

Integrating Psychological Resilience, Stress, and Coping in Entrepreneurship: A Critical Review and Research Agenda

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Ali E. Ahmed¹ , Deniz Ucbasaran¹, Gabriella Cacciotti², and Trenton A. Williams³ 

Abstract

Despite the increasing interest in studying the concept of resilience in entrepreneurship, existing research often fails to account for stressors that induce entrepreneurs' need for resilience and coping efforts. By arguing the need to study stress, resilience, and coping together to understand how entrepreneurs build resilience in the face of adversities, we systematically review the entrepreneurship scholarship (125 articles) on these three concepts. By critically appraising these three literatures in light of current thinking in psychology, we then develop a model of the process of building psychological resilience in entrepreneurship and offer a clear pathway for future research.

Keywords

resilience, coping, stress, entrepreneurship

Individuals can experience work-related stress in response to triggers ranging in degree of severity from day-to-day work perturbations to significant adverse events such as economic crises and the COVID-19 pandemic (Harrop et al., 2020; Roux-Dufort, 2009; Turner, 1976). The ubiquity of stressors in organizational life has motivated researchers (Linnenluecke, 2017; Williams et al., 2017) and practitioners (Buckingham, 2020; Sandberg & Grant, 2017) alike to understand *resilience*,¹ which has been used to explain why some individuals *maintain functioning* (see Bonanno et al., 2011 for review) and *even thrive* (Maitlis, 2020) when exposed to stressors (i.e., “any event, force, or condition that results in physical or emotional stress”; American Psychological Association, 2020). Indeed, there has been a growing and widespread interest in understanding processes of resilience given the

¹Warwick Business School, University of Warwick, Coventry, UK

²Hankamer School of Business, Baylor University, Waco, TX, USA

³Kelley School of Business, Indiana University, Bloomington, IN, USA

Corresponding Author:

Ali E. Ahmed, Warwick Business School, University of Warwick, Scarman Rd., Coventry CV47AL, England, UK.

Email: ali.ahmed@wbs.ac.uk

damaging effects of non-resilient responses (i.e., chronic dysfunction, post-traumatic stress, etc.; Bonanno & Mancini, 2012).

As entrepreneurs need to endure, manage, and/or overcome significant and unique work-related challenges to sustain their entrepreneurial ventures (Chadwick & Raver, 2020; Hayward et al., 2010; Williams & Shepherd, 2016a, 2016b), it is not surprising that resilience as a concept has extended to the field of entrepreneurship. Entrepreneurs can experience significant stress due to the challenges posed by highly uncertain, multiplex job demands they face (Rauch et al., 2018), the intertwined nature of their work with their personal lives (König & Cesinger, 2015; Patel et al., 2019), and the ever present threat of entrepreneurial failure (Ucbasaran et al., 2013). Accordingly, in both the practitioner (e.g., Bijoor, 2019; McNeill, 2019) and academic (e.g., Baron et al., 2016; Corner et al., 2017) literatures alike, entrepreneurs are often characterized as being resilient because of the many stories of entrepreneurs persisting with their ventures despite facing considerable adversity. Indeed, there has been a significant increase in entrepreneurship studies in recent years that explicitly and implicitly reference the notion of an entrepreneur's resilience as a critical input to entrepreneurial outcomes such as venture emergence (Hayward et al., 2010) and growth (Lafuente et al., 2018) as well as individual outcomes for the entrepreneur such as positive psychological functioning (Williams & Shepherd, 2016b) and reentering entrepreneurship following failure (Williams et al., 2020).

While the popular characterization of entrepreneurs as *being resilient* appears well aligned with the reality of an entrepreneurial career (Baron et al., 2016; Corner et al., 2017), we find the concept of resilience in the entrepreneurship literature to be employed in a rather generic and ill-specified way (Korber & McNaughton, 2018), often invoked in relation to a host of other concepts such as grit and persistence.² This lack of specificity limits our understanding of resilience as a construct and its relationship with key entrepreneurial processes and outcomes. Indeed, while directly referencing the psychological nature of resilience, studies exploring resilience in entrepreneurship often deviate from current thinking at the forefront of scholarship on psychological resilience (Bonanno et al., 2015; Hobfoll et al., 2015; Liu et al., 2017; Ungar, 2021).

Perhaps the most noticeable gap between studies of entrepreneurs' psychological resilience and the psychology literature is the conceptualization of resilience and key assumptions surrounding that conceptualization (Korber & McNaughton, 2018; Williams et al., 2017). Psychological resilience is understood to be *a responsive process* that involves perceptions, thoughts, coping strategies, and behaviors in the relation to adversity (Fisher et al., 2019; Leipold & Greve, 2009; Southwick et al., 2014). A core tenet of this resilience process is that it requires accounting for a trigger (such as an adverse event) *as well as* the subjective stress responses (coping strategies) individuals have to that trigger (Roisman, 2005; Windle, 2011). Therefore, adverse events, no matter how severe, are only *potentially* rather than *de facto* stressful in their impact; resilience as a phenomenon requires a *defacto* stressor event (Bonanno, 2004; Masten & Reed, 2002; Roisman, 2005). While research on resilience in entrepreneurship frequently invokes psychological conceptualizations, systematic advancements in the entrepreneurship literature are possible only when accurately and consistently incorporating the foundations from which it draws. Recognizing resilience as a responsive process triggered by (a) stressor(s) suggests the need to shift the focus from *being* resilient to *becoming* resilient.

Although a handful of entrepreneurship studies have taken a process perspective of resilience (e.g., Gonzalez-López et al., 2019; Liu, 2020; Shepherd et al., 2020), this work is very much in the minority and even then, rarely considers resilience in response to specific stressors; a key feature of the resilience process. In contrast, we find that an entrepreneur's resilience is inferred a-priori by viewing it as a dispositional characteristic (e.g., Chadwick & Raver, 2020; Obschonka et al., 2018). In doing so, we miss *what* the entrepreneur is resilient *to*—entrepreneurs may be resilient to a particular adverse event or set of circumstances but not another (Bonanno, 2004). Furthermore, entrepreneurs

might be exposed to the same adverse event (e.g., a global pandemic) but react differently (Bonanno et al., 2015). By decoupling resilience from the adverse event (i.e., what the entrepreneur is resilient to), the focus on entrepreneurs as being resilient (or not)—as reflected in a dispositional approach to resilience—is likely to provide only a partial account of entrepreneurs' psychological resilience.

In this study, we seek to advance scholarship on resilience in entrepreneurship by systematically accounting for entrepreneurship literature related to *all facets* of the foundational conceptualization of psychological resilience. In doing so, we seek to answer the following research question: *What do we know about how and with what effects entrepreneurs become resilient, i.e. the process of building psychological resilience?* We address our research question by conducting a systematic and integrative review of the literature which was conceptually guided by resilience theories in psychology—it incorporates relevant bodies of entrepreneurship scholarship focused on (1) resilience, (2) stress, and (3) coping with stress.

In reviewing and integrating these three literatures, our paper makes three interrelated contributions. First, we provide a comprehensive understanding of the process of building resilience in entrepreneurship by bringing together the stream of entrepreneurship literature on resilience with what we argue are inseparable streams on stress and coping. Second, in doing so, we develop a model that not only provides an explicit representation of the relationships between the three concepts in entrepreneurship but also highlights existing gaps in what we know about resilience at their intersection. Third, by providing conceptual clarity, the model can serve as a roadmap for systematically advancing scholarship.

Review Methodology

We conducted a systematic review following the review process outlined by Tranfield et al. (2003). We also drew up exemplar entrepreneurship reviews (Shepherd et al., 2015; Stephan, 2018) and recent methodological recommendations for writing entrepreneurship reviews (Rauch, 2019; Shepherd & Wiklund, 2019) to guide our search, structure, and analysis of the literature. While our analysis was iterative in nature, we followed four primary steps in conducting our literature review.

Conceptual Boundaries of the Review

Our *first step* involved tracing the conceptual boundaries of psychological resilience in entrepreneurship (see Figure 1). As indicated in the introduction, our initial reading of the literature revealed distinct differences between how resilience was conceived of and measured in the entrepreneurship and psychology literatures. While inconsistently defined and applied in entrepreneurship, psychological resilience has been nearly universally described as the process of adjusting and maintaining functioning in the face of stressful events in psychology (Bonanno, 2004; Williams et al., 2017; Windle, 2011). This definition suggests that resilience can be inferred from the presence of two key indicators: an individual has faced a stressor and yet is functioning normally (Bonanno, 2004; Masten & Reed, 2002).

With respect to the first indicator, a person cannot be described as resilient without actually encountering *stress inducing conditions* (i.e., a stressor) (Britt et al., 2016; Fisher et al., 2019; Mancini & Bonanno, 2009; Roisman, 2005; Windle, 2011). Stress is a substantial imbalance between situational demands and the individual's response capacity (McGrath, 1970; Rauch et al., 2018). Following a potentially stressful situation, stress responses unfold as individuals appraise the encountered conditions as either, irrelevant, benign, or stressful (Lazarus & Smith, 1988). It is essential therefore to separate stress triggers from the experience of stress since not all triggers will be experienced as stressful. Resilience as a phenomenon is only relevant if the encountered conditions are appraised as stressful (Bonanno et al., 2012; Kennedy et al., 2010).

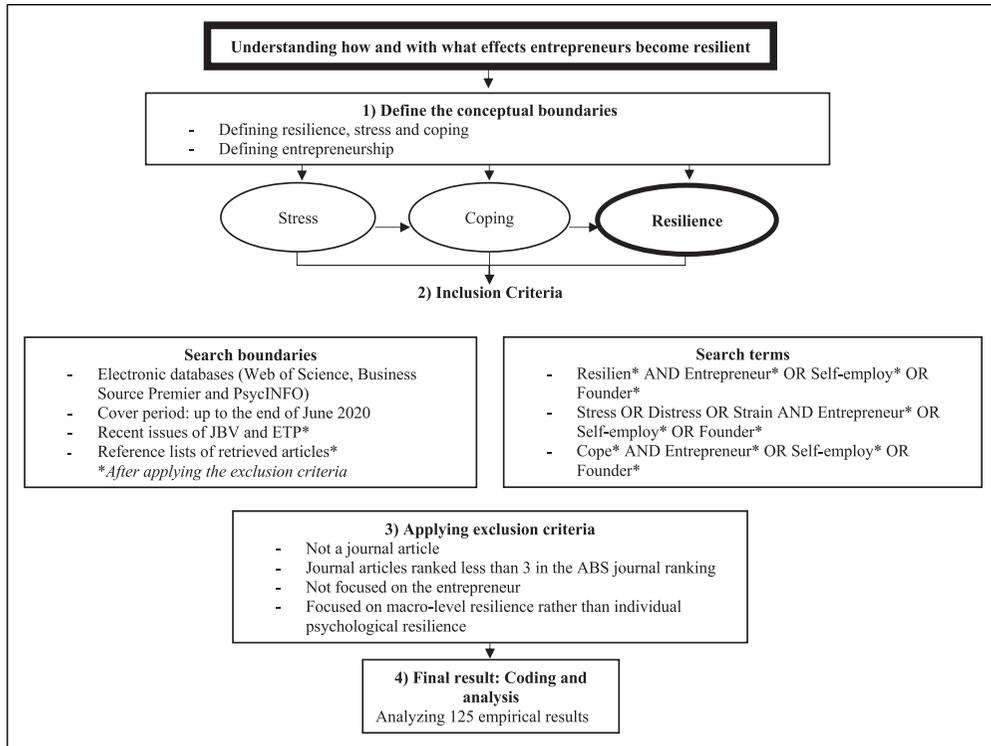


Figure 1. Summary of the systematic review process.

With respect to the second indicator of resilience (i.e., functioning normally), individuals do not simply absorb adversity and maintain functioning without efforts to minimize losses and maximize gains (Hobfoll, 1989). Resilience does not exist in isolation of attempts to mitigate stressors, and can be influenced by efforts to adaptively *cope* with disruptive stress (e.g., Folkman, 2011; Hobfoll, 2011; Lazarus, 2000; Pargament et al., 1998). Coping is defined as “the thoughts and behaviors used to manage the internal and external demands of situations that are appraised as stressful” (Folkman & Moskowitz, 2004, p. 745) and is an integral “resilience mechanism” that minimizes the impact of the stress and allows for ongoing functioning (Fisher et al., 2019; Kossek & Perrigino, 2016; Leipold & Greve, 2009). In fact, Seery et al. (2010) reported that experiencing adversity and coping with it effectively facilitates the development of resilience over time. Therefore, in the interest of understanding what we know in entrepreneurship about the process of building psychological resilience, we cannot consider this concept disconnected from stress and coping. As a result, we extended our conceptual boundaries to include the concepts of resilience, stress, and coping as they relate to entrepreneurship. Consistent with prior work (Stephan, 2018), our review was guided by a definition of entrepreneurship as a broader individual choice of self-employment as an occupation (Hébert & Link, 1982), including new venture creation.

Inclusion Criteria

The *second step* of our systematic review involved conducting a search in Web of Science, Business Source Premier, and PsycINFO databases for keywords related to our focal topic of interest. The conceptual boundaries described above guided our choice of search terms to identify

the relevant articles and included: (resilien*) (cope*) (stress*) AND (entrepreneur*) or (self-employ*) or (founder*). When reviewing the studies on stress, we realized that the terms “distress” and “strain” were both used interchangeably with stress³ and therefore added both (distress) and (strain*) to our search terms as they were within the conceptual boundaries. Further, since stress research and coping research are highly intersecting, we realized that most synonyms for coping are used in connection with the word stress such as “managing” or “dealing with” and were therefore captured when we searched for “stress.” Our search terms to capture entrepreneurship at the level of the individual are consistent with previous reviews (Stephan, 2018; Ucbasaran et al., 2013), and include entrepreneurs, founders, and the self-employed. While we acknowledge the possibility that self-employment may differ from, for example, new venture creation associated with founders/entrepreneurs, we did not detect any notable differences between these groups with respect to resilience, stress, or coping. We did not include the terms “enterprise,” “new venture,” or “small business” given our focus on the individual.

To cast a wide net given our strict criteria, our search was not bound by publication year (Stephan, 2018; Ucbasaran et al., 2013). This initial database search retrieved a very large number of results; 1299 results for resilience, 1671 results for coping, and 3739 results for stress (see the online supplement for a breakdown of the database search results).

Exclusion Criteria

The *third step* in our systematic review involved employing exclusion criteria to ensure selected articles were published in relevant academic journals and focused on our subject of interest. This process involved three systematic sub-steps. First, like other reviews (e.g., Nofal et al., 2018), we reviewed articles published in journals indexed in the most recent Chartered Association of Business Schools (ABS) Academic Journal Guide (2018).⁴ This guide provides a specialized business and management journal ranking that indicates the different quality levels of research based on expert peer review and citation information. As a proxy for high quality, we excluded articles published in journals ranked less than 3. Second, we excluded articles that did not focus on the psychological resilience of the individual entrepreneur—given our focal level of analysis. Therefore, we excluded articles focused on macro-level (environmental, ecological, economic, organization, and/or community resilience) conceptualizations of resilience, stress, and coping. When the distinction between the individual level and the business level was not clear, we excluded articles that did not draw on individual-level psychological concepts or theories related to resilience, stress, or coping. Following Hartmann et al. (2020), we excluded articles on psychological capital (PsyCap)—a positive psychological state which encompasses resilience as one of its subconstructs alongside self-efficacy, optimism, and hope (Youssef & Luthans, 2007)—unless resilience was individually examined as a subconstruct (e.g., Jancenelle et al., 2018).

Having narrowed our search, we sought to identify articles that did not emerge from our initial search, but that were referenced in articles retrieved in the search (consistent with Nofal et al. (2018) & Ucbasaran, et al. (2013)). Following Stephan (2018), we searched recent issues of *Journal of Business Venturing* and *Entrepreneurship Theory and Practice* to check for in press articles. In summary, our search eventually resulted in 33 articles on resilience, 35 articles on coping, and 76 articles on stress. There were articles in common between the three groups of results. Three articles examined resilience and coping, one examined resilience and stress, nine examined stress and coping, and three examined all three concepts (see the Venn diagram in Figure 2 for a detailed breakdown). After accounting for both the mutually exclusive articles and the articles in common, our review included 125 articles in total (see Table 1 in the Appendix for a list of the articles included).

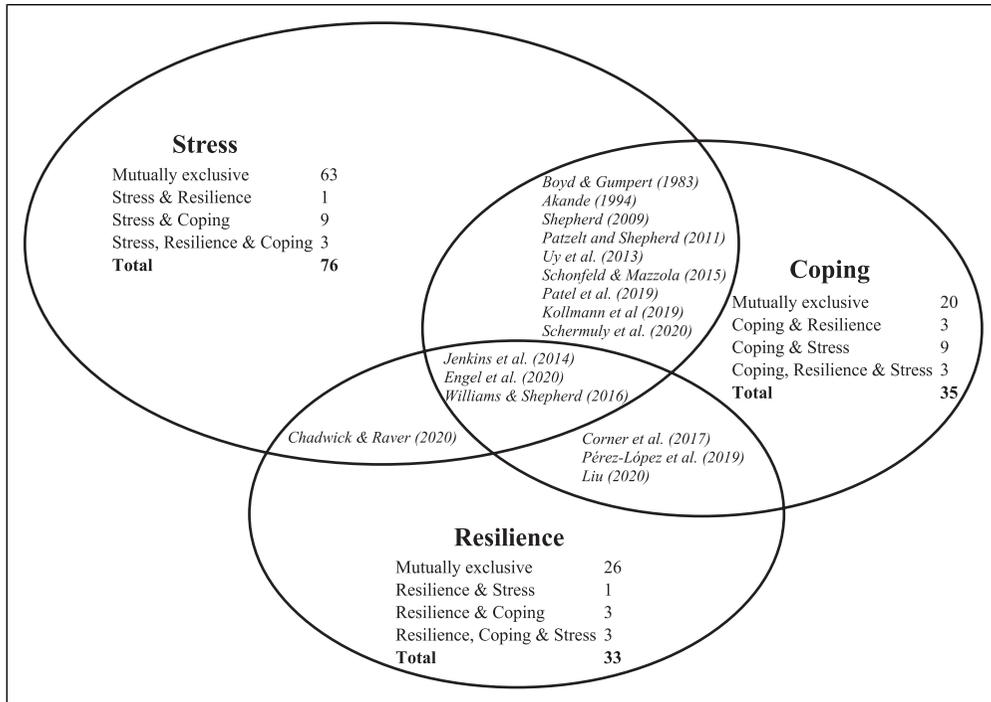


Figure 2. Venn Diagram showing the intersection between the resilience, stress, and coping literatures and a break down of the number of articles in each literature.

Coding and Analysis

Having developed a sample of articles for the review, *the fourth step of our systematic review* involved summarizing the key findings of all articles and coding for their conceptualization of resilience, stress and coping, their theoretical base, and research methods. After reading and analyzing each of the articles, we identified the main studied variables and their relationship to each of the reviewed concepts, which provided us with a “picture” of how variables interrelate according to the literature.

In general, we found that these identified variables either sought to explain the determinants of resilience, stress and coping, and/or their effects. This insight from our sample led us to categorize the variables by their primary focus, namely, by *antecedents* and/or *outcomes* of resilience, stress, or coping⁵. In addition, for the stress literature, we noticed that there were variables focused on mitigating stress (including coping), so we added a category for *mitigating factors*. Further, within the coping literature, we identified a sub-set of articles with a distinct focus on how entrepreneurs cope with stress and therefore added a category for *coping strategies*. We then engaged in inductive qualitative coding to cluster the variables under each category into themes (e.g., social support and culture were clustered under “social factors” in the resilience literature). Articles could include more than one theme (e.g., examined cognitive and emotional antecedents of resilience) and/or fall into more than one category (e.g., examined both antecedents and outcomes). See [Figure 3](#) for a breakdown of themes and categories for each stream of literature. The online supplement includes a full summary of the reviewed articles and coding results.

[Figure 3](#) also serves to illustrate the building blocks which form the basis for the organizing framework for our review. The figure includes the numbers of articles in each category and its

Stress				Coping				Resilience			
Antecedents (53)				Antecedents (14)				Antecedents (20)			
	T	E	C		T	E	C		T	E	C
Work characteristics	39	36	3	Personal factors / experiences	10	6	4	Emotional factors	5	4	1
Family-work conflict	9	9	-	Social support	5	4	1	Cognitive factors	8	8	-
Business & financial difficulties	4	3	1	Strategies (26)				Prior adversity experience	6	5	1
Life hardships	3	3	-	Emotion-focused	12	10	2	Social factors	7	6	1
Mitigating Factors (41)				Problem-focused	23	19	4	Entrepreneurial Action	4	4	-
Psychological traits & capacities	12	12	-	Outcomes (18)				Outcomes (22)			
Social support	12	12	-	MWB	9	8	1	Performance	11	11	-
Mitigating actions	18	16	2	Resilience	4	4	-	Re/engaging in entrepreneurship	8	7	1
Outcomes (36)				Sensemaking	4	1	3	MWB	3	3	-
MWB	15	14	1	Re/engaging in entrepreneurship	4	3	1				
Engaging in/ withdrawal from entrepreneurship	14	13	1	Performance	2	1	1				
Performance	5	4	1								
Other outcomes	3	2	1								

Figure 3. Organizing framework for the entrepreneurship research on resilience, stress, and coping. T = Total, E = based on empirical data, C = purely conceptual and did not contain data and empirical analysis. Articles can fall into more than one theme under each category.

underlying themes, and delineates between conceptual and empirical articles. A framework that includes antecedents, mechanisms, and/or outcomes is commonly used in systematic reviews of psychological concepts in the entrepreneurship field including psychological capital (Newman et al., 2014), cognition (Grégoire et al., 2011) and mental health and well-being (Stephan, 2018), and in psychology such as Fisher et al.’s (2019) review of resilience in organizations. Importantly, however, as our review includes three research streams, this organizing structure allowed for a degree of consistency across our review of each stream and helped reveal areas of overlap and connection between the three concepts which we used to derive our integrative model of the process of building resilience (see Discussion). We now turn to the findings of our review.

Review Findings

Psychological resilience and entrepreneurship

While most entrepreneurship studies have conceptualized resilience as a capacity that individuals can draw on when confronted with adversity (e.g., Bullough et al., 2014; Doern, 2016), some have been specific about whether this capacity is more of a state, a personality trait, or a process. For example, some studies (Chadwick & Raver, 2020; Obschonka et al., 2018) have conceptualized resilience as a relatively stable personality trait involving “... stable patterns of behaving, feeling and thinking” (Obschonka et al., 2018, p. 176) which is very much aligned with the view of entrepreneurs being more or less resilient, irrespective of the nature of adversity. Others have treated resilience as a state-like capacity which can be developed (Luthans et al., 2007) [along with other subconstructs of PsyCap (e.g., Cascio & Luthans, 2014; Jancenelle et al., 2018)]. Finally, only a small number of emerging studies (4 of 33 studies) have taken a process view where resilience is viewed as “the process by which an actor 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” (Williams et al., 2017, p. 742) [see also Wiklund et al. (2018) and Shepherd et al. (2020)]. This process-oriented definition portrays psychological resilience as a dynamic

construct, where individuals develop capabilities for resilience (i.e., stocks of resources) to adapt and adjust to adversity (Pangallo et al., 2015). As such, this last conceptualization of resilience is much more consistent with the idea that entrepreneurs build psychological resilience as they cope with the stressors.

Antecedents of Resilience. Our review revealed 20 studies exploring the antecedents of entrepreneurs' resilience. We classify these antecedents as emotional, cognitive, prior adversity experience, social, and entrepreneurial action, which function as factors that shape resilience.

Emotional factors (5 studies). Some studies have shown that entrepreneurs' resilience can be generated by reducing the negative emotions accompanying adversity and/or building positive emotions to offset these negative emotions. Hayward et al. (2010) suggested that the entrepreneur's positive emotions can build cognitive resilience (the formation of positive thoughts), social resilience (the perseverance of the social ties with the founding team members), and financial resilience (the ability to raise funds) after failure. Branzei and Abdelnour (2010) also explained how the positive emotions following the reduction of terrorism can help build the resilience of individuals as they (re)engage in entrepreneurship. Similarly, Engel et al., (2020) built on Fredrickson et al.'s, (2008) work on loving-kindness meditation showing that entrepreneurs who practice this form of meditation develop self-compassion (positive emotions and caring toward one's self), which builds their resilience in the face of threats to their ventures. Entrepreneurs might also resort to emotion-focused coping to build resilience, which includes strategies that reduces distress by avoiding or distancing one's self from the stressor (Corner et al., 2017) or containing the resulting negative emotions and focusing on the positive experiences (Doern, 2016).

Cognitive factors (8 studies). Our review revealed a number of cognitive antecedents of resilience including perceptions, mindsets, confidence, and problem-focused coping. Some studies examined resilience in relation to the perception of risk. Liu (2020) argued that entrepreneurs' different interpretations of risk can lead to different ways of building resilience. Dewald and Bowen (2010) found that among entrepreneurs who face disruptive business model innovations, those who are more likely to perceive the situation as both a threat and a business opportunity are more likely to display resilience. Drawing on Ajzen's theory of planned behavior (1991), González-López et al. (2019) found that entrepreneurship education increased the resilience of university students by enhancing their perceived behavioral control. Moreover, Doern (2016) showed the effect of mindsets (core assumptions that shape one's thoughts (Yeager & Dweck, 2012)) on resilience and found that anticipating crises and containing its effects (mentally) was key to the resilience of small businesses owners after the 2011 London riots. As for confidence, Hayward et al. (2010) suggested that it can enable positive emotions which, as previously explained, can build entrepreneurs' resilience after failure.

Cognitive-focused coping strategies (a form of problem-based coping) emphasize solving the problems associated with a stressor (Folkman & Moskowitz, 2004) and can also enhance entrepreneurs' resilience. Corner et al. (2017) found that while entrepreneurs who had failed employed emotion-based coping strategies in the immediate aftermath of failure, they later employed some cognitive tools to shift from overthinking about the failure to reconstructing and moving on in their path to resilience. Cognitive-focused coping strategies thus enable entrepreneurs to visualize a fresh start and identify new opportunities (Muñoz et al., 2019).

Prior adversity experience (6 studies). Some studies build on the notion of "what does not kill you makes you stronger" (Seery et al., 2010) in seeking to explain how prior experiences of adversity shape the development of resilience. Previous business risk experience enabled resilience as it enhanced the relationship between opportunity perception and the decision to adopt new business models in response to a disruption (Dewald & Bowen, 2010; Osiyevskyy & Dewald,

2015). Muñoz et al. (2019) illustrated, for example, how the accumulated experience from business survival after previous volcanic eruptions was key to entrepreneurial preparedness and resilience.

Beyond business-related challenges, non-business hardship can also influence resilience. Wiklund et al. (2018) posit that entrepreneurs experiencing and coping with mental illness can help build the resilience needed to successfully engage in entrepreneurship. Linking the two forms of experience together, entrepreneurs who lost their businesses or whose businesses were vandalized and looted were able to draw on their previous life hardship or tragedies, such as poverty or death of loved ones, to reframe failure as manageable and thus reduce negative feelings (Corner et al., 2017; Doern, 2016). The accumulation of previous hardship experiences can encourage the development of the emotional and cognitive factors highlighted above that are needed to adapt to current hardship.

Social factors (7 studies). The availability of social resources also shapes entrepreneurs' resilience. For example, perceived social support for engaging in entrepreneurship increased entrepreneurs' resilience (González-López et al., 2019). Newman et al. (2018) drew on Conservation of Resources (COR) theory (Hobfoll, 1989) and found that the business network of entrepreneurs can be a source of support that boosts entrepreneur's psychological resources, namely, their resilience and self-efficacy. Being part of a family business can also enhance entrepreneurs' resilience through the social support enabled by the inherent values of collectivism and bonding (Hanson & Keplinger, 2020; Memili et al., 2013; Powell & Eddleston, 2017). At the community level, Muñoz et al. (2019) found that emotional attachment to and engagement with one's community, and creating new community groups can help build resilience. At a more macro-level, culture norms in which entrepreneurs operate can also influence resilience. Liu (2020) found that while entrepreneurs from eastern cultures adopted a causal approach in building resilience, others influenced by western cultures adopted an effectual approach. Tlaiss and McAdam (2020) reported that Muslim women entrepreneurs rely on their religious beliefs to build resilience.

Entrepreneurial action (4 studies). A small number of studies develop the notion that entrepreneurship is an activity that not only develops economic resources but also psychological functioning in response to adversity (Nikolaev et al., 2020). Williams and Shepherd (2016b) extended their work on compassion venturing (i.e., venturing to alleviate the suffering of others) (Shepherd & Williams, 2014; Williams & Shepherd, 2017) to investigate its benefits for the individual entrepreneur. Drawing on COR theory (Hobfoll, 1989), they found that those who deployed their human capital (founding experience, education and work experience) to create new ventures that sought to alleviate the suffering of others benefited from positive behavioral (competence in executing personal and social tasks), emotional (experiencing positive emotions), and assumptive (positive life beliefs) functioning. On a similar note, Shepherd et al.'s (2020) resilience model suggests that the entrepreneurial actions of refugees under persistent adversity can be both an antecedent and a consequence of resilience. They found that entrepreneurship facilitated positive functioning reflected in some outcomes including self-reliance, proactive problem solving, as well as realistic optimism and multiple sources of belonging for refugees outside of camps. Reciprocally, this functioning enhanced their entrepreneurial actions. Along similar lines, Knutsson (2016) revealed that business ownership can transform the mindset and identity of people living with HIV Aids by enabling them to lead a less dependent and more responsible life.

Critique. Entrepreneurship research has identified a number of antecedents of resilience. When examining these studies, we made the following observations. First, many of the studies deployed research designs that could be deemed problematic for explaining how resilience is built in entrepreneurship. On the one hand, even though resilience is conceptualized as a capacity that can

be developed, the most frequently used measure of resilience was based on Sinclair and Wallston's (2004) Brief Resilient Coping Scale. However, this scale is based on a conceptualization of resilience as an outcome of a set of *dispositional* skills. On the other hand, the cross-sectional nature of most studies (13 of 17 empirical studies) makes it hard to explain the causal link between the various antecedents and resilience. Together, these research design issues mean that extant studies in entrepreneurship are unable to adequately explain the *mechanisms* underpinning the development of resilience; instead, they largely highlight association between a variety of variables and psychological resilience. For example, it is not clear how business networks enable the entrepreneur to build resilience (Newman et al., 2018) or how engaging in entrepreneurship can play different roles for individuals to build their resilience (Shepherd et al., 2020).

Second, several entrepreneurship studies, including those that define resilience as a process (Gonzalez-López et al., 2019; Liu, 2020), have examined antecedents of resilience without considering the extent and nature of the adversity context (9 of 20 studies) and importantly, whether the adversity is appraised as stressful. This can be problematic because stress induced by adversity is a core precursor to resilience (Mancini & Bonanno, 2009) and the relationship between resilience and its antecedents emerges in a dynamic interaction with the specific adverse environment (Windle, 2011). Therefore, efforts to examine the antecedents of resilience can be seriously hampered if resilience is not operationalized appropriately (e.g., by relying on trait-based measures). Further, resilience is about dealing with experienced adversity rather than just with being exposed to adverse events. "The term resilience is misleading if a stressor would not be expected to normatively tax an individual's adaptive resources and lead to maladaptation if left unchecked" (Roisman, 2005, p. 264).

Finally, emerging work on post-disaster venturing finds that under conditions of extreme adversity, engaging in entrepreneurship can hold psychological benefits for the entrepreneur (Shepherd et al., 2020; Williams & Shepherd, 2016b). These studies highlight a reciprocal relationship between resilience and entrepreneurship such that entrepreneurship can be both an antecedent and an outcome of resilience. Despite this finding, there are few studies that explore this processual, recursive relationship. We explore this theme further in the next section and then expand on it in our research agenda.

Outcomes of resilience. Our review revealed 22 studies that examined how resilience influences various outcomes for entrepreneurs and their ventures. We classify these outcomes into performance, re/engaging in entrepreneurship, and well-being outcomes.

Performance (11 studies). The most frequently studied outcome of resilience is individual and venture-level performance. For example, resilience has been shown to improve household income and reduced the disadvantages faced by entrepreneurs (Branzei & Abdelnour, 2010). At the venture level, Santoro et al., (2018) reported that the entrepreneur's resilience can have a direct positive effect on perceived firm success. Taking this study one step further, Santoro, Messeni-Petruzzelli, et al., (2020) reported a positive impact of employee resilience on the firm's perceived performance but that this relationship was stronger when the entrepreneur reported a higher level of resilience. Resilience was also found to positively moderate the effect of other factors on performance such as the impact of self-efficacy on both individual and venture success among mentally and physically challenged entrepreneurs (Santoro, Ferraris, et al., 2020). Finally, signaling resilience on crowdfunding platforms helped entrepreneurs shorten the length of time to acquire desired funds, as resilience attracted lenders (Jancenelle et al., 2018). These studies suggest that entrepreneurs' resilience can have a direct or indirect effect on (perceived) firm performance.

Resilience was also shown to enhance both venture survival and growth. Chadwick and Raver (2020) found that resilience is positively associated with venture survival; resilient entrepreneurs

appraised adversity as challenging rather than threatening and this appraisal enabled their pro-activity which in turn lead to venture survival. In a similar vein, resilience of entrepreneurs can help them with the decision to change business models in response to disruptive change (Dewald & Bowen, 2010; Osiyevskyy & Dewald, 2015). It is worth noting, however, that resilience might not be the only route to survival following adversity; (Davidsson & Gordon, 2016) found that although the nascent entrepreneurs in their study survived the 2008 financial crisis, they had not engaged in any significant behavioral or creative responses. As for growth, Lafuente et al., (2018) labeled those who re-engage in entrepreneurship after a previous failure experience as resilient serial entrepreneurs. They found that they were more likely than their novice counterparts to internationalize their ventures as they benefit from enriched cognitive schemas resulting from their failure experiences.

Re/engaging in entrepreneurship (8 studies). Another outcome of resilience is the decision to (re)engage in entrepreneurship, which is a critical action that captures the valuable learnings from a business failure (Williams et al., 2020). Resilience has a positive effect on entrepreneurial intentions (González-López et al., 2019; Pérez-López et al., 2019). There has been an interest in looking at this role of resilience alongside self-efficacy in post-adversity contexts. Bullough et al. (2014) adopted a socio-cognitive perspective (Benight & Bandura, 2004) as they showed that self-efficacy interacts with resilience to increase the likelihood of entrepreneurial intentions by reducing the effect of perceived danger on these intentions in a war environment. Following this line of thought, Obschonka et al., (2018) found that the resilience and self-efficacy of refugees positively impacted entrepreneurial alertness which in turn, influenced entrepreneurial intentions. In the family business context, the resilience of entrepreneurs can form a legacy that facilitates transgenerational entrepreneurship and shape the strategic activities of their successors (Jaskiewicz et al., 2015). While there is limited empirical work on the role of resilience for re-engaging in entrepreneurship following adversity, Hayward et al. (2010) proposed that emotional, cognitive, social, and financial resilience can enable subsequent venturing after failure. Finally, the one study that examined the resilience of institutional entrepreneurs suggested that resilience is the most vital PsyCap resource needed for creating change and transforming institutions in extreme conditions as the entrepreneur grows following hardship (Cascio & Luthans, 2014).

Mental health and well-being (3 studies). Finally, some entrepreneurship studies associated resilience with a number of mental health and well-being (MWB) outcomes. Resilience mediated the effect of self-employment (Nikolaev et al., 2020) and business networks (Newman et al., 2018) on entrepreneurs' subjective well-being. Jenkins et al. (2014) explained how resilience in particular can explain how PsyCap can buffer stress (Baron et al., 2016). They argued that the resilience capacity, gained by previously experiencing and overcoming adversity (Luthar et al., 2000), reactivates self-efficacy, hope, and optimism (Luthans et al., 2007). This explains why entrepreneurs with prior experience of failure can have less negative perceptions of failure and less negative effects on their MWB (Jenkins et al., 2014).

Critique. While the scholarship on resilience is advancing, there are a number of limitations that need to be addressed in future research. First, like studies of the antecedents of resilience, that vast majority of studies on the outcomes of resilience are cross-sectional in their design (18 of 21 empirical studies). Psychologists caution against reliance on single sources of data and/or measurement of resilience at a single point in time arguing that resilience may be artefactual, instead calling for consideration of a range of outcomes (Rutter, 1999; Windle, 2011). We share the same concerns and add that capturing resilience as being built over time as opposed to a one-time measurement can open up to the possibility of inter-individual variation in entrepreneurs' resilience outcomes. For example, resilience outcomes resulting from engaging in entrepreneurship

in the aftermath of an adversity (Shepherd et al., 2020) can vary if we account for the entrepreneurs' longitudinal functioning and previous adversity experiences.

Second, we found the entrepreneurship literature has predominantly focused on the positive outcomes of resilience, highlighting how resilience can act as a shield against the negative states that an entrepreneur is highly susceptible to and in turn, have a positive association with an entrepreneur's MWB as well as their performance. It is possible, however, that resilience may not always yield positive outcomes for the individual when we take into consideration research on other psychological characteristics. For example, just as being over-optimistic may hinder venture performance (e.g., Hmieleski & Baron, 2009), being "over-resilient" may have adverse effects on entrepreneurs and their ventures.

Finally, we see again that nearly half the studies on the outcomes of resilience (10 of 22 studies) examined these outcomes in isolation of an experience of stress. As explained earlier, this can be problematic as measuring entrepreneurs' resilience without accounting for the impact caused by a particular stressor (e.g., Santoro et al., 2018) is incomplete. For example, while resilience had a positive effect on the success of entrepreneurs with certain mental and physical challenges (Santoro, Ferraris, et al., 2020), this might hold true in other contexts where adversity is of an acute or more severe nature.

Stress and Entrepreneurship

In building on our findings from resilience, we next sought insights by reviewing the entrepreneurship literature on stress to provide the groundwork for our integration of this related-yet-disconnected concept which is key for building resilience. Stress research in entrepreneurship spans many decades (Eden, 1975), and remains of interest to researchers studying the health and well-being of entrepreneurs (Stephan, 2018). Recent work has examined stress as a process that underlies and goes hand in hand with the entrepreneurial process (see Rauch et al., 2018). We reviewed and organized the research on stress and entrepreneurship into the antecedents of stress, the outcomes of stress, and mitigating factors (i.e., factors that help entrepreneurs respond to and reduce stress).

Antecedents of stress. The result of our inductive coding revealed 53 studies focused on the antecedents of stress for entrepreneurs, which included work characteristics, family-work conflict, business/financial difficulties, and life hardship.

Work characteristics (39 studies). The majority of the research on stress in entrepreneurship has looked at the characteristics of the work entrepreneurs engage in as the source of stress. Drawing on Karasek's (1979) Job Demand-Control (JD-C) Model, many of the studies we reviewed examined characteristics such as job demands, job control, autonomy, and role ambiguity based on the model's assertion that stress is a product high job demands and low job control. Among these, 24 compared samples of entrepreneurs with employees, seeking to identify if entrepreneurship is more or less stressful than employment, producing mixed results. While some studies have found that entrepreneurs experience higher stress than employees (e.g., Cardon & Patel, 2015; Dolinsky & Caputo, 2003; Jamal, 1997; Lewin-Epstein & Yuchtman-Yaar, 1991; Patel et al., 2019), others have found that they experience less stress than employees (e.g., Baron et al., 2016; Hessels et al., 2017; Kaldenberg & Becker, 1992) (see Stephan, 2018 for a review and the supplementary document for a full analysis of the these papers). By comparing samples of entrepreneurs with those who are employed, these studies infer that the nature of the entrepreneurs' work is somewhat distinct from salaried employment. However, by comparing two quite heterogeneous groups, it can be hard to identify work characteristics specific to entrepreneurship that can be a significant source of stress.

One group of studies complement the work comparing entrepreneurs with employed individuals by examining some of the work and individual characteristics of entrepreneurs(hip) that can induce stress. These studies have revealed how conflicts with partners and subordinates (Akande, 1994), perceived work overload (De Clercq et al., 2016; Stroe et al., 2018), fear of failure (Stroe et al., 2020), and changes in demand and control over time (Totterdell et al., 2006) represent stressors for entrepreneurs. Monsen and Wayne Boss (2009) examined the effect of the dimensions of entrepreneurial orientation on stress and found that risk taking can increase role ambiguity (an aspect of job stress) while innovation can reduce it. However, Giannikis et al. (2019) reported a negative overall effect of entrepreneurial orientation on job stressors. Early research on entrepreneurial stress identified the need for achievement as a stress source (Akande, 1994; Boyd & Gumpert, 1983) since a high motivation to work can lead to an overload of psychological demands and accumulates stress. The entrepreneur's inability to disengage from work, a component of workaholism, is a work-related stressor (Taris et al., 2008). Spivack and McKelvie (2018, p. 360) likened entrepreneurship addiction—"compulsive engagement in entrepreneurial activities"—to workaholism, suggesting it can either hinder the ability to cope with stress or be an additional source of stress. Finally, Kibler et al. (2019) found that prosocial motivation in commercial entrepreneurs—a drive to provide help to others outside of direct work-increased stress as this motivation can conflict with business requirements. However, their perceived autonomy at work weakened this relationship.

Work-family conflict (9 studies). A second theme of research on the antecedents of stress among entrepreneurs stems from trying to balance work and family demands. Conflicts arising from the family role affecting the work role (family-to-work conflict) and the work role interfering with the family role (work-to-family conflict) (Greenhaus & Beutell, 1985) can act as stressors that affect the career and well-being of entrepreneurs (Parasuraman et al., 1996). König and Cesinger (2015) found that entrepreneurs experience strain-based work-to-family conflict as they are consumed by thoughts about their work, and time-based family-to-work conflict as there is a family pressure to be more available. Werbel and Danes (2010) and Kwan et al. (2012) drew on COR theory to explain how families can both contribute to resource gains as well as consume and deplete the entrepreneur's resources (Hobfoll, 1989, 2001). Werbel and Danes (2010) found that strain experienced by the entrepreneurs' spouse can intensify the entrepreneur's experience of strain from work and family conflict. In contrast, Kwan et al. (2012) found that while family-to-work conflict can be a stressor for entrepreneurs, this was not the case for family business owners as the family functioned as a social and business support resource. Finally, some studies have explored the notion that female entrepreneurs experience higher work-family conflict than men due to the cultural prioritizing of their gender and family role. While some findings showed that achieving the balance between the family and the business is a stress factor for women (Ufuk & Özgen, 2001), others showed that self-employed women experience low stress from role conflict (Mannheim & Schiffrin, 1984).

Business and Financial difficulties (4 studies). Some studies focused on how financial hardship and business failure induce stress. Facing financial hardships depletes entrepreneurs' resources and increases stress (Annink et al., 2016; Chadwick & Raver, 2019). On the other hand, Shepherd (2003) explored how grief can be an extreme negative emotional response to business failure similar to the experience of losing a loved one, which leads to stress and is accompanied by other secondary stressors such as trying to find a job or selling a house. Similarly, entrepreneurs often personalize and internalize the firm failure, associating it with personal failure, which intensifies grief and stress (Jenkins et al., 2014).

Life hardships (3 studies). Finally, a handful of studies explored general life hardships outside of the business context that can act as an antecedent of stress. For example, studies explored how poverty (Venugopal et al., 2015) and layoffs (Ma, 2015; Virick et al., 2015) can induce stress,

which influence entrepreneurial intentions, an issue we return to in our discussion on the outcomes of stress. Indeed, there is an opportunity to better integrate scholarship on general stress/resilience and stress/resilience in entrepreneurship.

Critique. Research on the antecedents of stress in entrepreneurship has been dominated by studies on work characteristics, frequently based on comparing entrepreneurs (self-employed) with the employed (Patel et al., 2019; Hessels et al., 2017). However, the evidence is mixed as to which group experiences more stress, suggesting further refinement of the research question is needed. The lack of a consensus could be due to overlooking or approaching differently the assessment of the nature of stress in terms of its timing and duration. For example, while some stressors can persist for entrepreneurs, others are linked to the phase of business development. Such considerations in understanding the antecedents of entrepreneurs' stress are key for understanding their subsequent responses and resilience building (Bonanno et al., 2015).

Moreover, there has been limited attention to other adversities unrelated to the venture where antecedents (i.e., triggers) of stress come from other life domains. This has restricted our understanding of the psychological impact of adversities such as natural and man-made disasters, and life-threatening individual incidents (e.g., deadly diseases), and the entrepreneur's subsequent responses such as how they might influence coping and the building of resilience. There is also limited attention devoted to stress experienced prior to engaging in entrepreneurship. Overlooking these stressors limits our understanding of how entrepreneurship can be an outcome of or response to stress (e.g., Ma, 2015) or a resilience building mechanism (e.g., Williams & Shepherd, 2016a, 2016b). We elaborate on this point in our next section.

Outcomes of stress. 36 studies on entrepreneurship and stress focus on four main outcomes of stress: Mental health and well-being (MWB), engaging in/withdrawal from entrepreneurship, performance, and other outcomes. We review the papers in these sub-sections and articulate the primary themes that emerged from our analysis.

Mental health and well-being (15 studies). The entrepreneur's MWB has been one of the main studied outcomes of stress. While some have looked at the umbrella concept of MWB, others explore more specific indicators of MWB such as job satisfaction, life satisfaction, and physical health (Stephan, 2018). Unsurprisingly, work stress had a negative direct effect on the MWB of entrepreneurs (Baron et al., 2016; Chay, 1993; Parslow et al., 2004) as well as more specific indicators such as life satisfaction (Tetrick et al., 2000; Kibler et al., 2019) and job satisfaction (Kwan et al., 2012). By inducing stress, financial hardship also decreased the subjective well-being of entrepreneurs (Annink et al., 2016) while coaching attenuated it (Schermuly et al., 2020). Other research reveals the negative impact of stress on physical health: Kollmann et al. (2019) found that entrepreneurial stressors are positively associated with insomnia. Patel et al. (2019) found that allostatic load (a biological indicator of stress) mediated the negative impact of self-employment on physical health. On a more positive note, Williams and Shepherd (2016b) revealed that engaging in the aforementioned post-disaster compassion venturing can improve the well-being of individuals by buffering against the stress stemming from the disaster.

Engaging in/withdrawal from entrepreneurship (14 studies). Stress is reported to have mixed effects on the intention to engage and engagement in entrepreneurship. Individuals can develop entrepreneurial intentions or actions when experiencing major stressors such as losing their jobs (Ma, 2015; Virick et al., 2015) or facing poverty constraints (Venugopal et al., 2015; Wolfe & Patel, 2017). Yiu et al. (2014) found that experiencing past stressful events drives engagement in social entrepreneurship as a sentimental reaction. However, stress can have a negative impact on entrepreneurial actions in organizations. Perceived work overload (De Clercq et al., 2016) and stress signals from managers (Brundin et al., 2008) can deter the entrepreneurial behaviors of employees. For entrepreneurs, Stroe et al. (2018) found that role overload (i.e., high workload that

exceeds one's abilities and imposes time pressure) led to intense engagement in entrepreneurial activity resulting in obsessive passion.

In contrast, entrepreneurs experiencing economic stress and role ambiguity (an antecedent of stress) reported greater intentions to withdraw from entrepreneurship (Pollack et al., 2012; Monsen & Wayne Boss, 2009, respectively). Similarly, Andringa et al. (2016) identified stress as one of the factors that motivated the transition from entrepreneurship to paid employment.

Performance (5 studies). A small number of studies explore the relationship between stress and entrepreneurial performance and reveal somewhat mixed results. While stress had a positive impact on the entrepreneur's income (Cardon & Patel, 2015), it has been shown to negatively affect perceived venture performance (Soenen et al., 2019; Teoh & Foo, 1997). However, employing stress coping tactics such as engaging in routinized physical exercise appear to mitigate the adverse effects of stress (Goldsby et al., 2005). These mixed results echo Rauch et al.'s (2018) finding of an insignificant relationship between stress and performance when quantifying the results of a number of entrepreneurship studies.

Finally, our review revealed additional *outcomes (3 studies)* associated with stress in the entrepreneurship process. Shepherd (2003) suggested that the less grief (and therefore less stress) entrepreneurs feel after failure, the more they can learn from information about their loss. Similarly, physiological and mental recovery from stress facilitated the creativity of entrepreneurs (Weinberger et al., 2018). Further, De Clercq & Dakhli (2009) found that sources of personal strain shaped the ethical standards of the self-employed.

Critique. Entrepreneurship research shows that stress can have psychological and behavioral implications for entrepreneurs. Although the outcomes of stress are mainly negative, there are some understudied positive outcomes that occur after experiencing stress (e.g., post-traumatic growth [Maitlis, 2020]). While stress has short-term negative effects on well-being due to discrepancies between current and desired states, coping efforts are often employed to reduce that discrepancy, leading to long-term positive outcomes of stress (Carver & Scheier, 1982) that are indicative of resilience such as enhanced cognitive functioning and imagination (Byron et al., 2010; Sandi, 2013). Similarly, stress inoculation theory suggests that facing stressful events enhances coping skills and resilience leading to successful handling of future experiences of stress (Meichenbaum, 1985). These insights can explain why, for example, entrepreneurs who manage failure successfully despite experiencing negative emotions at the time can benefit from long-term positive outcomes (Lafuente et al., 2018; Shepherd & Patzelt, 2017).

In summary, the mixed findings in entrepreneurship research on the effect of stress on various outcomes may be indicative of missing variables (Rauch et al., 2018). In light of our previous findings on the outcomes of resilience, resilience is likely a critical factor in shaping positive outcomes from stress such as improved performance and engagement in entrepreneurship. Examining stress, along with coping and resilience might elucidate the relationship between stress and entrepreneurial outcomes. These connections can be clarified by first considering the stress mitigating factors to which we now turn.

Mitigating factors. Our review revealed three main factors that allow entrepreneurs to mitigate stress through their direct and/or moderating effects on stress (41 studies). These factors include psychological traits and capacities, social support, and mitigating actions.

Psychological traits and capacities (12 studies). PsyCap as well as some of its subconstructs were found to mitigate stress. Baron et al. (2016) found that higher PsyCap of entrepreneurs reduced their emotional exhaustion and cynicism (Roche et al., 2014) and in turn helped in decreasing their stress. PsyCap can also play a moderating role in buffering the stress resulting from failure for entrepreneurs who have experienced prior failure (Jenkins et al., 2014). In terms of the PsyCap subconstructs, optimism negatively moderated entrepreneurs strain resulting from

high job demands and low job control (Totterdell et al., 2006). Evidence also showed that self-efficacy attenuated the stress associated with poverty, which in turn encouraged entrepreneurial intentions (Venugopal et al., 2015).

Others have focused on the role of a number of personality traits in mitigating stress. The entrepreneur's locus of control can have a direct negative relationship with stress (Rahim, 1996) or an indirect mitigating effect through enhancing social support (Chay, 1993). High tolerance for ambiguity, risk-taking propensity (Teoh & Foo, 1997), and positive trait affect (Cardon & Patel, 2015) can also counteract the negative impact of role stress. Furthermore, openness to change enhanced the positive appraisal of the layoff before developing entrepreneurial intentions (Virick et al., 2015).

Social support (12 studies). Social support from family members, friends, or others can help entrepreneurs mitigate the negative impact of stress. Indeed, entrepreneurs with more social ties suffered less from the impact of economic stress, and subsequently, their ventures were more likely to survive (Pollack et al., 2012). Some studies have examined entrepreneur's perceived social support to focus on their perception of the extent to which this social ties can provide the necessary resources to effectively respond to stress (Cohen & Wills, 1985). While Chay (1993) and Tetrick et al. (2000) found that perceived social support negatively moderated the stress arising from job demands and reduced its negative impact on well-being, Rahim (1996) found that social support had a direct negative relationship with both job stressors and their psychiatric symptoms. However, there are some findings that suggest entrepreneurs receive less social support than employees due to the absence of direct supervisors and peers (Rahim, 1996; Tetrick et al., 2000); highlighting that entrepreneurs may have to look beyond their immediate work place for sources of social support.

Klyver et al. (2018) differentiating between types of social support and find that emotional support is more effective for entrepreneurial persistence during the early venture development phase while instrumental support (e.g., information and tangible assistance) is more effective for younger entrepreneurs. Both support types can help individuals who had been laid off overcome stress and transition into entrepreneurship. Emotional support from affection-based social circles mitigated the stress of the layoff (Ma, 2015) and job-finding support from organizations facilitated the positive appraisal of the layoff (Virick et al., 2015). Finally, social trust reduced the negative impact of financial hardship on the entrepreneur's well-being (Annink et al., 2016).

*Mitigating actions (18 studies)*⁶. Some work and non-work-related actions have been found to mitigate stress. Non-work-related actions include exercising (Goldsby et al., 2005), mindfulness (Murnieks et al., 2020; Roche et al., 2014), as well as sleep which can facilitate physiological recovery and combat exhaustion (Murnieks et al., 2020; Weinberger et al., 2018). Among work-related actions, Yamakawa and Cardon (2017) showed that contingency planning can help entrepreneurs better disengage psychologically after their firms were in distress. Nevertheless, Weinberger et al. (2018) found that pondering solutions to business problems after work enables mental recovery. These findings might suggest that the magnitude of the stressor (firm distress vis-à-vis day-to-day business problems) may require different types of stress mitigating strategies. Temporal flexibility at work (i.e., freedom in choosing when to do things) had a negative relationship with the entrepreneur's life stress (Bluedorn & Martin, 2008). Examining both work-related and unrelated actions, Blonk et al. (2006) showed that combining both cognitive behavioral therapy and workplace-intervention decreased psychological complaints among entrepreneurs with stress-related disorders.

Critique. The stress literature has highlighted some key internal and external factors that influence how entrepreneurs deal with stress. We noticed that these factors overlap with the antecedents of resilience we identified earlier. For example, just as social support and various stress mitigation actions can help minimize the detrimental effects of stress, they can also drive the

entrepreneur's resilience. This lends support to our earlier argument that experiencing stress is a pre-condition for building resilience because the capacity for positive adaptation is closely linked to the extent to which the individual is able to cope with stress (Britt et al., 2016; Shoss et al., 2018). However, the link between resilience and mitigating stress has not been made explicit in entrepreneurship; an issue we seek to address below.

We also observed that most of the studies we reviewed do not examine the feedback loop that unfolds after mitigating stress; how one deals with stress now can affect future coping with stress (Almeida, 2005; Williams et al., 2017). The route through which we can make the link between stress and resilience is by examining coping (Fisher et al., 2019; Leipold & Greve, 2009). The concept of coping can help explain *how* some of the aforementioned mitigating factors of stress operate as well as how stress leads to some of the outcomes we reviewed above. In fact, many of the mitigating actions can be seen as ways of coping with stress (see Figure 2 for the intersection of stress and coping). We now turn to entrepreneurship research that has focused on coping with a view to explicating the relationships between resilience, stress, and coping.

Coping and Entrepreneurship

Within the body of entrepreneurship research on mitigating stress, there is a dedicated literature on coping in entrepreneurship which largely draws on coping theories in psychology (e.g., Lazarus & Folkman, 1984; Stroebe & Schut, 1999). By definition, the concepts of coping and stress are related. However, despite the relationship between stress and resilience identified earlier (i.e., that resilience emerges in response to stress), our review revealed only three studies where the three concepts are explored together. We organize our review on coping under three broad headings; the coping strategies themselves, the antecedents of coping, and the outcomes of coping for entrepreneurs.

Coping strategies. We identified a number of ways through which entrepreneurs cope with stress (27 out of 35 studies) variously referred to as coping mechanisms or strategies. Early studies found that entrepreneurs manage stress by first acknowledging its existence, adopting coping strategies then reflecting on their stress experiences and their needs (Akande, 1994; Boyd & Gumpert, 1983). Several studies adopted Lazarus and Folkman's (1984) seminal typology of coping strategies. Accordingly, coping strategies can be *emotion-focused* (12 studies) or *problem-focused* (23 studies). Emotion-focused coping involves changing the relation to the stressor by distancing one's self from it to limit the associated negative emotions, while problem-focused coping involves acting to change the situation itself. Schonfeld and Mazzola (2015) found that entrepreneurs generally use problem-focused strategies more frequently than emotion-focused strategies. Examples of problem-focused strategies included changing business practices, seeking help from outsiders, and using diplomacy. Emotion-focused strategies included self-talk, meditation, religion and exercising. Although Schonfeld and Mazzola (2015) found that entrepreneurs generally use problem-focused strategies more frequently than emotion-focused strategies, as we will explain below, others have investigated the role of both strategies for mental health (Patzelt & Shepherd, 2011; Uy et al., 2013), physical health (Patel et al., 2019), in response to failure (Byrne & Shepherd, 2015; Corner et al., 2017), and after traumatic experiences (Haynie & Shepherd, 2011). Building on Lazarus and Folkman's typology, we can identify other strategies that fall under problem-focused or emotion-focused coping.

Thinking in terms of metaphors can act as a problem-focused strategy for coping with uncertainty for entrepreneurs. Metaphors facilitate communicating abstract concepts and reducing the equivocality of novel situations (Hill & Levenhagen, 1995; Johannisson, 2011) by conceptualizing a domain of experience in terms of another domain (Wee & Brooks, 2012). Other

strategies involve engaging in behaviors to cope with specific problems. Angel investors, who tend to be former entrepreneurs, resorted to problem-focused coping in the form of working harder to cope with the stress associated with their investments' performance (Duxbury et al., 1996). Older entrepreneurs coped with the problem of social exclusion by negotiating to change discriminating opinions, changing their reference groups, or just avoidance (Kibler et al., 2015). More recently, Gomes et al. (2018) have suggested that entrepreneurs can go beyond individual coping strategies to deploy collective learning experiments in order to cope with uncertainties perceived collectively by partners.

Bricolage and effectuation can also be viewed as problem-focused coping strategies in entrepreneurial settings. Johannisson (2011) and Keating et al. (2014) highlighted the role of bricolage as a way of creatively coping with ambiguity by identifying new uses of resources and social activity. As explained earlier, entrepreneurs varyingly utilized effectuation and causation as cognitive logics that guide their resilience-building coping strategies (Liu, 2020). Effectuation can facilitate competition as a strategy to cope with uncertainty (Galkina & Lundgren-Henriksson, 2017).

On the other hand, three studies examined specific emotion-focused coping strategies and these tended to focus on failure. Loving-kindness meditation can help entrepreneurs overcome the negative emotions linked to fear of failure (Engel et al., 2020). Entrepreneurs can cope with the intense negative emotions associated with failure through emotion regulation (Shepherd et al., 2009). Shepherd (2009) suggests that entrepreneurs can cope with the grief resulting from the loss of family businesses by oscillating between confronting loss and avoiding it.

Critique. More than half of the studies reviewed (14 of 26 studies) are about either coping with uncertainty or just coping with general stress. Although uncertainty is an antecedent of stress in entrepreneurship (Rauch et al., 2018), it is important to understand how entrepreneurs cope with other specific sources of stress (e.g., failure and traumatic events) which are psychologically taxing due to actual loss or shocks. Further, despite being a seminal typology, there are alternative theories and typologies to Lazarus and Folkman's (1984) problem-focused and emotion-focused coping typology that can reveal further mechanisms for dealing with different types of stress (cf., Folkman, 2011; Folkman & Moskowitz, 2004). We also observed that many coping strategies overlap with the antecedents of resilience identified earlier. For example, Corner et al. (2017) have shown how both emotion-focused and problem-focused coping strategies form the micro-processes that build the entrepreneur's resilience after failure, suggesting further scope for exploring the relationship between coping and resilience following adversity.

Antecedents of coping. Our analysis revealed that the antecedents of coping (14 of 35 studies) revolved around two main themes: personal factors/experiences and social support.

Personal factors/experiences (10 studies). Differences in personal abilities can shape coping approaches. Both coping self-efficacy and coping heuristics enhances cognitive abilities to cope with uncertainty (Lanivich, 2015) and grieving from failure (Shepherd et al., 2009). In a similar vein, reliance on cognitive biases, including illusion of control and generalizing from small samples of data, can help entrepreneurs cope with the risk of starting a venture (Simon et al., 2000). Shepherd (2009) suggested that emotional capability at the family level and emotional intelligence at the individual level are positively related to grief regulation ability after family business loss. Further, Frese et al. (1997) reported that personal initiative—behaviors of proactive and persistent nature—are associated more with problem-focused coping than emotion-focused coping. Jennings and McDougald (2007) suggested that gender differences can affect coping as work-family conflict pushes female entrepreneurs to adopt coping strategies that prioritize their family over their business.

Entrepreneurs' previous experiences can help the accumulation of entrepreneurial knowledge and skills that can increase their ability to cope with the obstacles of managing new ventures (Politis, 2005). Past experiences with hardships like losing loved ones can enable entrepreneurs to deploy emotion-focused coping strategies that help reframe failure (Corner et al., 2017). Jenkins et al. (2014) found that appraising failure as associated with loss of self-esteem and financial strain restricts entrepreneurs' ability to cope well. However, the tendency to appraise failure in this way was lower for portfolio and hybrid entrepreneurs compared to those who had only one firm as their sole occupation.

Social support (5 studies). Similar to the stress buffering factors, we identified additional studies which explored the role of social capital and support in enabling coping. Although Shepherd, Covin et al. (2009) suggested that social support can help corporate entrepreneurs develop their coping self-efficacy, Schermuly et al. (2020) failed to detect a significant effect of coaching, as a social support tool, on coping. However, coaching indirectly facilitated coping by changing the entrepreneur's appraisal of stressful situations to be more positive. Social networks, family, and friends formed a resource that enabled coping in unstable institutional contexts (Welter et al., 2018).

Critique. Relative to coping strategies and the outcomes of coping, the antecedents of coping have received less attention. We therefore know very little about what determines the use of each type of coping strategy compared to how entrepreneurs cope. Noticeably, although appraisal shapes the experience of stress (Lazarus & Folkman, 1984), only two studies focused on how appraisal shapes coping (Jenkins et al., 2014; Schermuly et al., 2020). Appraising a situation as taxing and stressful is what triggers the coping process followed by an appraisal of one's available resources and coping options (Lazarus & Folkman, 1984; Park & Folkman, 1997). However, we did notice that many of the antecedents of coping appear to overlap with the antecedents of resilience, highlighting that coping and resilience are inextricably linked (Coifman, Bonanno et al., 2007). We observed a similar pattern when analyzing the outcomes of coping which we review next.

Outcomes of coping. Most of the entrepreneurship research on coping has focused on its benefits in five main areas (18 studies): Mental health and well-being, resilience, sensemaking, re/engaging in entrepreneurship, and performance.

Mental health and well-being (9 studies). Similar to stress research, MWB was the most frequently studied outcome of coping. Uy et al. (2013) found that while avoidance coping (a type of emotion-focused coping) increased the immediate well-being of experienced entrepreneurs, it decreased the immediate well-being of less experienced entrepreneurs. Over time, however, well-being improved by coupling active (problem-focused) coping and avoidance coping. Most of the work on coping has focused on the emotional aspects of well-being. Using both types of coping reduced entrepreneurs' negative emotions (Patzelt & Shepherd, 2011), attenuated fear of failure (Engel et al., 2020), and helped in managing negative emotions after failure in a timely manner (Byrne & Shepherd, 2015; Shepherd, 2009). Recent work has also examined physical well-being. Patel et al. (2019) reported that using problem-focused coping reduced allostatic load. Meanwhile, Kollmann et al. (2019) found that the accumulated coping skills of experienced entrepreneurs did not reduce the impact of stressors on insomnia.

Resilience (4 studies). Coping has been examined in relation to resilience. As explained earlier, coping can be an underlying mechanism that determines the resilience trajectories of entrepreneurs (Corner et al., 2017; Liu, 2020). Emotion-focused coping strategies like meditation can build entrepreneurs' resilience (Engel et al., 2020). Following Sinclair and Wallston (2004), Pérez-López et al. (2019) associated coping behaviors with resilience as key factors behind deciding to engage in entrepreneurship. We expand on these findings in our integrative model to illustrate the interrelation between coping and resilience.

Sensemaking (4 studies). Coping, for example, through the use of metaphors can help individuals make sense of events (Hill and Levenhagen, 1995). While limited in number, the bulk of the work exploring the relationship between coping and sensemaking has explored sensemaking after failure events. Building on Shepherd's (2009) work suggesting that coping with grief can support sensemaking and learning, Byrne & Shepherd (2015) demonstrated that utilizing emotion-focused coping to deal with the negative emotions associated with failure enhanced sensemaking. However, Shepherd (2009) noted that prolonged coping with grief can reduce learning and making sense of the business loss.

Re/engaging in entrepreneurship (4 studies). Coping can influence the decision to (re)engage in entrepreneurial action, often by lowering perceived risk (Pérez-López et al., 2019; Simon et al., 2000). Haynie and Shepherd (2011) found that combining both emotion-focused and problem-focused coping strategies is vital for a successful transition into entrepreneurship after traumatic life events. Further, after experiencing failure, coping through emotional regulation can enable reengagement in entrepreneurial projects (Shepherd et al., 2009).

Performance (2 studies). Finally, the limited evidence that exists suggests that coping strategies can affect venture performance. Lanivich (2015) found that entrepreneurs reporting a coping heuristic oriented toward developing, acquiring, and protecting resources, were associated with greater venture performance and perceived success. Conversely, strategies that female entrepreneurs use to cope with work–family conflict might negatively affect their business growth potential (Jennings & Mcdougald, 2007).

Critique. Our review of the coping literature has revealed the various outcomes that can unfold when entrepreneurs cope with stress and that many of these outcomes mirror the outcomes of resilience. Our review also literature shows that resilience and coping are so entwined that some resilience scales have been used to measure entrepreneurs' coping behaviors (Pérez-López et al., 2019) and resilience itself is one of the outcomes of coping (e.g., Corner et al., 2017). This suggests, once again, that these concepts need to be studied altogether to understand their impact on entrepreneurship but that the relationship between the three concepts needs to be explicated to enable conceptual clarity.

Discussion: An Integrative Model

We began this study seeking to answer the following question: *What do we know about how and with what effects entrepreneurs become resilient, i.e. the process of building psychological resilience?* We answer this question with an integrative model (see Figure 4) which offers a visual representation of what we know about how entrepreneurs build resilience (i.e., become resilient), what factors interfere with this process, and what entrepreneurial outcomes result from this process. This model also serves as the foundation for a research agenda to address the most pressing gaps in our current understanding.

To build our model we adopted an abductive approach involving interplay between our data (i.e., the literatures we reviewed) and theory (i.e., psychological theories of resilience) (Van Maanen et al., 2007). Specifically, we adopted a three-step process. In the first step, we used psychological resilience theories to guide our literature review [i.e., establish the core relationships that resilience has with stress and coping (see Figure 1 and the discussion on conceptual boundaries in our review methodology)] and critique this literature. For example, in our model we illustrate coping strategies as a mechanism that builds resilience based on this established relationship in psychology (e.g., Mancini & Bonanno, 2009; Fisher et al., 2019). However, we contextualized, grounded, and corroborated this relationship in entrepreneurship by examining the extent to which the antecedents of resilience aligned with the coping strategies and stress mitigating actions that we identified in our review of the entrepreneurship literature.

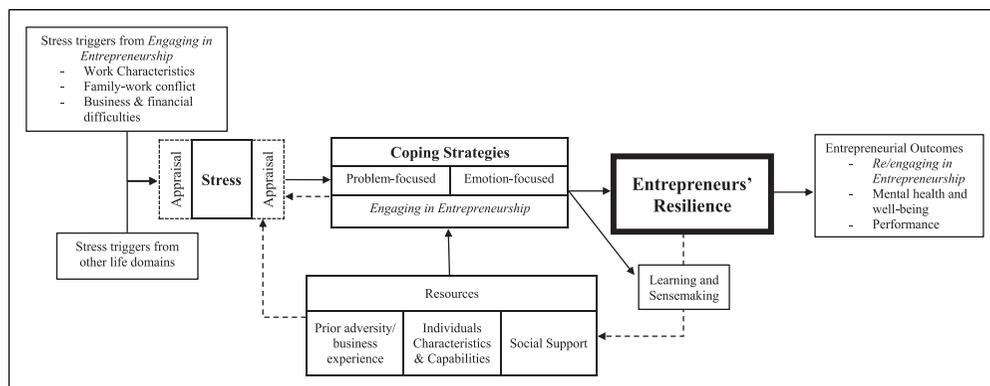


Figure 4. An integrative model of the process of building resilience in entrepreneurship. Solid lines indicate the studied concepts and relationships. Dashed boxes and arrows indicate understudied relationships that we added to the model.

We then built on the knowledge from the above in our second step, where we analyzed the entrepreneurship literatures on resilience, stress, and coping (i.e., our data) to reveal areas where these three concepts intersect and connect. First, while many of the studies in the three streams take place in adversity contexts, stress research in particular explains how adverse factors (i.e., stress triggers) can generate the psychological experience of stress and this represents the starting point for our model. Second, we reveal answers to the question of how entrepreneurs respond to stress (i.e., cope) in aspects of all three literatures; the “emotional and cognitive antecedents” of resilience intersect with “coping strategies” identified in the coping literature and “stress mitigating actions” highlighted in the stress literature (see Figure 3). Figure 3 highlights other intersections among the three literatures with respect to factors influencing responses to experienced stress such as individual level factors (e.g., “psychological traits and capacities” (in stress), “personal factors/experiences” (in coping) and “prior adversity experience” (in resilience) and social factors (labeled “social support” in stress and coping). Finally, as for the outcomes, we see that resilience is an outcome of coping with stress, and that there is significant overlap in the outcome variables (MWB, engaging in entrepreneurship and performance) associated with all three concepts.

In the third step, we then went back to theories of resilience to identify and make sense of gaps in our knowledge about the process of building resilience in entrepreneurship. Specifically, based on advances in psychology and management research, we added two understudied relationships in our model that can help explain how entrepreneurs (vary in how they) build resilience (see dashed boxes and arrows). While *appraisal* initially establishes that the encountered adversity is stressful (Lazarus & Folkman, 1984), individuals also vary in appraisals of their coping ability and re/appraisals of their coping options (Lazarus & Smith, 1988). Hence, appraisal processes can be a vital mechanism that determine the choice of coping strategies and thus, how resilience is built (Bonanno et al., 2012; Mancini & Bonanno, 2009). Also, while we identified sensemaking as an outcome of coping in our review, sensemaking may also play an important role in explaining the recursive nature of the entrepreneurs’ resilience process through a *resilience feedback loop* (Almeida, 2005; Williams et al., 2017). As entrepreneurs encounter both business and life adversities, they are engaged in ongoing sensemaking and learning that shape their resources and how they appraise and cope with future stressors.

Although a small number of entrepreneurship studies have started to examine parts of the process of building resilience in entrepreneurship (e.g., Corner et al., 2017; Williams & Shepherd, 2016b),

we seek to offer a more comprehensive understanding of this process and provide greater conceptual clarity through our abductively developed model (see [Figure 4](#)). The process starts with facing triggers which are appraised as stressful. Prior to engaging in entrepreneurship, individuals may have faced stress resulting from different life domains (e.g., poverty and natural disasters). If they coped effectively with this stress, they are likely to have built resilience which they can then draw upon to take the decision to engage in entrepreneurship (here, entrepreneurship can be seen as an outcome of the process triggered by the original life stressor). Alternatively, these individuals might engage in entrepreneurship as a strategy to cope with this life stress (e.g., compassion venturing). When individuals engage in entrepreneurship, they can then adopt problem-focused (e.g., business pivoting and partnerships) and/or emotion-focused strategies (e.g., exercising and meditation) to cope with new stress resulting from their entrepreneurship experience. To cope with stress, entrepreneurs can draw on their personal characteristics and capabilities, social support (e.g., business networks and coaching), and their previous business-related and/or life experiences of adversity. Changes in these resources can lead to reappraising the situation and changing coping strategies. These coping experiences help entrepreneurs build resilience which can in turn, enhance their MWB as well as the performance of their ventures, and, as explained earlier, a resilience feedback loop can unfold.

Our integrative model can be considered as a conceptual foundation for future entrepreneurship research seeking to advance scholarship on the hermeneutic relationship between resilience and entrepreneurship.

Research Agenda

Building on our integrative model, we propose five research avenues that are most likely to advance theory on resilience in entrepreneurship and serve as a guide for the design of empirical research.

Specifying the Nature of Stress and Examining Other Life Domains

In our review, we have highlighted that a significant part of the existing research in entrepreneurship studies resilience as an ex-ante concept that decouples resilience from a specific stressor. Indeed, resilience studies need to account for the experience of stress in order to explain how resilience unfolds. However, as each stressful situation can lead to a different resilience path with a different set of coping strategies to reach a resilient outcome ([Pangallo et al., 2015](#)), specifying the nature of stress becomes important. The stressors entrepreneurs face can vary in terms of life domain, timing in relation to entrepreneurial activity, and duration. There is considerable scope, therefore, to examine a wider range of stressors and how they might shape entrepreneurs' resilience processes.

Contexts with a mass impact such as natural disasters (e.g., famines, epidemics, and pandemics), man-made disasters (e.g., wars, terrorist attacks, and forced migration), and individual incidents (e.g., experiencing life-threatening incidents, a deadly disease, and domestic abuse) hold considerable potential for better understanding entrepreneurs' resilience against stressors of different magnitudes and nature. Further, these stressors can vary in timing; occurring before or during entrepreneurial activity. For example, by examining pre-entrepreneurship stressors, we will be in a better position to deepen our understanding of variation in entrepreneurs' resilience. Those who have had to cope with significant stress prior to engaging in entrepreneurship may have a greater repertoire of coping strategies at their disposal which helps them build resilience for entrepreneurship and therefore supports them along their entrepreneurial journey. Alternatively, others might use entrepreneurship as a mechanism for building resilience against such stressors—again highlighting the dynamic relationship between entrepreneurship and stressors ([Williams & Shepherd, 2016b, 2021](#)).

Accounting for the duration of stressors also provides opportunities to better understand entrepreneurs' resilience, as acute stressors (e.g., loss of a loved one) and chronic stressors (e.g., ongoing

abuse) are associated with different resilience trajectories (Bonanno et al., 2015; Bonanno & Diminich, 2013). Bonanno and Diminich (2013) identified a minimal-impact resilience trajectory following acute stressors where return to functioning is rapid and an emergent trajectory for chronic stressors with gradual, slower return. Similarly, what might the resilience process look like for an entrepreneur facing a natural disaster compared to one facing a chronic disease. Further, what might the resilience process look like when faced with both types of stressors. For example, how might a refugee entrepreneur deal with the stress of closing down a business (acute) during a pandemic (chronic)?

Engaging in Entrepreneurship to Build Resilience

While there has been a strong emphasis on entrepreneurs being or becoming resilient, we see significant opportunities for exploring how entrepreneurial activity itself can be a mechanism (i.e., vehicle) for building resilience. Our findings have shown that whereas resilience can be an antecedent of engaging in entrepreneurship, there is limited research showing how resilience can also be an outcome of entrepreneurship. Building on the work on compassion venturing (Williams & Shepherd, 2016a, 2016b) and venturing during persistent adversity (Shepherd et al., 2020), scholars might usefully examine how engaging in entrepreneurship can help individuals cope with various stressors. For example, engaging in entrepreneurship can be seen as a problem-focused coping strategy for someone who is suffering from the effects of economic deprivation (Venugopal et al., 2015), or it might represent an emotion-focused coping strategy that psychologically distracts from significant traumas or persistent stress. Entrepreneurship may therefore create or preserve a sense of mastery by exercising control over a life domain after losing it in another domain (Taylor, 1983). The sense of ownership of a business and managing others can make up for the loss of resources in other areas of life (e.g., loss of home, marriage breakdown, etc.) (Hobfoll, 1989) and have emancipatory effects (Ruebottom & Toubiana, 2021).

Similarly, engaging in entrepreneurship may facilitate the development of coping to address other life adversities and building resilience (Shepherd & Patzelt, 2015). This can help us understand the significance of the resilience feedback loop we suggested in the integrative model as we can examine how entrepreneurs can learn from their entrepreneurial experience, and draw on the abilities and resources they garnered from it to face stressors in other life domains.

Certain forms of entrepreneurship that involve supporting others such as compassion venturing (Williams & Shepherd, 2016b) and prosocial entrepreneurship (Shepherd et al., 2020) may involve humanitarian coping (coping with work stressors by doing good to others) (Schonfeld & Mazzola, 2015) and buffer every day stressors (Raposa et al., 2016). We also encourage researchers however, to be mindful of findings on stress associated with prosocial motivation (see Kibler et al., 2019). Further, a more communal perspective on resilience might lead to individuals refraining from utilizing certain coping strategies in response to adversity if they fear that this may cause distress in others (Wells et al., 1997). For example, might entrepreneurs compromise their own coping in order to help others (such as employees or family members) cope with an adverse situation such as having to close down a business? And if so, how does this affect building resilience for the entrepreneurs themselves?

Heterogeneity in Entrepreneurs' Resilience Trajectories

Within the existing literature, we have found a lack of explanation of the mechanisms through which entrepreneurs build resilience. Accordingly, our integrative model lays down key mechanisms which not only shows how entrepreneurs build resilience, but also how they do this differently. Different trajectories of resilience are likely to exist as we know that the nature of the stressor (as discussed above), differences in appraisals (Olf et al., 2005), coping strategies

(Mancini & Bonanno, 2009), and pre-adversity functioning (Bonanno et al., 2015) can shape the resilience process. We encourage future research on these potential differences.

First, a key research question relates to how different appraisals can shape the resilience process for entrepreneurs. Addressing this question may benefit from adopting the challenge-hindrance stressor framework (Cavanaugh et al., 2000) which suggests that workplace stressors appraised as challenges are linked to problem-focused coping and building resilience while stressors appraised as hindrances are linked to coping through venting and reduced resilience (Crane & Searle, 2016; Searle & Auton, 2015). Further, why might entrepreneurs differ in their appraisals of stressors? For instance, the global meanings that individuals hold (their basic beliefs and assumptions about life, the self, and one's life goals) can influence their appraisals of the personal significance of a stressful situation as they compare the situation's meaning to these beliefs (Park & Folkman, 1997). Self-enhancement, a value associated with entrepreneurial tendencies (Liñán et al., 2016; Morales et al., 2019), has been found to facilitate resilience despite its social costs (Bonanno et al., 2005). Little is known, however, about how self-enhancement influences entrepreneurs' appraisal of stressful situations and how they build resilience. Finally, since appraisal is a multi-stage mechanism (Lazarus & Folkman, 1984; Park & Folkman, 1997), we see value in building on Schermuly et al.'s (2020) study and further scrutinizing the appraisal process to see what can change the entrepreneur's appraisal of a stressor and how this can affect if and how they build resilience.

Second, we see opportunities to reveal differences in resilience trajectories among entrepreneurs by going beyond Lazarus and Folkman's (1984) widely-adopted typology of coping strategies. For example, other models that depart from coping in response to experienced stress to include more future-oriented coping (Schwarzer & Knoll, 2003) might help better understand entrepreneurs' preparation for anticipated stressors (Williams et al., 2017) such as approaching an off-season period or facing a potential market crisis. Religious coping (drawing on religion in appraising and responding to events) also represents an integral dimension of the coping process which can add to our understanding of the entrepreneur's resilience when facing major stressors (Pargament, 1997, p. 310).

Additional Resilience Outcomes

We have shown that the currently studied outcomes of entrepreneur's resilience can be deemed too narrow and sometimes inaccurate due in part to overlooking stress contexts and in part to the cross-sectional nature of most of the research. Thus, first, we see scope to revisit the main manifestation of resilience: maintaining functioning (Bonanno, 2004; Williams et al., 2017) by asking "what does it mean for an entrepreneur to maintain functioning?" To answer this, we suggest researchers investigate two sub-questions.

The first sub-question is: "How can functioning be observed?" Entrepreneurs can exhibit functioning through their behaviors, emotions, and beliefs (Williams & Shepherd, 2016b). For example, Shepherd et al. (2020) took self-reliance, being a proactive problem solver and having a broad purpose as evidence of refugee entrepreneurs' functioning. Future research can examine other ways to observe functioning. The second sub-question is: "What was the baseline or pre-adversity functioning of the individual and how does it compare to post-adversity functioning?" With the exception of Williams and Shepherd (2016b) and Corner et al. 2017, few studies account for pre-adversity functioning, however, not doing so is problematic because it is not possible to discern if an entrepreneur's functioning is restored, improved, or diminished after experiencing a stressful encounter. If some individuals have low pre-adversity functioning that is left unidentified, it might appear that they are experiencing a dysfunctional response to the adversity even though they might actually be functioning normally (Bonanno et al., 2015; Mancini et al., 2011). Some individuals might also experience post-traumatic growth (positive psychological change resulting from

the adverse experience) (Tedeschi & Calhoun, 2004). So, research can, for example, examine the conditions that can facilitate entrepreneurs' experience of post-traumatic growth.

Second, we believe that sensemaking is a critical area that warrants further attention. In the only empirical study we identified, Byrne and Shepherd (2015) found that entrepreneurs who experienced consistent positive emotions after failure (which they took to indicate high resilience) actually reported limited sensemaking about the failure. This suggests a potential dark side of resilience (Williams et al., 2017). Does rapid return to functioning obstruct making sense of stressful events? When does resilience facilitate entrepreneurs' sensemaking and when does it obstruct it? Further, as current research does not establish causality, future research should also be mindful of the potential role that sensemaking might play in returning to normal functioning.

Third, we echo Williams et al.'s (2017) call for considering the potential long-term maladaptive outcomes of drawing on certain psychological capacities and/or adopting certain coping strategies (such as repressive coping) despite the initial advantages they offer for building resilience. For example, while self-enhancement might help entrepreneurs cope with adversity, it is also associated with narcissism and negative perceptions from others (Bonanno et al., 2005; Paulhus, 1998) which might limit the ability to draw on social support that can also aid coping. Therefore, might the liabilities of self-enhancement outweigh the assets? Or might the maladaptive effects of self-enhancement be less relevant for entrepreneurs if self-enhancement supports entrepreneurial action (Morales et al., 2019)?

Finally, we suggest going beyond the outcomes for the individual entrepreneur to examining the impact on employees, the team, and/or the venture. How might the resilience process of the entrepreneur influence that of employees in adversity contexts, and what happens when they differ? For example, what are the consequences if entrepreneurs and their employees appraise an adverse event differently so that one party perceives it as a threat while the other perceives it as a challenge? Is this tension beneficial or detrimental? Similarly, future research can explore the same questions for entrepreneurial teams facing adversity. How can the resilience process and its mechanisms take place collectively? Research can examine the antecedents and outcomes of collective cognitive mechanisms (West, 2007) as well as collective emotions (Cardon et al., 2012), and how does the entrepreneurs' resilience align with their ventures' resilience? How do they shape each other?

Research Design

Our review leads to some recommendations that can help entrepreneurship researchers design quantitative and qualitative studies to examine the process of building resilience. First, as resilience is a response process triggered by stress, researchers need to make sure they study resilience in research settings where adversity has unfolded or is unfolding as suggested above and that they select individuals who have experienced the adversity as psychologically taxing (i.e., stressful) rather than those who are just at risk of experiencing stress (Roisman, 2005).

Second, we call for more longitudinal entrepreneurship studies on resilience to facilitate causal inference and dynamic considerations. Such designs have been crucial in psychology where studies have shown distinct longitudinal and prospective trajectories of responses to life stressors (Bonanno et al., 2002, 2005; Mancini et al., 2011). As resilience can change over time (e.g., some people might show signs of normal functioning but then experience a delayed negative reaction) (Pangallo et al., 2015), longitudinal entrepreneurship studies can capture this dynamism, its reasons, and effects. Moreover, since entrepreneurial activity, stress, and resilience are not mutually exclusive, longitudinal studies are required to investigate how and at what point these constructs interplay to influence one another.

Tracking resilience over an entrepreneur's life time, not just whilst s/he is an entrepreneur, might contribute to a richer understanding of resilience as suggested by a life course perspective (Elder, 1998) as it is important to account for entrepreneurs' past experience with stressors

(Bonanno et al., 2007) even if these stressors are unrelated to their entrepreneurship experience. Such a perspective might enrich our understanding of how entrepreneurs' resilience develops (Bonanno et al., 2015; Fisher et al., 2019). However, for longitudinal quantitative studies, we encourage researchers to adapt resilience scales which are of high psychometric quality and align with a more comprehensive understanding of resilience as a process rather than a trait (see Pangallo et al., 2015 and Windle et al., 2011 for methodological reviews of resilience scales).

Similarly, qualitative research designs can probe the lives of entrepreneurs before, during, and after adversities. This can be facilitated using a life story approach in data collection where research participants outline and narrate their life stories (McAdams, 2008; Peacock & Holland, 1993). Drawing on historical data like archival records can also capture a life course perspective of resilience. Process studies (Langley et al., 2013) that utilize longitudinal and/or participant observation data might usefully shed light on the mechanisms for building resilience such as appraisal. As a sensemaking tool, narratives can give meaning to the post-adversity transition as it effectively structures one's psychological state and social relationships (Neimeyer, 2006); potentially very useful for studying coping and resilience. Narratives about experiencing and dealing with stressful events can also reveal novel coping strategies (Folkman & Moskowitz, 2004).

Conclusion

The main goal of our review was to provide a clear understanding of the process of building psychological resilience in entrepreneurship. We have sought to achieve this goal by bridging resilience with the key constructs of stress and coping where the former is the key trigger of the resilience process and the latter is its core underlying mechanism. We took stock of the entrepreneurship literature on the three concepts and amalgamated our findings in an integrative model. Our model guided us to identify a number of promising research opportunities that can advance entrepreneurship research on resilience to stressors.

Appendix

Table 1. Articles Included in the Systematic Review.

<i>Resilience</i>	<i>Stress</i>	<i>Coping</i>
Dewald & Bowen (2010)	Eden (1975)	Boyd & Gumpert (1983)
Branzei & Abdelnour (2010)	Boyd & Gumpert (1983)	Akande (1994)
Hayward et al. (2010)	Mannheim & Schiffrin (1984)	Hill & Levenhagen (1995)
Cascio & Luthans (2014)	Lewin-Epstein & Yuchtman-Yaar (1991)	Duxbury et al. (1996)
Jenkins et al. (2014)	Kaldenberg & Becker (1992)	Frese et al. (1997)
Bullough et al. (2014)	Chay (1993)	Simon et al. (2000)
Osiyevskyy & Dewald (2015)	Akande (1994)	Politis (2005)
Zou et al. (2016)	Parasuraman et al. (1996)	Jennings & Mcdougald (2007)
Jaskiewicz et al. (2015)	Rahim (1996)	Shepherd et al. (2009)
Knutsson (2016)	Teoh & Foo (1997)	Shepherd (2009)
Williams & Shepherd (2016b)	Jamal (1997)	Haynie & Shepherd (2011)
Doern (2016)	Tetric et al. (2000)	Jansson (2011)
Davidsson & Gordon (2016)	Ufuk & Ozgen (2001)	Johannisson (2011)
Corner et al. (2017)	Shepherd (2003)	Patzelt & Shepherd (2011)

(continued)

Table 1. (continued)

<i>Resilience</i>	<i>Stress</i>	<i>Coping</i>
Powell & Eddleston (2017)	Dolinsky & Caputo (2003)	Wee & Brooks (2012)
Wiklund et al. (2018)	Parslow et al. (2004)	Uy et al. (2013)
Newman et al. (2018)	Goldsby et al. (2005)	Jenkins et al. (2014)
Lafuente et al. (2018)	Blonk et al. (2006)	Keating et al. (2014)
Obschonka et al. (2018)	Protas & Thompson (2006)	Byrne & Shepherd (2015)
Jancenelle et al. (2018)	Totterdell et al. (2006)	Kibler et al. (2015)
Santoro et al. (2018)	Wallis & Dollard (2008)	Lanivich (2015)
Pérez-López et al. (2019)	Taris et al. (2008)	Martins et al. (2015)
Muñoz et al. (2019)	Brundin et al. (2008)	Schonfeld & Mazzola (2015)
González-López et al. (2019)	Saarni et al. (2008)	Williams & Shepherd (2016b)
Shepherd et al. (2020)	Bluedorn & Martin (2008)	Corner et al. (2017)
Engel et al. (2020)	Monsen & Wayne Boss (2009)	Galkina & Lundgren-Henriksson (2017)
Liu (2020)	De Clercq and Dakhli (2009)	Schneckenberg et al. (2017)
Hanson & Keplinger (2020)	Rubino et al. (2009)	Welter et al. (2018)
Tlaiss & McAdam (2020)	Shepherd (2009)	Gomes et al. (2018)
Chadwick & Raver (2020)	Werbel & Danes (2010)	Patel et al. (2019)
Santoro, Ferraris, et al. (2020)	Sergent et al. (2020)	Kollmann et al. (2019)
Santoro, Messeni-Petruzzelli, et al. (2020)	Patzelt & Shepherd (2011)	Pérez-López et al. (2019)
Nikolaev et al. (2020)	Pollack et al. (2012)	Liu (2020)
	Kwan et al. (2012)	Schermuly et al. (2020)
	Uy et al. (2013)	Engel et al. (2020)
	Jenkins et al. (2014)	
	Roche et al. (2014)	
	Yiu et al. (2014)	
	König & Cesinger (2015)	
	Cardon & Patel (2015)	
	Venugopal et al. (2015)	
	Virick et al. (2015)	
	Ma (2015)	
	Schonfeld & Mazzola (2015)	
	Andringa et al. (2016)	
	Annink et al. (2016)	
	Baron et al. (2016)	
	Williams & Shepherd (2016b)	
	Toivanen et al. (2016)	
	De Clercq et al. (2016)	
	Kwong & Thompson (2016)	
	Yamakawa & Cardon (2017)	
	Hessels et al. (2017)	
	Wolfe & Patel (2017)	
	Klyver et al. (2018)	
	Stroe et al. (2018)	
	Spivack and McKelvie (2018)	
	Weinberger et al. (2018)	

(continued)

Table 1. (continued)

<i>Resilience</i>	<i>Stress</i>	<i>Coping</i>
	Warr (2018)	
	Rauch et al. (2018)	
	Stephan (2018)	
	Kibler et al. (2019)	
	Patel et al. (2019)	
	Kollmann et al. (2019)	
	Ryff (2019)	
	Toivanen et al. (2019)	
	Freeman et al. (2019)	
	Giannikis et al. (2019)	
	Soenen et al. (2019)	
	Chadwick & Raver (2019)	
	Schermuly et al. (2020)	
	Murnieks et al. (2020)	
	Schjoedt (2020)	
	Chadwick & Raver (2020)	
	Stroe et al. (2020)	
	Engel et al. (2020)	

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ORCID iDs

Ali E. Ahmed  <https://orcid.org/0000-0003-1244-1383>

Trenton A. Williams  <https://orcid.org/0000-0002-1419-573X>

Supplementary Material

Supplementary Material for this article is available online.

Notes

1. Our focus is on psychological resilience at the level of the individual, but we use the phrase resilience and psychological resilience interchangeably throughout the paper.
2. A number of concepts are often associated with resilience such as hustle as a way of achieving positive outcomes (Fisher et al., 2020), grit (Mueller et al., 2017), persistence (Caliendo et al., 2020), and so forth but they tend to ignore the role of adversity or process in favor of emphasizing certain traits or attributes (Williams et al., 2017).
3. According to the American Psychological Association Dictionary of Psychology, “Distress” is the negative type of stress which is what researchers generally intend to mean by the word “Stress.” Similarly,

- “Strain” is a state resulting from excessive psychological demands or emotional overload. It refers to the psychological and physiological symptoms resulting from stressors (Koeske & Koeske, 1993).
4. Included articles were published in management journals such as *Academy of Management Journal*, *Academy of Management Review*, and *Journal of Management* in addition to entrepreneurship journals such as *Entrepreneurship Theory and Practice*, *Journal of Business Venturing*, *Strategic Entrepreneurship Journal*, and *Journal of Small Business Management* and organizational psychology journals such as *Journal of Occupational and Organizational Psychology* and *Journal of Occupational Health Psychology*.
 5. A note of caution is required, however, because this categorization is largely for the purpose of organizing our manuscript. That is, although some studies refer to the “antecedents,” “drivers,” or “determinants” of resilience, stress, and/or coping, their research design might only capture association even if their theoretical argumentation is laden with causality. For simplicity, however, when studies examined resilience, stress, or coping as a dependent variable, we coded these studies for examining “antecedents,” and when studies examined resilience, stress, or coping as an independent variable, we coded these studies for examining “outcomes.”
 6. This theme includes a major overlap between the stress and coping literatures in entrepreneurship (see Figure 2). It includes 10 studies focused on coping strategies and 8 studies on other mitigating actions. Since we have a dedicated review on coping strategies where we analyze those 10 studies, we focused here only on the 8 studies on other mitigating actions which were not covered from a coping lens.

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