Entrepreneurial Cognition Research–An Update

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Abstract

In this chapter, the authors chart the historical evolution of entrepreneurial cognition research alongside broader developments in entrepreneurship and the cognitive sciences. They focus particularly on the emergence of a socially situated approach to entrepreneurial cognition research that, they believe, can enable a better understanding of how cognition exists in a broader context in a way that is influential to the experience of the entrepreneur. This socially situated perspective views cognition as being distributed, embodied, situated and action-oriented. As the authors seek to demonstrate, this perspective can enable researchers to understand the mind of the entrepreneur in terms of its broader context. They highlight how a broader and more encompassing perspective of entrepreneurial cognition that is socially situated in nature can enable other key conversations in entrepreneurship research to be understood in terms of cognition and to be seen as a fitting extension of the early work on cognition that is relevant to entrepreneurship.

Introduction

Over the past twenty-five years, entrepreneurship research has been fundamentally transformed as a result of the extensive work on the topic of entrepreneurial cognition (Baron, 2004, 2007; Baron & Ward, 2004; Dew, Grichnik, Mayer-Haug, Read, & Brinckmann, 2015; Grégoire, Cornelissen, Dimov, & van Burg, 2015; J. R. Mitchell, R. K. Mitchell, & Randolph-Seng, 2014; Mitchell, Busenitz, Lant et al., 2002, 2004; Mitchell, Busenitz, Bird et al., 2007). This entrepreneurial cognition research has, for example, enabled an understanding of how entrepreneurs differ from non-entrepreneurs in terms of their thinking processes—including the use of heuristics (Busenitz & Barney, 1997) and self-efficacy (Chen, Greene, & Crick, 1998)—and their expertise (e.g., Mitchell, Smith, Seawright, & Morse, 2000). This research also has revealed what leads some individuals to be more likely than other individuals to identify entrepreneurial opportunities and start a venture, focusing on differentiators such as pattern recognition (Baron & Ensley, 2006), risk perception (Keh, Foo, & Lim, 2002; Simon, Houghton, & Aquino, 2000), structural alignment (Grégoire, Barr, & Shepherd, 2010), expertise (e.g., Mitchell et al., 2000) and self-image (Mitchell & Shepherd, 2010). Moreover, this research also has demonstrated how cognitive differences such as an entrepreneurs' optimism and self-efficacy (Hmieleski & Baron, 2008, 2009) and expertise (Reuber & Fischer, 1994) can also lead to differences in the performance of the entrepreneur's firm. As these examples illustrate, research on entrepreneurial cognition is now part of the mainstream of entrepreneurship research.

But it was not always this way. Most early entrepreneurship research focused primarily on an individual's response to economic inducements without regard to mediating variables internal to the entrepreneur. This lack of attention to mental processes reflected both the norms of entrepreneurship research that had roots in economic theory and was also supported by the

strong emphasis on explaining observable behavior by psychologists of the time. However, beginning in the 1950s and 1960s, psychology research generally had begun to shift away from a behaviorist approach that saw action as being a direct result of stimuli in the environment and toward one that sought to understand the role of the individual in individual action (see Randolph-Seng, J. R. Mitchell, & R. K. Mitchell, 2014, for a detailed review). The work of Atkinson (1957, p. 360) contributed to this shift by explicitly addressing the role of cognition in the individual action that underlies entrepreneurship, by characterizing expectancy as a "cognitive anticipation, usually aroused in a situation, that performance of some act will be followed by a particular consequence." McClelland likewise contributed to the shift away from behaviorism (1955, 1961, 1965) by emphasizing, instead, the role of personality characteristics such as achievement motivation in explaining why some individuals are more likely to be entrepreneurs. Of the two, McClelland's approach was the one that took hold in the emerging entrepreneurship literature. Indeed, research that followed sought to explain how other characteristics such as autonomy (Hornaday & Aboud, 1971), risk-taking (Palmer, 1971), need for power (Winter, 1973), internal locus of control (Rotter, 1966; Timmons, 1978) and so forth could explain differences between entrepreneurs and non-entrepreneurs (see Carland, Hoy, Boulton, & Carland, 1984, for a more complete description).

Brockhaus and Horowitz (1986) noted that the results of prior research on the distinguishing characteristics of entrepreneurs were not sufficiently fine-grained to generalize distinctions between entrepreneurs and non-entrepreneurs. As they argued,

> *the characteristics of the aspiring or successful entrepreneur vary depending upon the nature and scope of the business venture. Most entrepreneurial ventures result from a "push" from external factors. . . . [Thus,] it might be beneficial to concentrate research efforts on determining why entrepreneurs succeed or fail.* (1986, p. 44, emphasis added)

This call, and similar ones (e.g., Gartner, 1988; Smith, Gannon, Grimm, & Mitchell, 1988; Shaver & Scott, 1991) led to research focusing more on entrepreneurial behavior and the processes underlying entrepreneurship. The quest towards understanding the why questions related to entrepreneurial processes paved the way for research on cognition to move toward the mainstream in entrepreneurship research. The work of Bird (1988, 1992) on entrepreneurial intentions represents an early example of entrepreneurship research that adopted the perspective of psychology and was indicative of the shift of entrepreneurial cognition research toward the mainstream. Shaver and Scott (1991) further articulated the behavior–psychology link, in suggesting that

> *psychology can be distinguished from other behavioral sciences by its emphasis on the behavior of the individual person, which, in turn, is influenced by the way in which the external world is represented in the mind, and by the individual's exercise of choice.* (1991, p. 23)

They then asserted that "a psychological approach to new venture creation must involve cognitive processes that occur within the individual person" (1991, p. 26).

Research in entrepreneurship thus accelerated the study of the mental processes of entrepreneurs. Entrepreneurship Theory and Practice published a special issue on "Finding the Entrepreneur in Entrepreneurship" as a way "to encourage entrepreneurship researchers to re-conceptualize the nature of entrepreneurship by focusing on the individual and social/ psychological processes involved in entrepreneurial activity" (Gartner, Shaver, Gatewood, & Katz, 1994, p. 5). The editors noted that cognition represents an essential part of explaining entrepreneurial processes, using "what entrepreneurs think about, and how they go about thinking about what they think about [being] critical to understanding much of what occurs

during an entrepreneur's activities" (Gartner et al., 1994, p. 6). Other entrepreneurial cognition research soon followed.

Hisrich and Jankowicz (1990) investigated the cognitive complexity of venture capitalist funding decisions. Katz (1992) developed a psychosocial cognitive model of the decision to become self-employed versus wage-based employment. Krueger and Dickson (1994) sought to understand the effect of perceived self-efficacy on the risk-taking of entrepreneurs in the context of entrepreneurial opportunities. Mitchell and Chesteen (1995) and Mitchell (1996) worked to develop an understanding of the role of entrepreneurial expertise in entrepreneurial outcomes, especially in terms of its development. Gatewood, Shaver, and Gartner (1995) explored how certain cognitive factors influenced the persistence and success of entrepreneurs' start-ups. Jelinek and Litterer (1995) suggested that extant organization theory was based largely on static, deterministic assumptions about organizations and sought to develop a paradigm for understanding entrepreneurial organizations based on a dynamic, cognitive approach focused on individual sensemaking and collective decision processes. Busenitz and Lau (1996) developed a cross-cultural cognitive model of new venture creation. Likewise, Busenitz and Barney (1997) sought to understand cognitive differences in the decision-making biases and heuristics of managers in large organizations compared to those of entrepreneurs. Sarasvathy, Simon, and Lave (1998, p. 208) used "verbal protocol analyses to compare entrepreneurs with bankers in their cognitive approaches for solving problems involving a variety of risks." Importantly, Baron (1998, p. 275) seemed to cement the more mainstream status of the entrepreneurial cognition approach by "building additional conceptual bridges between entrepreneurship research and the large, extant literature on human cognition."

"Boxologies" and (Getting Back to) Socially Situated Cognition

As Baron's (1998) article argued, cognition research generally arose from the broader psychology literature on the role of human cognition in action. This research refocused attention toward mental processes as a cause of human action and away from behaviorism's basic conceptualization of human actions as a simple function of responses to environmental stimuli (Randolph-Seng et al., 2014). The emerging research on mental processes, however, drew heavily on a computer analogy that characterized the mind as a kind of "biological calculator," an "internal conduit with a lot of representational and computational operations created by smart and inventive thinkers" (Bandura, 2001, p. 2). The application of this analogy can be seen, for example, in the information processing approach to human cognition that is grounded in cognitive scripts (Abelson, 1981).

Such approaches have been recognized as valuable but insufficient. As Smith and Conrey (2009, p. 455) have noted, social cognition research, in general, has "frequently been formulated as abstract, disembodied stories about autonomous mental processes, expressed as 'boxologies' with little or no concern for adaptiveness in, or even interfaces with, real social environments." Social cognition researchers use the term "boxology" to refer to "seemingly static representations of abstract, disembodied cognitive structures [such as] biases, heuristics, scripts, etc." (R. K. Mitchell, Randolph-Seng, & J. R. Mitchell, 2011, p. 774). Given that entrepreneurship research on cognition has followed the broader field of psychology, it is no surprise that research in entrepreneurial cognition has faced the same challenge of being static and insufficiently situated in the broader social environment (Mitchell et al., 2011). Recent work in entrepreneurial cognition has begun to address these challenges (Mitchell, Randolph-Seng et al., 2011; J. R. Mitchell, R. K. Mitchell et al., 2014; Clarke & Cornelissen, 2011; Dew et al., 2015; Cacciotti,

Hayton, Mitchell, & Giazitzoglu, 2016) by adopting a socially situated approach to the study of entrepreneurial cognition.

Interestingly, prior research in entrepreneurship might be said to have foreshadowed the socially situated approach to the study of entrepreneurial cognition. For example, Atkinson (1957) focused on the anticipation that was aroused in a situation as it related to some action and its consequences, but that pathway was not pursued until the more recent development of the entrepreneurial cognition research stream. Similarly, Brockhaus and Horowitz (1986) emphasized the possibility that entrepreneurs are heavily influenced by external factors, which idea was reiterated by Shaver and Scott (1991, p. 27), who argued that the psychology of entrepreneurship required an understanding of "how the individual's cognitive representations of the world get translated into action." Likewise, Jelinek and Litterer (1995) emphasized the importance of the role that the organizational context plays in influencing the processes of individual sensemaking and collective decision-making—this latter aspect also having been emphasized by Gartner et al. (1994, p. 6) in the idea that the "'entrepreneur' in entrepreneurship is more likely to be plural, rather than singular." In this way, a move away from the static and disembodied "boxologies" evident in prior research on entrepreneurial cognition in some ways represents a return to, and more thorough treatment of, ideas that were present in the early work on cognition in entrepreneurship.

Socially Situated Entrepreneurial Cognition

The socially situated approach builds on the premise that cognition is (1) action-oriented, (2) embodied, (3) situated within and among specific social environments and (4) distributed across minds and tools (Smith & Semin, 2004). This approach suggests that the social world both shapes the content of thought and the processes underlying behavior. Hence, the foregoing four

themes of socially situated cognition now are conceptualized in entrepreneurship research as being integrated (Mitchell et al., 2011). Each theme contributes to a gestalt and has been suggested to be applicable to entrepreneurial cognition research (ibid).

In more recent entrepreneurial cognition research, action-oriented mental representations may be observed, for example, in research on the metacognitive processing of entrepreneurs (Haynie, Shepherd, Mosakowski, & Earley, 2010), entrepreneurial behavior under time pressure (Mitchell & Shepherd, 2010), acting on what resources are available to effectuate new value (Sarasvathy, 2001) and research regarding entrepreneurial bricolage (Baker & Nelson, 2005)—each being subsumed under the overall notion of action-oriented, adaptive entrepreneurship (McMullen & Shepherd, 2006; Frese, 2007). But adaptive action also is enabled and constrained by the attributes of the brain and the physical body (Smith & Conrey, 2009). Embodied cognition may be observed in research connecting the physical being to the mental being. Such work has investigated, for example, how hormonal influences (such as higher testosterone levels) can help to explain willingness to venture (White, Thornhill, & Hampson, 2007), the importance of embodied affect and emotion in entrepreneurship (e.g., Baron, 2008; Cardon, Wincent, Singh, & Drnovsek, 2009) and the impact of physical movements (such as gesturing) and of speech in persuasion—as entrepreneurs "pitch" to potential investors (Clarke, Cornelissen, & Healey, 2019). The situated theme connects social objects, such as conversations, relationships with others and membership in social groups, to entrepreneurship through, for example, research on social networks (De Carolis & Saparito, 2006), mentorship (Ozgen & Baron, 2007) and a person-situation learning match (Dimov, 2007). And since cognition in a social situation occurs in many minds at once, the distributed theme suggests that cognition is "implemented by systems that link minds with aspects of the physical and social environment" (Smith & Conrey, 2009, p. 461). The

distributed cognition theme is evident in entrepreneurial cognition research that explains, for example, the role of institutions and entrepreneurship (Lim, Morse, Mitchell, & Seawright, 2010), cross-cultural entrepreneurship (Mitchell et al., 2000), specific country profiles (Busenitz, Gomez, & Spencer, 2000) and entreprenurial team cognition (Shepherd & Krueger, 2002; West, 2007).

Thus, when the foregoing four themes are viewed together, a dynamic conceptualization of entrepreneurial cognition becomes possible, and it is useful in interpretive terms especially as an ordering structure for entrepreneurial cognition research overall (Randolph-Seng et al., 2014). That is, while past entrepreneurial cognition research has been characterized separately, for example, in terms of heuristics, entrepreneurial alertness, expertise, effectuation, action and affect (Mitchell et al., 2007); the socially situated cognition approach enables researchers to "encompass and connect different approaches to entrepreneurial cognition research" (Randolph-Seng et al., 2015, p. 298). Thus.

> *[h]euristics-based approaches can be positioned in terms of the situated theme, as they attempt to explain how individuals in certain situations (e.g., a complex situation) may rely on decision shortcuts. . . . Alertness approaches can be viewed in terms of the situated theme. Specifically, when individuals find themselves in different situations/contexts, those with certain entrepreneurial knowledge structures are expected to perceive their context differently than those who lack the same knowledge structures, enabling some individuals to better identify entrepreneurial opportunities. . . . Expertise approaches can be mapped at the intersection of distributed, situated, and action-oriented themes. That is, expertise can be viewed as both situated and action-oriented through its focus on deliberate practice (action-oriented) with experts (situated). . . . The effectuation approach can be seen as existing at the intersection between action-oriented and distributed themes, as it regularly emphasizes acting based on contingencies given the set of people and resources (minds and tools) at hand. . . . Action-centric approaches . . . can be placed in the intersection between situated and action-oriented themes, as taking action has been suggested to require at least two elements: the inner (goals as they influence thinking) and the outer (the situation) environment. . . . Finally, affect-centric approaches appear to operate at the intersection of situated, embodied, and action-oriented themes, given the potential role of the situation and the body on the potential for entrepreneurial action.* (Randolph-Seng et al., 2015, pp. 299–300)

Consequently, with its capacity for enabling integration, the application of the socially situated cognition approach to many of the psychology-based arguments in entrepreneurship research enables researchers to have available a theoretical frame that permits the dynamism of previously elusive entrepreneurial phenomena (MacMillan & Katz, 1992) to become more tractable. But importantly, the integrative capacity of the socially situated approach also may open the study of mainstream entrepreneurial phenomena to new research possibilities.

Socially Situated Cognition Illustrated in Entrepreneurship Research

In this section, we draw on representative examples from entrepreneurship research to sketch some outlines of applicability of the socially situated entrepreneurial cognition approach to develop entrepreneurship research in general. In particular, we use the following research streams illustratively: entrepreneurial opportunity (action-oriented), entrepreneurial failure (embodied), family business (situated) and crowdfunding (distributed). We note that by "illustratively," we mean (1) that we observe in each stream used to illustrate the predominance of the theme within that stream as it currently stands and (2) that our use of these streams from entrepreneurship research is non-exhaustive (i.e., other streams could also illustrate these points, and each of these streams could receive much deeper treatment).

Our argument proceeds as follows: The socially situated cognition approach has four themes. The approach is integrative. Evidence of aspects for each of the four themes is prevalent within entrepreneurship research to date. However, the advantages from an integrative theory such as those from socially situated cognition are not yet realized. Hence, a helpful rationale for "updating" entrepreneurial cognition research is to offer potential pathways for deeper examination of questions within entrepreneurship research streams using a "what might be missing" lens motivated by socially situated cognition theory.

Entrepreneurial Opportunity (Action-Oriented)

Research on entrepreneurial opportunity has been described as being a central part of the entrepreneurship literature (Venkataraman, 1997). For example, Schumpeter (1934) discussed entrepreneurship as involving creative destruction and new combinations of resources. Kirzner (1973) highlighted the entrepreneur as one who is alert to entrepreneurial opportunity. Casson (1982) emphasized the function of the entrepreneur as the coordinator of resources that results in a return that is greater than the costs incurred by the entrepreneur. Action has been argued to be central to this research. Indeed, Frese (2007) asserts that "[e]ntrepreneurs' actions are important and should be a starting point for theorizing in entrepreneurship" (2007, p. 151). As McMullen and Shepherd (2006, p. 132) have described, "to be an entrepreneur is to act on the possibility that one has identified an opportunity worth pursuing." Much of the research reports either the study of "whether entrepreneurial action occurs" or "how prospective entrepreneurs go about acting" (ibid). And while prior research regarding opportunity and action is not necessarily universal in its answers to the question of how entrepreneurs go about acting, the majority of this research does emphasize the importance of action to conceptualizing entrepreneurial opportunity.

Aspects of the action-oriented theme in entrepreneurial opportunity research are illustrated in prior work, which has sought to develop explanations about "how opportunities to bring into existence 'future' goods and services are discovered, created, and exploited, by whom, and with what consequences" (Venkataraman, 1997, p. 120). Underlying this approach is the premise of adaptive action expressed in action terms such as discovery, creation and exploitation. In this literature, distinctions among these actions have been studied extensively. Alvarez and Barney (2007) cast the discovery of opportunity as mountain climbing and the creation of opportunity as mountain building. Each of these approaches has implications for understanding

opportunity in terms of entrepreneurial action. Research adopting a creation perspective focuses on "the actions, reactions, and enactment of entrepreneurs exploring ways to produce new products or services" (2007, p. 15). Conversely, research adopting a discovery perspective focuses on the "different modes of action" that are used to exploit opportunities once they have been discovered by alert individuals (Shane & Venkataraman, 2001, p. 218). And while we cannot include all the research on entrepreneurial opportunity as it relates to adaptive action, we note that a large number of additional studies exist that frame entrepreneurial opportunity in terms of action (e.g., Dimov, 2010; Sarason, Dean, & Dillard, 2006; Sarasvathy, 2001). What we hope that we have demonstrated in this subsection is the importance of an adaptive, action-oriented approach, as a key theme to socially situated cognition, to entrepreneurship research more generally.

Entrepreneurial Failure (Embodied)

Research on failure in entrepreneurship has a long history in entrepreneurship research (e.g., Dickinson, 1981; Shepherd, 2003; McGrath, 1999), with failure being viewed as both positive (e.g., Cope, 2011; McGrath, 1999) and negative (e.g., Dickinson, 1981; Shepherd & Haynie, 2011). Specifically, entrepreneurial failure is sometimes viewed not only in terms of the learning and experience that can emerge from the process of failure (Cope, 2011) but also in terms of the effects of failure manifest in terms of monetary and emotional costs (e.g., loss and grief; Shepherd, 2003), as well as the prospective fear that a failure may occur (e.g., Cacciotti et al., 2016). In many treatments of failure in entrepreneurship research (Mantere, Aula, Schildt, & Vaara, 2013; Shepherd & Cardon, 2009), the focus is on the emotional and affective aspects of failure. Indeed, as Shepherd described, "business failure involves an involuntary change in both the ownership and management of the business owing to poor performance . . . [and] likely

represents a personal loss, which, in turn, generates a negative emotional response" (2003, p. 319). This negative emotional response represents a kind of embodied affect that is physically experienced. And although not all research on entrepreneurial failure focuses on its affective and emotional aspects, much of it does.

Aspects of the embodied theme in entrepreneurial failure research are illustrated in prior work, which addresses the topic of entrepreneurial failure, for example, by adopting the lens of grief as a way of understanding how the emotions associated with a business failure can enable learning from that failure (Shepherd, 2003). This occurs, in part, by enabling the individual to understand that such emotions are normal and not something to be ashamed about in the entrepreneurial process. This also occurs as individuals realize that the emotions associated with failure can be both psychological and physiological, which is encompassed in the socially situated theme of entrepreneurial as being embodied and which can enable treatment of these physical effects. As a result, the individual can take the necessary steps to recover from the grief and begin to learn from the entrepreneurial failure. Similarly, Mantere et al. (2013) seek to understand the way that the stakeholders of a failed organization adopt narratives that help them better understand that entrepreneurial failure. This involves both the cognitive processing of the entrepreneurial failure and the emotional aspects of processing a failure. Their work captures the role of embodiment in cognition, as the physical act of speech is shown to influence embodied affect as a component of cognition. And while we cannot include all the research on fear of failure as it relates to embodied affect and emotion, we note that additional studies exist that frame entrepreneurial failure in terms of embodied affect and emotion (e.g., Morgan & Sisak, 2016; Ucbasaran, Shepherd, Lockett, & Lyon, 2013). What we hope that we have demonstrated

in this subsection is the importance of an embodied approach to entrepreneurship research more generally.

Family Business (Situated)

Family has emerged as a salient context for understanding the emergence, perpetuation and decline of entrepreneurial behaviors over time (e.g., Dyer & Handler, 1994). This "family embeddedness perspective" (Aldrich & Cliff, 2003) suggests that entrepreneurial processes are enabled and constrained by personal relationships between entrepreneurs and their family members. As Aldrich and Cliff (2003, p. 577) suggest, individuals in family businesses "are implicated in networks of social relations . . . [and] do not decide to start a business in a vacuum; instead, they 'consult and are subtly influenced by significant others in their environment." Accordingly, prior entrepreneurship research has examined how the social context of the family, such as the relationship between family members, influence an individual's propensity to become self-employed (Arregle et al., 2015). Similarly, in the family business literature, there is a growing interest in the ways in which some families enact social situations that foster "transgenerational entrepreneurship" (Nordqvist & Zellweger, 2010; Zellweger, Nason, & Nordqvist, 2012) and thereby increase the probability that the descendants of the founder of a family business will introduce new products, enter new markets or even establish new businesses (Jaskiewicz, Coombs, & Rau, 2015; Erdogan, Rondi, & De Massis, 2020). Thus, although only some entrepreneurship can be explained in relation to the family context, because of the pervasive effect of the family on entrepreneurial behavior within and outside of established organizations (Anderson, Jack, & Dodd, 2005), we consider the family to be a particularly salient social situation for understanding entrepreneurship in general.

Aspects of the situated theme in family business research are illustrated in prior work, in which, the social situation of the multigenerational family firm has been shown to effect entrepreneurial processes. The descendants of entrepreneurs have been theorized to take inspiration from the "entrepreneurial legacies" of their forbearers as a source of inspiration for entrepreneurial behavior and a means of rationalizing a departure from outdated traditions (Jaskiewicz et al., 2015). Similarly, Erdogan et al. (2020) suggest that the relationship between tradition and innovation is more complex than previously thought and that "family firms can use innovation as a tool to protect or strengthen their tradition, and can revive their tradition to innovate" (2019, p. 25). In addition, intergenerational family ownership of a firm has been shown to increase tolerance for certain types of risk in the interest of continued family control while simultaneously increasing other types of risk aversion (Gómez-Mejía, Haynes, Núñez-Nickel, Jacobson, & Moyano-Fuentes, 2007). Thus, while we cannot include all the research on family business as it relates to the situated aspect of socially situated cognition (e.g., Matthews, Moore, & Fialko, 1999; Mitchell, Morse, & Sharma, 2003), what we hope to have demonstrated is that the work on family in entrepreneurship captures the essential, socially situated and historically embedded nature of entrepreneurial processes.

Crowdfunding (Distributed)

Crowdfunding research (see Letwin et al., this volume) has sought to develop explanations about how "an entrepreneur raises external financing from a large audience (the 'crowd'), in which each individual provides a very small amount, instead of soliciting a small group of sophisticated investors" (Belleflamme, Lambert, & Schwienbacher, 2014, p. 585). Drover et al. (2017) contextualized crowdfunding research by offering a road map for organizing entrepreneurial equity financing research, which includes accelerators, angel investment, venture

capital and crowdfunding. The idea of pooling investor resources as a kind of coordinated investor behavior has a long research history—at least since such study began with the systematic examination of risk by scholars such as Fermat, Paccioli and Pascal (Bernstein, 1996) and with the pooling of investor resources in the joint-stock company (Mill, 1848). The notion of coordinated economic behavior thus is considered to be important in entrepreneurship research, in general, but especially important in the venture's ability to acquire necessary resources, as suggested for example by Brush, Greene and Hart (2001). As an illustration of how the theme of distributed cognition suffuses a substantive portion of the entrepreneurship literature, in terms of coordinated economic behavior, the phenomenon of crowdfunding is particularly apt.

Aspects of the distributed theme in crowdfunding research are illustrated in work that demonstrates, for example, how crowdfunding uses the connectivity of the internet to overcome obstacles from the broad geographic dispersion (e.g., average 3,000 miles) of investors in small, early-stage projects (Agrawal, Catalini, & Goldfarb, 2011). In this sense, crowdfunding research responds to the call by Suddaby, Bruton, and Si (2015, p. 9) for entrepreneurship research to examine "both empirically and conceptually, the various ways in which shared schemas or socially shared cognitions are created and diffused and how it is that some actors are able to overcome them." Furthermore, crowdfunding research has demonstrated that certain dispersed communication features such as narratives that create project legitimacy (e.g., "lower funding targets and shorter campaign durations . . . reward-levels as narrative tools that encourage funders to engage with the project . . . and visual pitches [that] transmit a broader sociocultural narrative, leveraging emotional rather than financial reasoning" (Frydrych, Bock, & Kinder, 2016, p. 99) affect the likelihood of funding. And while we cannot include all the research on crowdfunding as it relates to the distributed aspect of socially situated cognition (e.g., Manning

& Bejarano, 2017; Parhankangas & Renko, 2017), we note that a substantial number of additional studies exist in the relatively recent body of crowdfunding research, which we hope will demonstrate the importance of a distributed approach to entrepreneurship research more generally.

Implied Opportunities for Future Entrepreneurial Cognition Research

In the previous section, we used entrepreneurial opportunity, entrepreneurial failure, family business, and crowdfunding research to illustrate separately how a socially situated approach to entrepreneurial cognition quite naturally maps onto entrepreneurship research in general. Our purpose in doing so, however, was not to classify each research stream as a type of entrepreneurial cognition. Indeed, such an approach would result in the same kind of "boxology" that a socially situated approach to entrepreneurial cognition seeks to remedy. Instead, our reason for doing so was to lay a foundation for explaining how entrepreneurial cognition research specifically can interpenetrate, integrate with and further animate future entrepreneurship research. In concluding this chapter, we thus extend our illustrations to other examples that represent further opportunities for the dynamism that can be captured by seeing the field through the socially situated entrepreneurial cognition lens.

Socially Situated Cognition and Entrepreneurial Opportunity Research Opportunities

As noted in the prior section, research on entrepreneurial opportunity has a predominant focus that can be captured by the action-oriented theme of socially situated cognition. We now extend this idea to suggest that research on entrepreneurial opportunity enables selective utilization of all the themes in research on this topic to offer a comprehensive and integrated understanding of entrepreneurial cognition as it relates to entrepreneurial opportunity. For

example, Shane and Venkataraman (2000) and Alvarez and Barney (2007) each address the importance of action in entrepreneurial opportunity. But Shane and Venkataraman (2000) also allude to the importance of "the tendency of certain people to respond to the situational cues of opportunities" (2000, pp. 218–219). What we find to be telling in terms of research on entrepreneurial opportunities as discovered versus opportunities as created is the possibility that the difference between the two approaches to entrepreneurial action place temporal preference on different themes of socially-situated entrepreneurial cognition. That is, a discovery view of entrepreneurial opportunity seems to place precedence on the situated aspect of entrepreneurial cognition first and then on action. Conversely, a creation view seems to place precedence on the action-oriented aspect of entrepreneurial cognition and then on the situation. Both views can be explained in terms of socially situated entrepreneurial cognition, but with the additional explanatory granularity offered by the socially situated cognition approach, it can offer a theory to explain why one theme (e.g., situation) can take temporal precedence over another theme (e.g., action) in terms of entrepreneurial cognition or vice versa.

In this way, we note that although extensive research has been done on the action-oriented and situated aspects, future research on opportunities may explore how the situated, embodied and distributed elements effect the development of entrepreneurial opportunity. One promising avenue for research on this topic is in the area of co-working space. Indeed, understanding the underlying processes related to the development of opportunity in a co-working space would draw on the situated, embodied and distributed aspects of cognition by explaining how being located in a physical space that is shared by multiple individuals with different perspectives on business may lead to the emergence of new opportunity. Further

research along these lines could also look at the distributed aspects of such mechanisms to capture more fully the socially situated aspect of entrepreneurial cognition.

Socially Situated Cognition and Entrepreneurial Failure Research Opportunities

As also noted in the previous section, research on entrepreneurial failure has a predominant focus that can be captured, at least in part, by the embodied affect theme of socially situated cognition. We now extend this idea to suggest that all four themes are needed to offer a more comprehensive understanding of entrepreneurial failure. We see this, for example, in the work of Cardon, Stevens, and Potter (2011), who investigated through a lens of sensemaking, the accounts of failure provided by entrepreneurs. In adopting a sensemaking view to understand how entrepreneurs attributed failure—whether as mistakes or misfortune—the authors have captured how individuals base actions on the sensemaking process, as it relates to the "cognitive, affective, and behavioral responses" to a failure (2011, p. 82). Their approach relates to failure across a broader culture and implicitly integrates the key themes of socially situated cognition in a way that offers a richer understanding of the dynamic nature of entrepreneurial cognition. In their work on fear of failure, Cacciotti et al. (2016, p. 302) are more explicit in their articulation of fear of failure "in terms of socially-situated cognition by adopting an approach that captures a combination of cognition, affect and action as it relates to the challenging, uncertain, and risk-laden experience of entrepreneurship."

This forward-looking approach is consistent with earlier approaches to the interpretation of entrepreneurial failure but now using a socially situated lens. McGrath (1999) for example, has suggested that an approach to entrepreneurial failure based on real options reasoning, which "allows more of failure's possible benefits to be captured and the most egregious of its costs to be contained" (1999, p. 13). In her approach, McGrath captures the potential for dynamism in

entrepreneurial cognition that offers new opportunities for explaining entrepreneurial failure using a cognitive lens. For example, in Table 5.1 (1999, pp. 17–19), she explains how action, emotion/embodiment, and the social situation and distribution of cognition, interweave to produce thinking errors, such as manipulation of metrics or diversion of resources (action to alter social perceptions), misattribution of success to the self and negative perception of events associated with failure (emotion/embodiment relating to the social situation) and oversampling success and under-sampling failure (the social situation and distribution of cognition). When seen through the more dynamic lens of the social-situation approach, we see possibilities for exploring the underlying mechanisms associated with entrepreneurial failure.

Socially Situated Cognition and Family Business Research Opportunities

As noted in the prior section, research on family business has a predominant focus that can be captured by the situated theme of socially situated cognition. We now extend this idea to suggest that, while the situated aspect has received extensive attention, the embodied aspect might warrant further attention with respect to family—who are similar in terms of their physical and affective embodiment as a result of a shared genetic and historical background. Indeed, we see the emerging research on socioemotional reference points in family business decision-making (see, e.g., Gomez-Mejia et al., 2007) and on reference point shifts (Nason, Mazzelli, & Carney, 2019) as early efforts to explain the role of embodied affect and action-oriented cognition in family business.

In addition, while family business is often treated as a context by entrepreneurship scholars, a socially situated approach to entrepreneurial cognition calls attention to the unique ways in which cognition not only is situated in families but also is distributed between and among family members. Such shared family cognition can be expected to evolve over time.

Because families exist at the origins of both developmental and historical social interaction, they may also be an important site for understanding the gradual emergence of shared cognition between individuals. Family business scholars understand that such shared family cognition extends to both social and economic activities. This linkage between family and socially situated cognition suggests the need to extend our understanding of socio-cognitive mechanisms (such as memory) for the transmission of entrepreneurial thinking, behavior and values between individuals and across generations. We thus consider the relationship between family and entrepreneurship to be a fruitful line of inquiry that may provide a means of explaining heterogeneity in the underlying socio-cognitive mechanisms that enable and constrain entrepreneurial behaviors as well as the varying life circumstances in which individuals engage in entrepreneurship.

Socially Situated Cognition and Crowdfunding Research Opportunities

As noted in the prior section, research on crowdfunding in entrepreneurship has a predominant focus which can be captured by the distributed theme of entrepreneurial cognition. However, this is not the only potentially relevant theme for studying crowdfunding. Indeed, we further extend this idea to suggest that future research might explore in more detail the ways in which crowdfunding is situated from the perspective of both entrepreneurs and prospective stakeholders. How and in what circumstances might crowdfunding accelerate or constrain entrepreneurial processes? And, from the perspective of prospective stakeholders of a new venture, what heterogeneity exists in the manner in which new venture or product ideas are positioned within a broader sociohistorical context of prior (competing or noncompeting) ventures or products? In addition, how can online crowdfunding be better understood when it is situated within a broader historical context of alternative modes of resource acquisition?

In this sense, whereas crowdfunding has been treated predominantly as a more recent way for new ventures to be financed through a distributed approach, a socially situated approach to entrepreneurial cognition also calls attention to the ways in which cognition that is part of that financing not only is distributed but is also action-oriented. For instance, Block, Hornuf and Moritz (2018) found providing simple, informational updates to crowdfunding campaigns positively effects the investment of potential funders. In this way, the distributed component of crowdfunding is action-oriented in its effect. Similarly, Giudici, Guerini and Rossi-Lamastra (2018) found that even though the internet is a predominant enabler of crowdfunding, geography still plays a role in the altruistic (and likely affective) investment behavior of funders. From a socially situated cognition perspective, this research indirectly captures the situated space of geography, the extent to which cognition is distributed in that space, and the way that the affective elements of cognition drive actions. Future cognition research in the area of crowdfunding can thus further explore how the actions of the crowd emerge from affective elements that are distributed over and situated within geographic space.

Conclusion

What we hope to have demonstrated in this chapter is how a socially situated approach to entrepreneurial cognition both enables and can enable researchers to analyze a research stream according to the themes of socially situated cognition as a way of seeing potential research gaps that may exist. It has been argued that research streams develop, building both on prior work within that stream and on the importation of work from related disciplines (Shepherd & Wiklund, 2019). In this chapter, we have revisited entrepreneurial cognition research to suggest the latter: that entrepreneurship research can benefit from the extension of the integrative framework of socially situated cognition research into its various research streams, thereby

enabling new ways of seeing research possibilities. It is our hope that the potential for new and refined explanations in all of our entrepreneurship research streams will be the result.

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