2009); something required to deal with a variety of stressors, conflicts, and disturbances that occur over one's occupational or professional career. The idea that resilience is more ordinary and required more broadly shows up in the organizational literature as well. For example, Van Der Veegt et al. (2015: 971) argue that organizational resilience is required “in our daily lives” as well as “to shape and mitigate the consequences of [adversity] when they occur.”

A third issue pertains to the point at which resilience is most important—what Boin et al. (2010: 7) call the “moment” of resilience. Does resilience come after or before the onset of a major occurrence?

If we think of resilience as an outcome, and couple it with the crisis-as-event perspective, resilience naturally would be situated after the event. A mark of resilience is the ability to recover. However, if we think of resilience as a process, and couple it with the crisis-as-process perspective, resilience naturally would be situated earlier. A mark of resilience is “the ability to negotiate flux without succumbing to it” (Boin et al., 2010: 8).

Building on previous definitions and taking these issues into account we take a middle ground approach and define “resilience” as *the process by which an actor (i.e., individual, organization, or community) builds and uses its capability endowments to interact with the environment in a way that positively adjusts and maintains functioning prior to, during, and following adversity*. Importantly, and similar to the crisis management literature, a process definition of resilience accounts for the dynamic nature of resilience as an interaction between the organization and the environment. As such, it is inclusive of preadversity capabilities, in-crisis organizing and adjusting, and postcrisis resilience responding.

In Table 2 we summarize the origins, derivations, and conceptions of resilience across areas of inquiry. We organize our review consistent with a configuration that emerged from the empirical literature. Although the conceptual literature has typically focused on building collective capacities, knowledge, skills or abilities for resilience, our review of the empirical literature suggests a more expansive configuration. These include elements of resilience that pertain to resource endowments, organizing practices, and postcrisis response.

Capabilities for Durability: Resource Endowments

Actors' various capabilities can facilitate interactions with the environment that enable adjustment to adversity. Capabilities are knowledge, skills, abilities, and processes (i.e., routines) that facilitate access to and manipulation of resources (Teece, Pisano, & Shuen, 1997). *Capabilities for durability* refer to the endowments actors possess prior to adversity that shape their capacity for positive adjustment (Bonanno et al., 2010; Hobfoll, 1989; Sutcliffe & Vogus, 2003) and represent the first prominent theme in the resilience literature. Although scholars acknowledge the presence of individual-level trait-based resilience effects (Luthar, Cicchetti, & Becker, 2000), prominent theories of stress (Bonanno, 2004; Hobfoll, 1989) propose that developing and acquiring

TABLE 2
Origins, Derivations, and Conceptions of Resilience across Areas of Inquiry

Category	Definition
Origins and derivations ^a	<ul style="list-style-type: none"> • <i>Resilire, resilio</i> (Latin): referring to “bounce” or “to leap” (Manyena et al., 2011). <ul style="list-style-type: none"> ◦ “Leaping, jumping, or rebounding” [<i>Natural History</i>, Pliny the Elder (Alexander, 2013: 2708)]. Perpetuated by St. Jerome (AD 347–420) • <i>Résiler</i> (French): “to retract” or “to cancel” • <i>Resile</i> (English): state papers of King Henry VIII, 1529): “Retract,” “return to a former position” • <i>Resilement</i>. In Thomas Blount’s (1656) dictionary, “to rebound,” “to go back on one’s word” • <i>Resiliency</i> (Bell, 1839): fortitude in response to adversity, withstand challenges (i.e., earthquakes)
Psychology	<ul style="list-style-type: none"> • Adjustment of children in response to adversity (Flach, 1988; Garnezy, 1971; Luthar, 2006; Masten, 2013; Murphy & Moriarty, 1976) <ul style="list-style-type: none"> ◦ “Process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances” (Masten et al., 1990) ◦ “Buffering capacity” to resist shocks • Theory on loss, trauma, and forms of acute adversity for adults (Bonanno, 2004) <ul style="list-style-type: none"> ◦ “Stable trajectory of healthy functioning in response to a clearly defined event” (Bonanno, 2012: 753). Emphasis is on maintenance (not loss and recovery) of functioning throughout a crisis; one of several trajectories individuals experience in response to threat (Bonanno & Mancini, 2012) that is shaped by temporal and sociocontextual characteristics of stress and adaptation (Luthar et al., 2000)
Ecology	<ul style="list-style-type: none"> • Equilibrium and stability of systems (Holling, 1973) <ul style="list-style-type: none"> ◦ “The persistence of systems and of their ability to absorb change and disturbance and still maintain the same relationships between populations or state variables” (Holling, 1973: 7) • “Resilience (the capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks) has four components—latitude, resistance, precariousness, and panarchy—most readily portrayed using the metaphor of a stability landscape” (Walker, Holling, Carpenter, & Kinzig, 2004)
Organizational	<ul style="list-style-type: none"> • Explains how organizations continually achieve positive outcomes despite strain and barriers to adaptation (Lengnick-Hall & Beck, 2005; Sutcliffe & Vogus, 2003; Weick & Sutcliffe, 2015) • Positive adjustment under challenging conditions. This involves (1) the ability to absorb strain and preserve (or improve) functioning despite the presence of adversity (both internal adversity—such as rapid change, lousy leadership, performance production pressures—and external adversity—such as increasing competition and demands from stakeholders) or (2) an ability to recover or bounce back from untoward events. (Sutcliffe & Vogus, 2003)
Disasters, threats, and surprises	<ul style="list-style-type: none"> • Refers to both the maintenance of the status quo and adaptation (Hollnagel, Woods, & Leveson, 2006; Zolli & Healy, 2012) • “After a crisis, a system may experience a form of regression by a decrease in flexibility and complexity and a consolidation of its most rigid structures, or a progression by the acquisition of new qualities and properties to become more complex . . . A resilient system is one that can adapt, be creative and flexible, but also is able to self-regulate and have processes and routines capable of handling complexity without oversimplifying. Resilience factors must therefore allow the emergence of resilience” (Normandin & Therrien, 2016)
Multi-level	<ul style="list-style-type: none"> • Resilience arises from interaction across multiple levels of functioning (Boon, et al., 2012; Bronfenbrenner, 2004; Drabek, 1986; Sutcliffe & Vogus, 2003) <ul style="list-style-type: none"> ◦ “Resilience is a systems concept, and the social-ecological system, as an integrated and interdependent unit, may itself be considered a complex adaptive system” (Berkes & Ross, 2013: 14) ◦ Can prepare and develop organizations and communities for resilience (Boin & McConnell, 2007)

^a See Alexander, 2013, for a detailed review.

various resource endowments is likely to influence positive adjustment to challenges (over and above trait-based attributes). Endowments facilitate resilience by enabling adaptability (Gittell et al., 2006; Pal, Torstensson, & Mattila, 2014), providing for positive coping, and offering means by which an actor (i.e., individual, organization, or community) “interprets and responds to new challenges” in a positive way (Sutcliffe & Vogus, 2003: 97). Financial

slack is a key endowment for resilience, to which we now turn.

Financial capability endowments. Prior research has emphasized the importance of appropriately stockpiling resources (e.g., slack) in anticipation of the need to withstand adversity (Bradley, Shepherd, & Wiklund, 2011; Carmeli & Markman, 2011; George, 2005; Hobfoll, 1989; Virany, Tushman, & Romanelli, 1992). For example, Gittell and colleagues (Gittell

et al., 2006) investigated the resilience of the airline industry after the September 11th terrorist attack in the United States and found that airlines with strong financial reserves adjusted to the strains imposed by the adversity and performed better than their less well-off counterparts. In addition to financial and material resources, positive functioning is maintained by other endowments, including cognitive, behavioral, emotional, and relational capabilities.

Cognitive capability endowments. Cognitive capability endowments, such as a constructive conceptual orientation (e.g., vision, sense of purpose, strong values) (Lengnick-Hall et al., 2011) as well as deep knowledge and expertise help groups and organizations to apply and manage what they know in the face of adversity so they can maintain or resume functioning. These cognitive endowments enable people and organizations to rapidly notice and make sense of signals of potential disruptions, use critical insights in creative and flexible ways, and combine and deploy knowledge and repertoires of action to resolve the problems at hand (Lengnick-Hall & Beck, 2005; Thomas, Clark, & Gioia, 1993; Weick, 1995). In this way, organizations can prevent small things from growing bigger. For example, Gittell's (2008) study of managed care providers suggested that resilience was a consequence of more frequent, timely, and accurate information-sharing and problem-solving activities. The ability to quickly assimilate new information helps individuals interpret and navigate the altered environment (Aitken & Morgan, 1999) and is crucial in directing attention (Langer, 1989; Weick & Sutcliffe, 2006). Indeed, adversity has the potential to shatter fundamental assumptions about oneself, the environment, and one's belief in cause-effect relationships (Beder, 2005; Haynie & Shepherd, 2011; Janoff-Bulman, 1992). Avoiding such disruptions requires "establishing a comfortable, integrated assumptive world" (Janoff-Bulman, 2004: 30) that incorporates aspects of the adversity, which can be facilitated by establishing a culture of awareness (i.e., establishing the expectation for adversity and allowing employees to identify and communicate "brewing" issues or challenges) and identifying mechanisms to overcome blind spots (i.e., silos). The difference between "triumph and tragedy" hinges on an organization's ability to make sense of the dynamic contexts in which it is embedded (Boin et al., 2005; Weick, 1995).

Behavioral capability endowments. Behavioral capabilities involve action alternatives and behavioral repertoires, which are often embedded in the design of an organization—its structure, processes,

and activity configurations (Galbraith, 1973; Thompson, 1967)—that facilitate the processing and sharing of information, work tasks, and so forth (March & Simon, 1958; Thompson, 1967; Tushman & Nadler, 1978). All of these capabilities aid functioning in the face of adversity, and "timely crisis recognition . . . depends crucially on both the capacity of individuals operating (parts of) systems . . . and the organizational 'design' for early crisis detection" (Boin et al., 2005: 19). In his article exploring variance in the design structures of two companies operating high-risk nuclear power plants, Carroll (1998) found that organizations with fragmentary and myopic understandings of work tasks (rooted in organizational design) are more likely to experience recurrent problems and disruptions; that is, they are less resilient.

Combining capabilities and structural aspects of the firm, Lai, Saridakis, Blackburn, and Johnstone (2016) found that, depending on firm size, human resource management practices (i.e., team structure, management formality, decisions to layoff or re-deploy employees) during an economic downturn influenced organizational resilience. Specifically, smaller firms were more creative than large firms, and these creative actions helped maintain positive functioning despite the economic downturn, further demonstrating how organizations can leverage various endowments (e.g., employees, managerial skills) associated with organizational design for resilience. Behavioral capabilities also involve establishing comfort with uncertainty, decision-making diffusion across units (to allow for interpretation and action on relevant information), and practiced behaviors of cooperation and coordination (Boin & Lagadec, 2000). These behavioral capabilities are perhaps best demonstrated by high-reliability organizations (Bigley & Roberts, 2001; Weick et al., 1999) as well as the emergence of new organizations that take action during times of crisis (Drabek & McEntire, 2003; Majcherzak et al., 2007; Shepherd & Williams, 2014).

Emotion-regulation capability endowments. Emotion-regulation capabilities refer to a mental fortitude that provides actors with mental hardiness and self-regulation to cope with adverse situations, and produces positive work-related outcomes (e.g., job satisfaction, performance) (Avey, Luthans, & Jensen, 2009; Luthans et al., 2005). Individuals and organizations are therefore likely to enhance resilience to adversity by cultivating endowments of emotional capital, which could include (individual and/or collective) optimism, hope, and opportunities to appropriately express and discuss emotions (Amabile, Barsade, Mueller, & Staw, 2005; Barsade & Knight, 2015). Emotions

play a functional role in facilitating how actors make sense of and assign meaning to their environment (Weick et al., 2005). Similarly, organizations differ in how they utilize and regulate emotions, which can shape important organizational outcomes including responses to adversity (Parke & Seo, 2016). For example, emotional capabilities facilitate employees' commitment to change initiatives despite the challenges and potential disruptions such initiatives could cause (Shin et al., 2012), and they provide individuals with the psychological resources needed to persist in risky endeavors with lower levels of stress (Baron et al., 2016). Furthermore, individuals and organizations that are more capable of regulating emotions (i.e., knowing how and when to express or suppress emotions in accord with situational demands) experience less distress and demonstrate greater long-term adjustment (Bonanno et al., 2004).

The psychology literature—exemplified by the work of Fredrickson and colleagues (e.g., Fredrickson, 2001; Fredrickson, Tugade, Waugh, & Larkin, 2003; Hayward et al., 2010)—has examined how individuals with high resilience differ from those with lower resilience, particularly in terms of experiencing and using emotions. For example, in a study of resilience after the September 11th terrorist attacks, Fredrickson et al. (2003) found that psychologically resilient people were buffered from depression by deliberately drawing on positive emotions (e.g., gratitude and love) in the wake of the attacks. Other studies have considered individuals' affect regulation and tolerance for stress as indicators of resilience (Bonanno 2004; Leyro, Zvolensky, & Bernstein, 2010). For example, Stephens, Heaphy, Carmeli, Spreitzer, and Dutton (2013: 15) found that group resilience was directly tied to emotional carrying capacity, or “the relationship's capacity to express more emotions overall, both positive and negative . . . in a constructive manner.” Furthermore, emotional capabilities can be generated by cultivating a broad organization-wide culture of an “ethic of care” enacted through narrative practices that document positive experiences, contextualize challenges, and develop future-oriented stories; these narratives foster an “ontology of possibility” that facilitates resilience (Lawrence & Maitlis, 2012: 641).

Finally, the capability to regulate emotions is closely related to emotional ambivalence or the “simultaneous experience of contradictory feelings” (Vogus, Rothman, Sutcliffe, & Weick, 2014: 593). Emotional ambivalence opens actors to alternative perspectives that can increase judgment accuracy (Rees, Rothman, Leheavy, & Sanchez-Burks, 2013),

enhance cognitive flexibility (Fong, 2006), and assist in the anticipation of and preparation for the unexpected (Vogus et al., 2014). Specifically, emotional ambivalence likely enables resilience to both swift, unexpected events (Weick & Sutcliffe, 2015), and “weak signals of failure” that, when recognized and acted upon, help avoid organizational crisis (Vogus et al., 2014: 593). Moreover, emotional ambivalence likely impacts relational interactions, which in turn shapes the social dynamics of teams and organizations (Rothman & Wiesenfeld, 2007).¹

Relational capability endowments. In the context of adversity, relational capabilities—the social connections that enable access to and exchange of resources—play an important role in shaping immediate actions and ultimately enabling positive functioning in the face of adversity. Furthermore, relational capabilities provide a context in which cognitive, behavioral, and emotional capabilities can be activated. For example, relationships—in the form of coordinative practices—have been found to be critical in overcoming challenges (Gittell, 2008). In a study exploring interpersonal dynamics among firefighters, Colquitt et al. (2011) found that trust was based on coworker integrity, or the perceived consistency between words, deeds, and values with prior experience. Further, they found that in a volatile environment, trust was paramount to achieving positive outcomes, whereas trust was less important in less volatile environments.

This finding suggests that organizations that do not anticipate facing adverse conditions may fail to develop elemental capabilities (i.e., trust) that will be needed to function as a group or team.

Similarly, Shepherd and Williams (2014) found that *trust* and *network* relationships among disaster-impacted community members were critical in response to a devastating bushfire. When the disaster hit, those who had local values, knowledge, and network relationships were better positioned to gain the trust of disaster victims, which enabled a more immediate and effective response to the widespread suffering. In this case, trust facilitated community resilience. In a related study, Williams and Shepherd (2016b) found that prior *knowledge* of and experience with entrepreneurial activity further facilitated

¹ Despite these potential benefits, emotional ambivalence could also have a potential downside in that it leads to more deliberation in decision making (i.e., consumes more time) and can result in biased information processing in attempts to resolve the ambivalence (Nordgren, van Harreveld, & van der Pligt, 2006).

action in the aftermath of the bushfire disaster, suggesting that various forms of human capital shape actions, which in turn influence resilience. Interestingly, although those with entrepreneurial experience were more likely to organize efforts to help others, those with entrepreneurial experience *who failed to engage in compassion venturing* (i.e., creating a new venture to alleviate others' suffering) had the lowest levels of postdisaster functioning. This finding highlights the notion that the mere possession of a resource does not necessarily confer an advantage; resources need to be used, or else they may be detrimental to functioning (Hobfoll, 1989, 1991).

Preadversity Organizing: Preparing and Restoring

The second prominent theme in the resilience literature relates to organizing processes aimed at anticipating, preventing, or mitigating “potential dangers before damage is done” (Wildavsky, 1988: 77) and adjusting to deal with unexpected or unknown contingencies and emerging breakdowns so as to lower the likelihood that these disruptions will grow into triggering events.

Preparing: Managing risks to reduce vulnerability. Although some crises can be seen as more “normal” emergencies (e.g., fires, traffic accidents, hostage takings) (Patriotta & Gruber, 2015; Perrow, 2011) other crises that potentially threaten people and organizations result from high-impact, fast-onset triggering events, such as natural disasters, economic downturns, the emergence of new technologies, and political instability (Zhou, Wan, & Jia, 2010). Resilience to these phenomena is important given that such events are “collectively experienced, [have] an acute onset, and [are] time delineated,” thus, swift decision-making in highly ambiguous contexts is vital to avoid additional suffering (McFarlane & Norris, 2006: 4). Fast-onset crises can cut across all social strata and often prove to be highly disruptive (Bonanno et al., 2010) to individuals and organizations. Given the nature and impact of these crises, a considerable body of research (primarily in sociology) has explored how organizations can anticipate, respond, and decrease vulnerability, particularly while drawing on government and nongovernment organizations as resource providers (for a review, see Drabek & McEntire, 2003).

Despite advancements in our understanding of organizational responses to disaster events, recent studies (Comfort, 1994; Shepherd & Williams, 2014; Van Der Vegt et al., 2015; Williams & Shepherd, 2016a, 2016b) highlight the importance of understanding how organizations can cultivate

pre-disaster resilience by strengthening preventative measures, including developing networks, coordination techniques (within and between organizations), and individual members' resilience. This proactive “investment” orientation toward potential adversity likely helps “reduce the short- and long-term negative social and economic impacts on people's lives and business” (Van Der Vegt et al., 2015: 977).

Restoring. Strategies of preparing and anticipating work best for “risks that can be predicted and are well understood” (de Bruijne, Boin, & van Eeten, 2010: 22). But some dangers are unanticipated, especially when levels of complexity are high. When organizations face these scenarios quick action is required to alert decision makers to unfolding conditions to keep operations within a bandwidth of acceptable performance (Schulman, Roe, van Eeten, & de Bruijne, 2004) or to actively develop contingent responses (Weick et al., 1999). Effective and timely identification of and response to emerging challenges is particularly important for some organizations in some industries or contexts. For example, studies of high reliability organizations (HROs) (Roberts, 1990)—organizations that manage potentially hazardous technical systems (e.g., commercial aviation, nuclear power, nuclear submarines) (Roberts, 1990; Roberts, Stout, & Halpern, 1994)—show that they (HROs) expend resources to defend against particular risks, but they also engage in establishing organizing practices to be able to improvise and “craft what [they] need, when [they] need it, even though [they] previously had no idea [they] would need it” (Wildavsky, 1995: 433). From this high-reliability perspective, resilience involves improvising and using generic resources described in the prior section (e.g., knowledge, communication, financial resources, emotional, relational, structural capacities) to avoid a catastrophe or to mitigate its evolution. More specifically, processes of catastrophe-avoidance (e.g., organizing to ensure that a system does not weaken or drift) include carefully allocating and distributing attention, knowledge, and resources across the organization to facilitate the recognition and interpretation of potential problems (Marcus & Nichols, 1999); enhancing sensemaking and decision-making processes by engaging in daily practices and routines (Vogus & Sutcliffe, 2007; Weick et al., 1999); focusing on accountability and the salience of signals (Barton et al., 2015; Roberts et al., 1994); and reducing tensions between high-reliability structures and the broader contexts in which the organization is embedded (Bierly & Spender, 1995).

Research has also investigated preparation, role structuring, and coordination by emergency responders and/or response groups as an important aspect of resilience. For example, resilience in a pediatric intensive care unit involved repeated iterations of team structuring and design and continuous efforts to buffer the unit from the parent organization's pressures (Madsen et al., 2006). Similarly, fast-response medical teams must balance planned activities (e.g., reliance on protocols) with more impromptu actions (e.g., joint sensemaking and protocol breaking) (Faraj & Xiao, 2006), and firefighter strike teams balance structural mechanisms (e.g., role switching, system resetting) with constrained improvisation and cognition management (e.g., communication, shifting) (Bigley & Roberts, 2001). If these teams and organizations fail to appropriately interpret environmental cues and make changes to address shifts in the situation, they are likely to be less resilient to the adverse and complex environments they face (Bigley & Roberts, 2001; Faraj & Xiao, 2006), which can then result in a crisis event.

Responding to Major Disturbances

The third prominent theme in the resilience literature is *responding* to major disturbances that result from the climax of organizational weakening or surprising external event (e.g., a disaster). When exposed to a major disturbance, actors face increased uncertainty about what actions to take (Duncan, 1972; Milliken, 1987; Pfeffer & Salancik, 1978) and thus try to generate a range of possible responses. The most effective responses appear to be those that involve “innovative, continually changeable behavior” (Stacey, 1995: 478), “improvising locally” (Shepherd & Williams, 2014: 977), and the “capacity for spontaneous changeability” (Stacey, 1995: 478). Taking stock of the various forms of responses to major disturbances, it is useful to highlight the specific mechanisms organizational members and/or organizations use to maintain positive functioning under this adversity (Bunderson & Sutcliffe, 2002; Sutcliffe & Vogus, 2003). Maintaining positive functioning in the aftermath of a disaster or some other major disturbance depends on the organization's cognitive and behavioral responses, which are in turn reinforced by context.

Cognitive responding. Positive cognitive responses that help maintain positive functioning in the face of major disturbances involve an actor's ability to notice, interpret, and analyze changes in the environment and to formulate responses (Dewald & Bowen, 2010) that go beyond “simply surviving the

ordeal” (Lengnick-Hall & Beck, 2005: 750). For example, in contrast to decision makers who perceive innovative business-model introductions as threats and thus resist adopting changes to strategy, decision makers who perceive these innovations as opportunities are more likely to adopt aspects of these innovations into their core practices, enabling adjustment to a changed competitive landscape (Dewald & Bowen, 2010). Similarly, cognitive responses that facilitate adjustment to adversity assist decision makers in directing attention appropriately, allowing them to focus on the best action options available to reduce complexity and generate viable alternatives for a path forward (Lengnick-Hall & Beck, 2005). Specifically, to the extent that decision makers are better able to understand the content and duration of a major disturbance; the ways that disturbance-induced change influence the broader environment; and the structural, routine, or other (if any) organizational changes needed, the more likely they are to maintain positive functioning in the new environment (Lengnick-Hall & Beck, 2005). When facing extreme adversity, flexible decision-making processes are essential as rigid decision-making processes can compound losses, thus resulting in even more disruptive outcomes for individuals and firms (Bonanno et al., 2010; Hobfoll, 2011; Rahmandad & Repenning, 2016).

When facing a major disturbance, individuals must draw upon immediately available resources and make time-sensitive decisions between “staying the course” and deviating from planned routines. When resources are unavailable (i.e., they are not “fungible” and not readily available to be redeployed for alternate purposes) and decision makers delay corrective action in organizational routines, organizational capabilities for adjustment and flexibility erode (Rahmandad & Repenning, 2016), which increases vulnerability to subsequent adversity. For example, in his classic study of the Mann Gulch disaster, Weick (1993) highlighted breakdowns that occurred in how a firefighting team perceived, interpreted, and acted on surprising environmental conditions. He found that “mediated communication” imposed unnecessary structure on the small group of firefighters, which limited the “interpersonal cognitive processes” they needed to create a shared interpretive scheme of the environment. Without a shared sense of meaning, the team had disjointed “frameworks” for identifying solutions, resulting in a collapse of sensemaking that led to the death of 13 firefighters (Weick, 1993: 645). Forming a positive cognitive response to surprising events

appears to require individuals to rapidly direct their attention from structures to meaning (and back again) as an input for either reaffirming or reconstructing their interpretive systems (Weick, 1993: 646).

Another example of cognitive responses to a major disturbance is how passengers and crew members aboard a hijacked airplane (Flight 93 on September 11th) organized courageous collective action to compel the hijackers to crash the plane into the ground rather than into a national landmark. In a study of this event, Quinn and Worline (2008) found that individuals engaged in narratives to help them understand and manage the intensity of the immediate situation, explain the duress to make moral and practical judgments about how to act, and formulate a sense of a “collective” body of resources that could be mobilized. These findings demonstrate the influence of time, surprise, new frame development, and resource mobilization on the development and deployment of group cognitive processes and demonstrate the wide range of “organizing” that shapes resilience processes.

Behavioral responding. Behavioral responding to a major disturbance is a natural extension of cognitive responding as it involves actors’ enacting solutions or courses of action to address the environmental uncertainty (Lengnick-Hall & Beck, 2005; Rahmandad & Reppenning, 2016; Weick, 1993). Specifically, positive behavioral responding to an adverse event is “the engine that moves” an actor forward in the face of uncertainty (Lengnick-Hall & Beck, 2005: 751) and includes balancing varied action repertoires with structured “functional habits” (e.g., rehearsed routines for managing uncertainty) (Sutcliffe & Vogus, 2003: 107). As with other aspects of the resilience process, behavioral responses to adversity involve the interaction of multiple factors at various levels. For example, an innovative response (presumably one that is more adaptive) to organizational decline is more likely when the firm operates in a less institutionalized environment, concentrates power (rather than diffusing power in the organizational structure), and accesses many uncommitted resources (Mone, McKinley, & Barker, 1998). Additional research highlights the importance of aligning specific tactics (i.e., behaviors) with overarching strategies when developing a behavioral response to adversity. For example, when applying the resilience of the Republic of Rome to modern-day organizations, Carmeli and Markman (2011) theorized that resilient firms carefully balance their strategic emphasis on growth and development (i.e., capture) with efficiency and self-management (i.e., governance). Within the

context of these strategies, firms also need to balance their strategy with specific tactics—saving power, maintaining a stronghold base, isolating adversaries, and creating forward outposts (Carmeli & Markman, 2011).

Beyond broad strategic actions and tactics involved in resilience, specific organizational activities can facilitate adjustment to substantial disturbances. For example, Bechky and Okhuysen (2011) found that police SWAT teams and film production crews developed critical socio-cognitive resources for managing uncertainty through bricolage, including restructuring activities by role shifting, reorganizing routines, and reassembling work activities. These creative team actions generated feedback to provide an updated and dynamic perspective on team structure, communication, and collaboration to manage unexpected events. Similarly, highly skilled “extreme action” medical teams appeared to offer a swift, coordinated, reliable response to adversity by melding hierarchical and bureaucratic role-based structures through specific crisis-actions (e.g., rapid and repeated delegation, careful training of new team members), again demonstrating how resilient teams balance structure and improvisation when dealing with dynamic and unpredictable events (i.e., in this case, patients’ traumatic injuries) (Klein, Ziegert, Knight, & Xiao, 2006).

Individuals can also display positive behavioral responses that enable resilience. For example, in war-torn Afghanistan, some individuals still identify and pursue entrepreneurial opportunities (Bullough et al., 2013); in the aftermath of an earthquake in Haiti (Williams & Shepherd, 2016a) and a bushfire in Australia (Shepherd & Williams, 2014; Williams & Shepherd, 2016b), victims mobilized resources and created new ventures to alleviate others’ suffering; and in the wake of the Great Recession, entrepreneurs used their ventures as vehicles to repurpose their identity, which in turn influenced day-to-day behaviors that ultimately shaped the firms’ strategic response to the adversity (Powell & Baker, 2014). It appears that resilience involves (at least in part) transitioning from a dependence on slack resources to self-reliance based on resourceful emergent actions that enable actors to enact “who they want to be”—that is, to activate new roles and identities (Powell & Baker, 2014; Williams & Shepherd, 2016a, 2016b).

Contextual reinforcement of responses to adversity. Context is important in explaining responses to adversity as it provides the foundational setting in which cognitive and behavioral responses are

enacted and integrated (Lengnick-Hall & Beck, 2005). At the organizational level, different types of organizations are likely to experience adversity differently and thus have distinct perceptions of its potential costs. For example, for some organizations (e.g., nuclear submarines, air craft carriers), avoiding failure is of paramount importance (Roberts, 1990; Roberts, Stout, & Halpern, 1994; Weick & Roberts, 1993), whereas for others, (i.e., new entrepreneurial ventures), failure is a more acceptable (although undesirable) outcome that is considered a “normal” part of the process (Ucbasaran, Shepherd, Lockett, & Lyon, 2013). Organizations have different levels of social connectivity and varied information-sharing mechanisms, which may impact their resilience. In his classic study exploring the Mann Gulch disaster, Weick (1993) found that despite the seemingly tight integration of the “smoke jumping” teams, their social connections were insufficiently deep, leading to miscommunications, inability to rapidly align in interpreting the environment, and confusion in the face of novelty (which cost most of them their lives).

Beyond individual organizations, different communities may have varied levels of social capital that enable or constrain resilience. Community social networks among neighbors and proximate organizations provide access to various resources in adverse situations, such as information, loans and gifts for property repair, shelter, and emotional and psychological support (Aldrich & Meyer, 2014; Shepherd & Williams, 2014). Different types of social capital may serve complementary functions in helping individuals endure and recover from adversity. Bonding social capital—namely, strong, densely connected ties—translates into greater levels of trust and more widely shared norms within the community (Coleman, 1990), which fosters resilience. Various studies have shown that local social connections regularly serve as first responders in disaster situations well ahead of professional and formal rescue operations (Kapucu, 2008; Quarantelli & Dynes, 1977). Bridging social capital—namely, weak, sparsely connected yet diverse ties—on the other hand, facilitates access to novel information and resources (Burt, 1992) and accelerates long-term recovery (Hawkins & Maurer, 2010).

Resilience Feedback Loop

As organizational members and organizations take action in response to adversity, they may gain new

insights and perspectives that feed into resource endowments, ongoing organizing, adaptation, preparation, and response to adversity. The interaction between the environment and actors is an inherently dynamic process (Lengnick-Hall & Beck, 2005) such that interpretations evolve over time and are reshaped depending on the nature of the adversity and the behavior of the actor. Enhancing resilience from feedback has largely been explored in terms of actors' experiences and interpretations.

Experience, feedback, and resilience. Prior experiences with adversity appear to be linked to subsequent resilience, but there is considerable variance in the nature of this relationship (Brewin, Andrews, & Valentine, 2000; Bonanno, Westphal, & Mancini, 2011). It seems that individuals' resilience to adversity depends on the similarity of that adversity to difficulties they have experienced in the past [e.g., an individual's resilience to a disaster is facilitated when he or she has previously experienced a disaster but not so much from other forms of adversity (Bonanno et al., 2010)]. Therefore, resilience can be facilitated by learning from experience with adversity, and this learning—as individual organizational members encode new information, adjust mental models, and encode new knowledge into organizational routines—can be direct or vicarious (Madsen, 2009). However, this learning to enhance resilience is not likely static or linear in nature. For example, organizations oscillate between periods of emphasizing safety and periods of emphasizing other goals, such as efficiency or innovation (Haunschild, Polidoro, & Chandler, 2015). As a consequence, the ability to learn from an experience with adversity weakens over time, increasing an organization's vulnerability. Moreover, firms are more vulnerable to adversity when their managers seek feedback from those in their network who have similar experiences (i.e., like-minded advisors from close network ties) because this feedback can lead to misinterpreting signals about the adverse environment contributing to an organizational crisis (McDonald & Westphal, 2003). This further demonstrates the dynamic and interactive nature of resilience between subjects and the environment.

Interpretations of tasks and relationships. Exposure to adversity also influences how decision makers interpret future challenges and disruptions, identify appropriate tasks, and activate relationships to address issues. Interestingly, prior exposure to adversity may hinder resilience. For example, repeated interruptions of routines and tasks can precipitate a crisis because the constant interruption can

make it difficult to differentiate noise from “true” signals of change (Rudolph & Repenning, 2002). For example, the team working on the Challenger space shuttle “missed” the O-ring data because of repeated disruptions that “crowded out” the signal of the true problem at hand (Vaughan, 1996). Similarly, some novel scenarios appear so extraordinary that actors cannot accommodate them into existing worldviews (Cerulo, 2008), resulting in relatively little learning or response. What is important to realize is that the ability of human systems to interpret and accommodate surprising feedback is “contextually and temporally dependent” (Rudolph & Repenning, 2002: 3).

In summary, the literature emphasizes that resilience evolves over time as the actor (i.e., individual, organization, or community) interacts with the environment (i.e., adversity), highlighting the dynamism of resilience. Furthermore, our review highlighted different uses of resilience in the literature, including an emphasis on building collective capacities, knowledge, skills, and abilities for resilience, as well as resource endowments, organizing practices, and postcrisis response. In combining these streams of research, we highlighted the benefit of exploring resilience as a process of adaptation, improvisation, and recovery, which lends itself to a fusion with the crisis management research.

INTEGRATING CRISIS MANAGEMENT AND RESILIENCE—FRAMING FUTURE RESEARCH

Our reviews of the two literatures suggest that in many ways, crisis management and resilience are two aspects of the same challenge—the challenge of adversity. Because of this common ground, the way crisis and crisis management are conceptualized holds important implications for building theory on resilience, and vice versa. As such, we seek to integrate crisis management and resilience. In Figure 1, we offer a model of the fusion of crisis management and resilience that integrates the major themes identified in the review above and serves as a foundation for building a future research agenda. We offer this model as a framing for how future research might integrate important aspects of both crisis and resilience in explaining the mechanisms through which organizations anticipate, prepare for, and respond to adversity.

As portrayed in Figure 1, organizations that develop cognitive, behavioral, emotional, and relational capabilities can realign in response to drift as well as facilitate the anticipation of and responses to

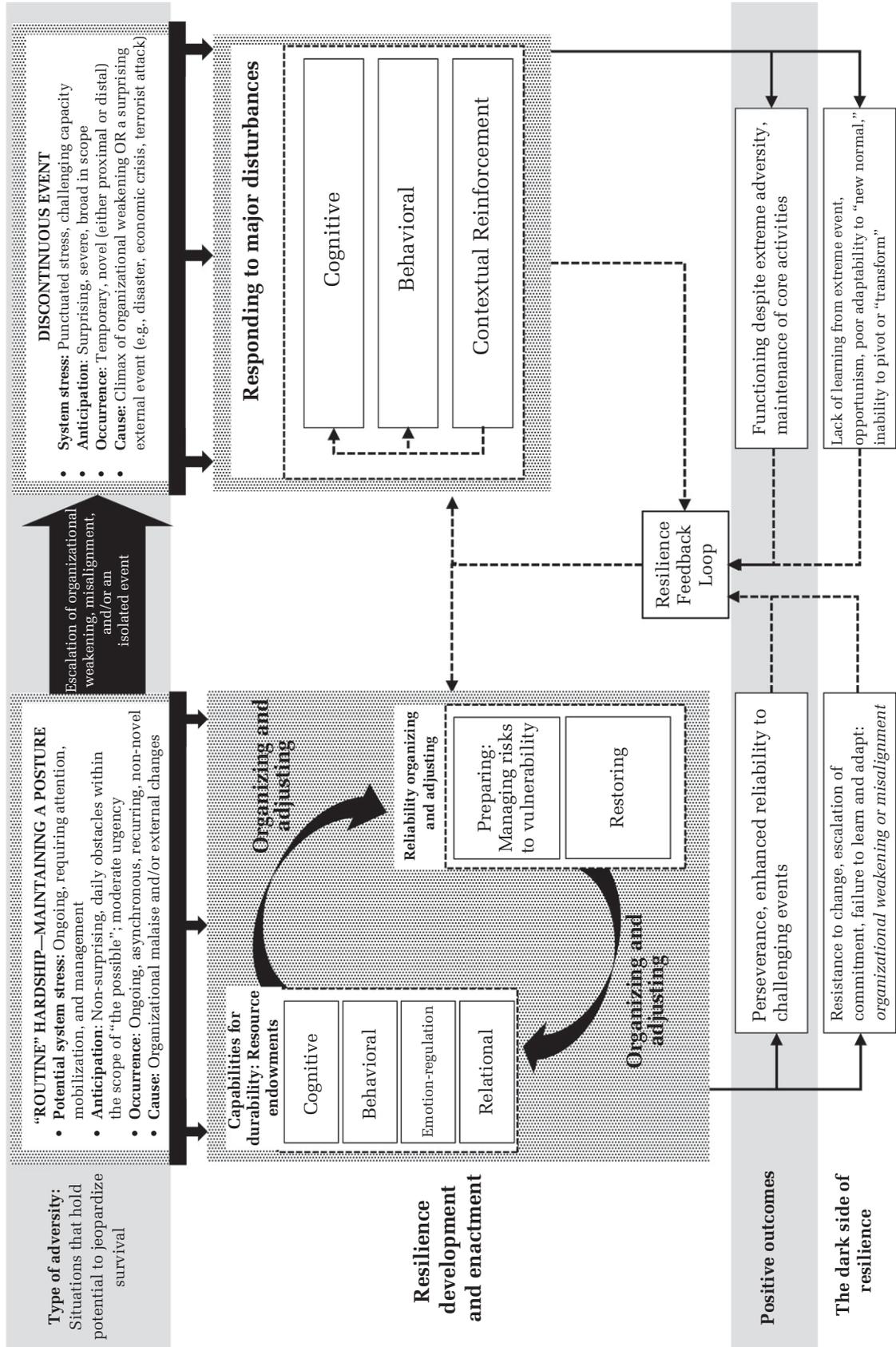
triggering events. These capabilities in turn interact recursively with organizing efforts related to reliability and risk reduction. As these processes play out, there is ongoing organizing and adjusting as additional threats are processed and addressed (or missed). As time progresses, gradual weakening could escalate into a triggering event. Alternatively, a surprising event could occur that did not result from weakening that threatens functioning. When these events occur, organizations respond (cognitively and behaviorally) as an interaction with the triggering event. After experiencing and overcoming a major crisis, there is a feedback loop in which actors’ interpretations of the tasks and relationships they experienced during adversity shape organizing for subsequent adversity. Finally, we anticipate that there are both positive and negative outcomes that result from resilience. Although resilience likely enhances perseverance, functioning, and reliability to challenging events, it may also result in resistance to change, failure to learn and adapt, and or an inability to pivot or transform. This negative outcome from resilience is a novel and unanticipated contribution from our review.

In the following sections, we highlight five overarching themes for future research that emphasize the dynamic, process-oriented perspective of crisis and resilience exhibited in Figure 1. These themes are (1) leadership in the face of adversity, (2) the role of time in adversity, (3) complexity and adversity, (4) mindfulness and adversity, and (5) the dark side of resilience.

Future Research on Leadership in the Face of Adversity

As noted earlier, research on crisis management has emphasized the importance of postevent leadership in helping navigate obstacles generated by adversity to motivate positive action in others (Pearson & Clair, 1998; Quarantelli, 1988, 1996). More recently, research has begun to articulate the microprocesses that fuel resilience *before* crises occur, emphasizing leadership behaviors that enable quicker recognition and resolution of potential disruptions. For example, in a study of wildland firefighting, Barton et al. (2015) made the case for contextualized engagement: when leaders proactively engage with those on the front lines who face difficult situations, actively searching for discrepancies and unexpected problems and making sense of them, rather than avoiding or merely coping with the adversity. By more quickly understanding what

FIGURE 1
Process View of the Fusion of Crisis Management and Resilience.



is happening (rather than hoping for the best), teams are better able to respond in flexible, adaptive ways. This provides insight into how organizing processes help to forestall or mitigate crises as they unfold and is consistent with literature on the importance of active sensemaking (Gephart, 1993, 2007, Weick, 1995) and the avoidance of normalizing (Vaughan, 1996; Weick & Sutcliffe, 2006). Sensemaking is critical for noticing disruptions and understanding their significance (Weick, Sutcliffe, Obstfeld, 2005). Furthermore, it is a useful extension of the positive approach of James et al. (2011) to crisis management and focus on recovery in that it suggests that beyond merely framing an event, leadership is critical to actively facilitating resilience. As Wildavsky highlighted (1988), for organizations to accommodate the reality of organizational uncertainty, they must engage in deliberate efforts to become better at coping with surprise not only by gaining strength from stress but also by “expanding general knowledge and technical facility, and generalized command over resources” (p. 221).

Future research can make a substantial contribution to the literature by exploring the role of leadership in preparing for, adjusting to, and responding to adversity as well as building endowments in a way that promotes greater resilience, thereby avoiding a triggering event and the need for crisis management. First, research on leadership has advanced our understanding of how effective leaders deploy resources when taking organizational actions (Walter & Bruch, 2009; Yun, Faraj, & Sims, 2005). However, there is less research on how leaders build endowments (in the organization and/or themselves), especially endowments that promote resilience. For example, leadership research can build on the substantial literature on trust (Fulmer & Gelfand, 2012; Mayer, Davis, & Schoorman, 1995) to gain an understanding of how leaders can build trust as an endowment of resilience. Although we know that trust increases in value during adverse situations (Colquitt et al., 2011), it is critical that we gain a deeper understanding of the nature of trust, with whom that trust resides, and how it is maintained for it to represent an endowment that can be called upon quickly during adversity. Leadership research can also explore how leaders can design their organizations for greater resilience and/or how different designs enable or constrain the types of leadership needed for building resilience. Can leaders encourage a better understanding of how their organizations interpret and interact with the environment to promote greater resilience? What styles of leadership

expose individuals to these interactions and with what effect?

Second, there is more to learn about the role of leadership in organizing resilience. For example, in addition to the contextualized engagement noted earlier (Barton et al., 2015), what leadership behaviors are necessary to develop “extraordinary levels of vigilance” to avoid crisis events (e.g., leadership behaviors that promote reliability and risk management to reduce organizational vulnerability), and how do these behaviors differ from more ordinary leadership behaviors? It could be that while we normally think of leaders as promotion focused (emphasizing opportunities; potential rewards in terms of gains and nongains), preparing for adversity may require leaders with more of a prevention focus (emphasizing threats; potential rewards in terms of nonlosses) (see Weick, Sutcliffe, & Obstfeld, 1999). Perhaps, leaders are more effective when they have a prevention focus when preparing for adversity and a promotion focus when responding to it. Future research can explore these and other questions incorporating theories that are fundamental to leadership and decision-making.

Third, when responding to adversity, leaders likely need to possess the cognitive and behavioral attributes that facilitate resilience. Although individuals possess unique traits that influence their responses to adversity in different ways (Bonanno, 2004; Bonanno et al., 2010), we need a greater understanding of how leaders are able to “bring out” these attributes in organizational members (individually and as a collective) so as to facilitate resilience. What leadership behaviors before, during, and immediately after key challenges trigger the sort of resourcefulness and responsiveness necessary for resilience? Perhaps, as alluded to earlier, the leadership required for responding to adversity is different than that required for building an endowment and preparing for it. If this is the case, what are these differences, and how does an organization or organizational member make such a switch?

Finally, although most leaders and other organizational members understand the importance of learning from mistakes, surprising events, and crises (Deverell & Hansén, 2009; Madsen, & Desai, 2010; McGrath, 1999), most people and organizations find this difficult to accomplish (Baumard & Starbuck, 2005; Cannon & Edmondson, 2001, 2005; Edmondson, 2004). Although learning from a crisis is likely to be a way to build endowments for resilience, we do not yet fully understand how leaders facilitate the process by which organizations and organizational members learn from

a crisis in a way that promotes resilience to subsequent adversity. Therefore, future research will hopefully investigate how leaders facilitate crisis sensemaking and learning while avoiding “overcorrecting” or encouraging rumination or other nonproductive cognitions and behaviors (Carmeli, Brueller, & Dutton, 2009; Carmeli & Gittel, 2009) that could undermine resilience to subsequent adversity. An answer could lie with the organization’s psychological safety (Baer & Frese, 2003; Edmondson, 1999), emotional capability (Huy, 1999; Shepherd, Patzelt, & Wolfe, 2011), and/or attention structures (Ocasio, 1997); this is fertile ground for future research.

Integrating crisis management and resilience research also brings to the forefront several theoretical mechanisms that they have in common, including time, complexity, and mindfulness. The next section details these mechanisms and highlights additional avenues for future research.

Future Research on the Role of Time on Adversity

Research has illustrated the importance of considering time for understanding resilience and for understanding crisis management, as some crises continue for an extended period and new crises sometimes emerge after an initial crisis has been managed. For example, Barton and Sutcliffe (2009) showed how organizations use a variety of practices to overcome dysfunctional momentum—the escalation of negative outcomes. This research fits into a larger body of work that has made the case for renewing sensemaking as tasks and the environment continue to evolve rather than becoming stuck in one way of operating that prevents new interpretations of a situation (LeBaron, Christianson, Garrett, & Ilan, 2016; Rudolph, Morrison, & Carroll, 2009). This updating and the importance of time are evidenced in social media, in which a crisis can arise in a matter of hours if the proper detection and responses are not enacted (Gruber, Smerek, Thomas-Hunt, & James, 2015). The real-time speed and public nature of platforms like Twitter mean that organizations need to be more vigilant and responsive. Specifically, we anticipate a number of opportunities for future research to explore the role of time in the stages an organization goes through when experiencing adversity in public forums.

First, adversity is heterogeneous; some challenges are triggered quickly, evolve rapidly, and are short in duration, whereas other challenges emerge slowly, evolve more gradually, and are extended over time. However, this time dimension is likely to differ for actors based on their endowments, preparation, and

response. For example, when preparing for adversity, an organization may quickly detect sources of adversity and rapidly respond such that any disruption to positive functioning is minor and short in duration. Recent research explored how a news organization created an infrastructure to respond to breaking news stories on a routine basis while maintaining its main objective of producing time-bound newscasts (Patriotta & Gruber, 2015). Given the frequency of unexpected events and importance of deadlines in their environment, news organizations are more accustomed to dealing with and responding to intense situations quickly and fluidly than a typical organization. Similarly, in their study of a French bank, Chekkar-Mansouri and Onnee (2013) found that double-loop learning and organization-level-focused learning policies helped reduce the vulnerability of the bank to recurrent adversity. That is, when the bank employed double-looped learning they were better prepared to eliminate small problems that could have led to another crisis. In contrast, when they did not have formal organizational learning protocols they were more likely to experience another crisis. These recent studies underscore the importance of considering both everyday unexpected occurrences and less-frequent major events to gain an understanding of which become crises and which are detected and mitigated before they become crises.

Second, although endowments are a resource “stock,” focusing on time enables us to explore the “flow” of resources. For example, how (and over what time) are capabilities and other endowments built, and can they regress and/or lose value over time? In his extensive work on responses to stress, Hobfoll (1989, 1991, 2011) argued that resource losses are more salient than resource gains given the speed at which loss occurs compared to gains. For example, a disaster can instantly wipe out what took a lifetime for individuals to build. As losses are more salient, it is critical that those experiencing adversity identify pathways to generate new and immediate resource gains (Hobfoll, 2011). Timing is critical as initial gains can trigger “gain spirals” such that initial gains prompt subsequent resource gains that likely facilitate resilience. Future research can build on several emerging studies that highlight the benefits of challenging work in the face of adversity (Gorgievski & Hobfoll, 2008; Williams & Shepherd, 2016b) to explore what it takes to maintain and/or update endowments for resilience. That is, what endowments, preparation, or responses trigger resource gains (or losses) in the face of adversity, and how can those be promoted (or avoided)?

Third, when preparing for and responding to adversity, much is made of speed. Although there has been some research on accelerating decision speed (Bakker & Shepherd, 2016; Eisenhardt, 1989), we need to gain a deeper understanding of how actors can accelerate their preparations (e.g., risk management and vulnerability assessments) and their responses to facilitate resilience. The answer may lie with the current list of endowments, other endowments not currently recognized in the literature, and/or some other spontaneous mechanisms of acceleration. These endowments could include potential resources like community embeddedness, social networks (including both structure and content), and broader context or institutional factors. Furthermore, research can challenge the assumption that “more speed is better” by exploring if and under what circumstances slowing the organization down may facilitate resilience in the face of certain types of adversity.

Finally, learning from failure can be enhanced by the passage of time—that is, time helps reduce the negative emotions triggered by a failure, which helps reduce obstacles to learning from the experience (Shepherd et al., 2011). Does the passage of time help organizations (i.e., organizational members collectively) interpret their experiences with adversity in a way that builds endowments or otherwise helps them to be better prepared for subsequent adversity? If we can gain a deeper understanding of what happens during this period of learning, then perhaps learning can be accelerated or otherwise enhanced.

Future Research on Complexity and Adversity

The increasing complexity, dynamism, and interconnectedness of contemporary business environments coupled with increasing information-processing requirements tend to intensify the impact of adversity on organizations (Lagadec, 2009; Topper & Lagadec, 2013). As an example of the evolving complexity in the environment, the microblogging website Twitter now sees the “one-in-a million chance of something going horribly wrong 500 times a day” (Hill, 2014). The potential for things to go wrong has increased dramatically along with the concomitant implications of responding to events in forums where the world is watching. This has important implications for extending foundational work on how organizations anticipate and respond to adversity (Thompson, 1967). Although organizations have always faced external threats (Thompson, 1967), contemporary organizations are embedded in a web of interconnected

stakeholders. Different stakeholders are likely to have varying interests and objectives (Pfeffer & Salancik, 1978) and may thus impose conflicting and competing demands on organizations, pulling them onto divergent paths.

Extending research on control theory. The increased degree of environmental complexity challenges traditional organizational mechanisms to detect, respond to, and control ongoing operations. To date, a considerable body of research focuses on how organizations develop and manage systems to account for and control a range of *normal* and/or *expected* disturbances (Cardinal, Sitkin, & Long, 2004, 2010; Carver & Scheier, 1982; Giglioni & Bedeian 1974; Klein, 1989; Snell, 1992). Despite the long tradition of research exploring systems of control, these studies generally explore systems that are designed for situations that fall outside of the notion of “crisis” discussed throughout this review. Indeed, despite the potential connection, our systematic review did not uncover “control theory” as a substantial research theme in the crisis and resilience literatures. We anticipate that future research might explore how organizations design mechanisms of “control” that involve responding to disturbances that “fall outside the range of normal and [the] expected” (Boin, Comfort, & Demchak, 2010: 9). Some bodies of literature such as work on HROs (Roberts, 1990; Weick et al., 1999) provide some insight and more recent empirical studies are investigating the micromechanisms (e.g., Barton et al., 2015). Still, how do more ordinary organizations design resilient systems to be better prepared for unexpected challenges? Is it possible to build resilient controls and if so, how can these be used to build resilient organizations, systems, and communities (Van Der Vegt et al., 2015)? We anticipate that contributions can be made to control theory by addressing how organizations recognize potential disruptions, prepare for those challenges, and overcome surprises in an effective way.

Addressing multi-faceted demands of hybrid organizations. Further complicating the increasing environmental complexity is the shifting power, salience, and urgency of different types of stakeholders over time (Mitchell, Agle, & Wood, 1997). Such differences and changes in perspectives and opinions across stakeholders may lead to confusion about the organization’s identity and may make strategic decision-making, such as how to allocate internal resources, more difficult. These challenges, if not well managed, may escalate into major disruptions, which could in turn lead to resource withdrawal and even

organizational demise. Attending to the complexity of organizational life and the ways actors manage these competing demands on a day-to-day basis thus has important implications for understanding organizational resilience in preparation for unexpected events in increasingly complex environments (Zhao, Fisher, Lounsbury, & Miller, 2017).

There appear to be ample opportunities to integrate the emerging research on environmental complexity (Greenwood et al., 2011; Wry, Cobb, & Aldrich, 2013) with resilience and crisis management studies. The increasing prevalence and prominence of hybrid organizations provides an ideal setting for such integration. Hybrid organizations combine multiple organizational forms and embed multiple missions/values not just in their mission statements but also in their everyday practices (Battilana, Lee, Walker, & Dorsey, 2012). Because of their simultaneous pursuit of different and often-times competing missions, these organizations tend to experience divergent pressures from different stakeholders and face unique challenges in managing the associated complexity (Besharov & Smith, 2014; Pache & Santos, 2013; Zhao & Lounsbury, 2016). Building resilience is therefore a strong imperative for hybrid organizations.

Despite the increasing scholarly attention to hybrid organizations and the environmental complexity they face as well as the practical importance of resilience for hybrid organizations, the literatures on environmental complexity, hybrids, and resilience have largely been developed independent of each other. We call for a more integrative effort across these literatures. To begin, there is a great opportunity to study how a hybrid organization enhances resilience under conditions of high environmental complexity. To pursue this stream of research, we first need research that more explicitly conceptualizes and operationalizes the structure and intensity of environmental complexity. Past studies have suggested that both the sheer number and degree of incompatibility of different institutional logics—beliefs and practices that guide and shape individual/organizational identities and actions (Thornton, Ocasio, & Lounsbury, 2012)—contribute to environmental complexity (Greenwood et al., 2011). However, we know little about the relative salience of each logic and what drives the incompatibility of these logics. To this end, future research can explore the connections and clashes between logics, the ways broader logics evolve (rapidly and slowly), and the ways organizations facilitate resilience to these changes (Zhao & Wry, 2016).

In addition, facilitating resilience under environmental complexity requires that effective mechanisms are put in place so organizations can manage potential tensions across stakeholders and resolve conflicts should they arise. Recent research on environmental complexity has uncovered various mechanisms organizations employ when managing competing pressures and navigating different stakeholder demands. These studies on environmental complexity have mainly focused on the context of social enterprises—a particular type of hybrid organization that strives to integrate two distinct organizational forms (i.e., business and charity) at its core—and have suggested various hybrid-organizing approaches as effective strategies for facilitating resilience under increasingly complex environments (Battilana & Lee, 2014). These hybrid-organizing strategies have been shown to be effective for managing the internal and external tensions caused by environmental complexity (see Battilana & Lee, 2014 for a summary), which enrich our understanding of the mechanisms underlying resilience—mechanisms that mitigate potential tensions in day-to-day activities and avoid the escalation of these tensions into major crises.

Conversely, the resilience and crisis management literatures can also help formulate a more complete theory of hybrid organizing in social enterprises; hybrid organizing is not simply reactive to a changing environment but entails a full range of organizing processes that are both proactive and reactive, such as understanding the initial conditions (i.e., organizational endowment), preparing for/preventing adversity, and responding to triggering events. These are exciting opportunities for future research. For instance, how effective are initial resource endowments (e.g., financial slack) in mitigating the competing pressures social enterprises face? Are pluralist leaders with paradoxical thinking better positioned to navigate complex demands, make more optimal resource-allocation decisions, and mitigate the risks of internal conflicts? What are the best resolution mechanisms when potential tensions across stakeholders escalate into major disruptions (e.g., the Andhra Pradesh microfinance crisis in India and the No Pago movement in Nicaragua)? Resilience and crisis management research are well positioned to provide important insights for answering these questions.

Future Research on Mindfulness and Adversity

As we have argued, various new contingencies, such as breakdowns in information and communication

systems, have increased uncertainty and vulnerability for all organizations. Thus, all organizations can benefit from actively facilitating resilience before facing adversity even though neither the costs of adversity nor the price of being alert to surprises can really be determined in advance (Almklov & Antonsen, 2010). Some industries and organizational contexts, such as wildland firefighting, health care, and other hazardous industries (e.g., commercial aviation, nuclear power, and chemical processing) have no choice but to work constantly on their resilience (e.g., Vogus et al., 2014). As Barton et al. (2015) explained, these organizations must perform reliably despite uncertainty, thus underscoring the need to actively work to become alert and aware of emerging threats as they unfold. This collective capability to discern discriminatory detail about emerging issues and to act swiftly in response to these details (Weick et al., 1999; Vogus & Sutcliffe, 2012)—known as collective (i.e., organizational) mindfulness—is another mechanism common to both crisis management and resilience.

As Sutcliffe, Vogus, and Dane (2016) described in a recent cross-level review of mindfulness research, qualitative and quantitative studies have linked collective mindfulness to greater organizational reliability; more effective responses to near disasters, traumas, and actual disasters; and improved clinical outcomes and decreased mortality rates. Thus, research has suggested that mindfulness and the processes through which it is enabled fuel resilience. That said, a few important opportunities for future research exist that touch on both domains of inquiry. Perhaps, the most important question to be answered relates to the goals of collective mindfulness and the ultimate outcomes thereof. If higher reliability is produced through processes of mindful organizing, we should expect that organizations (or their subunits) that organize for mindfulness will experience fewer crises and be more resilient over the long term than their not-so-organized counterparts. More rigorous studies examining the effects of mindful organizing on resilience are needed, particularly in more prosaic organizational settings and contexts outside high-risk industries.

Weick et al. (1999) proposed that organizational mindfulness is not about single individuals being mindful or engaging in meditative practices, although the veracity of that claim is unsettled. The integration of crisis management and resilience positions us to better understand various relationships, such as the associations between individual and organizational resilience and individual and collective mindfulness as well as their cross-level associations.

Given that mindfulness has been found to facilitate self-regulation and reduce automatic mental processes (Glomb, Duffy, Bono, & Yang, 2011), does individual mindfulness enable attentional stability, breadth, and vividness (see Weick & Sutcliffe, 2006), which might help employees notice and/or respond to emerging threats more quickly? More studies that enhance our understanding of the link between crisis management and resilience are likely to make important contributions to organizational science.

Exploring the “Dark Side” of Resilience Research

Our final area of future research is one that was a bit of a surprise from our review, what we have labeled the “dark side” of resilience. Clearly, resilience has its benefits in enabling actors to maintain functioning in the face of adversity (Bonanno, 2004; Sutcliffe & Vogus, 2003; Van Der Vegt et al., 2015). However, it is possible that this functioning may come at a cost, which means that there is a possible “dark side” to resilience. For example, those who are more resilient typically possess (overly) positive self-conceptions [e.g., “self-enhancing biases” (Westphal & Bonanno 2007: 422)], which can “give rise to ‘positive illusions’ that enable people to be energetic and happy . . . yet may be incompatible with an honest acknowledgement of failure, and thus, while promoting happiness, can inhibit learning” (Cannon & Edmondson, 2005: 302). We anticipate that important contributions will be made by future research that explores the potential downsides of resilience and the ways these downsides might accelerate or exacerbate a triggering event.

First, negative emotions can be generated in those facing adversity, providing a clear signal that “something went wrong here” that requires attention and action (McGrath, 1999; Shepherd, 2003). Although disruptive, these negative emotions can motivate reflection on and sensemaking of causes leading up to the disruption and can ultimately generate high levels of learning (for review, see Shepherd, Williams, Patzelt & Wolfe, 2016; Ucbasaran et al., 2013). If resilient individuals are “immune” to these sensemaking triggers in the face of challenges, they may fail to attend to and act on signals indicating the need to make changes to improve individual, group, or venture performance. Future research can explore whether and how resilience influences learning from adversity: does sensemaking still occur but through other mechanisms (i.e., not triggered by negative emotions)? Perhaps

certain types of adversity (e.g., self-caused adversity, such as errors or personal failure) result in lower levels of learning for more resilient actors vis-a-vis those who experience the adversity as a major disruption.

It then becomes important to explore the cognitive and decision-making mechanisms (e.g., regulatory focus, attribution, framing) that obstruct the actor from reflecting on and learning from experiences with adversity (assuming that learning helps in preparing for and responding to subsequent adversity). Relatedly, future research can more carefully explore the role resilience plays in seeking to mitigate or curtail potential risk behavior after experiencing a near miss. When people escape a pending disaster, such as avoiding a near collision, they can interpret their experience as one of resilience (i.e., a close call, a disaster that did not occur, a crisis avoided) or one of vulnerability (i.e., a near hit, a disaster that almost occurred, a crisis narrowly averted) (March, Sproull, & Tamuz, 1991). A series of experiments by Tinsley, Dillon, and Cronin (2012) showed that when people escape disaster and frame their experience in terms of resilience (i.e., as a close call), they underestimate the danger of future similar situations and are less likely to take actions to mitigate potential risks. In other words, framing an event in a resilient way leads to more risky behaviors in the future which lead to even more devastating consequences.

Second, and related to the previous point, resilience assists actors in persisting in activities despite hardship. Although noble in many cases, there are situations in which persistence may be ill chosen, such as escalation of commitment to a losing course of action (Brockner, 1992; Ross & Staw, 1993) or the inability to overcome dysfunctional momentum to adjust actions (Barton & Sutcliffe, 2009). Furthermore, at the system or institutional level, an outpouring of well-meaning yet uncoordinated response efforts can result in the “mass assault” of decentralized activities (Perry, 1991: 202), including overabundance of volunteers, congestion of people and vehicles, information overload, and inability to effectively divide tasks and jurisdictional boundaries (Drabek, 1985; Quarantelli, 1986; Wenger et al., 1987). Future research can explore how resilience influences escalation of commitment to failing courses of action, delayed decisions to terminate poorly performing endeavors, and inability to readjust and change course. These delayed terminations may ultimately lead to a major disruption. Therefore, somewhat ironically, resilience to adversity may—under some conditions—create the basis for a subsequent major disruption.

Third, while “uniquely adaptive following exposure to” adversity, resilience tends to “be associated with at least some maladaptive characteristics in normal circumstances” (Westphal & Bonanno, 2007: 422). For example, individuals higher in resilience sometimes tend to be narcissistic and self-enhancing, evoking negative impressions in others (John & Robins, 1994) and creating a potential liability. Although these behaviors provide coping advantages during adversity, they can result in social liabilities (Bonanno, Keltner, Holen, & Horowitz, 1995; Bonanno, Rennieke, & Dekel, 2005). This type of coping is described as pragmatic or ugly coping and can include emotional disassociation (i.e., emotional numbing), which offers an escape from the negative consequences of adversity but is associated with long-term health costs (Bonanno, 2004; Bonanno & Singer, 1990). Future research can explore the conditions under which resilience is a liability as opposed to an asset for individuals, teams, and organizations. Do the social-liability characteristics associated with individual resilience transfer to the team or organizational levels of analysis? What are the costs and benefits of having resilient leaders in organizations? Does a leader’s emotional disassociation generate organizational resilience but at the cost of personal and/or organizational member functioning?

Finally, individual and organizational resilience can be purposely nurtured and developed (Sutcliffe & Vogus, 2003; Wildavsky, 1988), but doing so can be time and resource consuming (Dewald & Bowen, 2010). Individuals and organizations vary in how much attention they dedicate to adversity depending on roles (individual level), organizational objectives, and institutional environments. These attentional differences influence preparation, decision-making, and resource allocation for everyday occurrences and major disruptions (Bigley & Roberts, 2001; Perrow, 2011). Advancements in research on resilience need to account for differences in attention to adversity and link them to the capabilities, processes, and responses that constitute resilience. Understanding trade-offs between the allocation of resources for building resilience and other activities (innovation, entrepreneurship, etc.) is likely key to finding the “right” balance on this key strategic issue.

In summary, research on the dark side of resilience is virtually unexplored, and therefore provides an important and critical opportunity to extend our understanding of the role and influence of resilience in organizational life. Although resilience clearly plays a positive role in organizing in the face of

adversity, there are likely “downsides” to resilience in certain scenarios, which to date are virtually unexplored.

CONCLUSION

In this review and integration, we have sought to move crisis management away from its focus on exceptional (i.e., low-probability) events and integrate it with the concept of resilience. As our review explains, some crises may be exceptional, but some are also evolutionary. Resilience points to the means of counteracting weakening or strategic misalignment as well as responding and adjusting to triggering events. Thus, crisis and resilience are related in an essential way. By fusing these two literatures, we are in a better position to understand why some organizations successfully adjust to and even thrive amid adversity, whereas others fail to do so and how organizations transform their resilient capacities and capabilities into resilient functioning.

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