

**Socially Situated Entrepreneurial Cognition:
Promising Linkage and Directions
in Studying Entrepreneurial Behavior, Practice, and Process**

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ABSTRACT

In this chapter our aim is two-fold. First, we make a case that there exist many commonalities between the major themes and assumptions of practice theories and those of socially situated cognition theories where human thinking and doing, in general, and entrepreneurial thinking and doing, in particular, is concerned. Second, once we establish these commonalities, we offer a few key insights from socially situated cognition theory that, in our view, can provide fruitful future directions to further our understanding of practice-based explanations for entrepreneurial thinking and doing.

*Most social acts have to be understood in their setting,
and lose meaning if isolated.—Asch (1952: 61)*

INTRODUCTION

We begin with the above quotation from Solomon Asch because it highlights the importance of understanding individuals *in the situations and contexts* within which they exist. In particular, in the field of entrepreneurship, two theories and the associated research are beginning to adopt more fully such a contextualized approach. Specifically, *practice theory* and *socially situated cognition theory* (Cacciotti, Hayton, Mitchell & Giazitzoglu, 2016; Dodd, 2014; Keating, Geiger, & McLoughlin, 2014; Mitchell, Randolph-Seng & Mitchell, 2011; Tobias, Mair, & Barbosa-Leiker, 2013) by focusing on practice and action as a way to explain human thinking and doing (e.g., Bourdieu, 1990; Orr, 1996; Smith & Semin, 2004) take context into account explicitly. In this respect practice theories emphasize the importance of understanding “the relationship between individuals and their greater environment” (Gartner, Stam, Thompson, & Verduyn, 2016: 813). Likewise, socially situated cognition theory highlights “how cognitive, motivational, and emotional regulatory abilities of entrepreneurs interact within specific social situations [among] specific social actors” (Mitchell et al., 2011: 775). Contextualized approaches enable scholars to consider theorizing and researching phenomena that go beyond a traditional *individualistic* approach in explaining thinking and doing of entrepreneurs to add “the much broader phenomenon of entrepreneurial action or ‘entrepreneuring’ in its societal and institutional contexts” (Watson, 2013: 16).

Indeed, these two theories show many commonalities in their approach and key assumptions in explaining the thinking and doing of entrepreneurs. For instance, practice theories focus on: (1) the everydayness (e.g., both routine and improvisational activities) nature of entrepreneurs’ thinking and doing, (2) the simultaneous operations of both the *body* and the *mind*

of the entrepreneur in these activities, (3) the situated nature of entrepreneurs' activities, thinking, knowledge, language, skills, social institutions, meaning systems, etc., and (4) the interconnectedness of various people, tools, and methods that compose more or less integrated elements of the broader process of entrepreneurial opportunity pursuit and that thereby shape entrepreneurs' thinking and doing (e.g., Gartner et al., 2016: 814; Johannisson, 2011). Similarly, socially situated cognition theory focuses on entrepreneurial cognition as being: (1) action-oriented and focused on doing, (2) embodied in its dependence on both brain and body, (3) situated in the broader communicative, relational and group context, and (4) distributed across a broad variety of actors, tools, and objects (Cacciotti et al., 2016; Mitchell, Randolph-Seng, & Mitchell, 2011; Vahidnia, Chen, Mitchell, & Mitchell, 2017). In general, then, it might be said that many of the assumptions that make up the foundations of practice-based approaches to explain how and why entrepreneurs think and act the way they do in their ever-changing entrepreneurial contexts, are quite consistent with the assumptions that have prompted the development of socially situated approaches to entrepreneurial cognition (see: Randolph-Seng, Mitchell, Vahidnia, Mitchell, Chen, & Statzer, 2015).

But despite such commonalities, to date practice theories and socially situated cognition theories, which both can be highly serviceable in better explaining entrepreneurs' thinking and doing, have remained under-connected to mainstream entrepreneurship research and with each other. Our aim in this chapter is thus to begin to link these two theories, and to show how the insights that emerge from socially situated entrepreneurial cognition theory (Dew, Grichnik, Mayer, Haug, Read, & Brinckmann, 2015; Grégoire, Corbett, & McMullen, 2011; Mitchell et al., 2011; Mitchell, Mitchell, & Randolph-Seng, 2014; Vahidnia et al., 2017) can further help to

extend studies that rely on practice theories to explain entrepreneurial thinking and doing and the associated processes.

We have organized this chapter in two sections. First, we *stylize* both practice theories and the socially situated cognition theory to characterize a few key themes. By “stylize,” we mean that rather than attempting to be comprehensive, we draw on major assumptions or themes of each of these theories (Gartner et al., 2016; Randolph-Seng et al., 2015) to help establish the *promise* that may exist in linking them. Then we rely on these stylized themes to provide guidance regarding the important links and important commonalities that the two approaches demonstrate to have with one another as far as each of these themes are concerned. Second, we suggest possible future *directions* that, in our view, the socially situated views of entrepreneurial cognition can lead to further knowledge of entrepreneurial behavior, practice, and process.

A PROMISING LINKAGE

Entrepreneurship theory and research often deal with a central question: how and why do entrepreneurs think and act the way they do (Alvarez & Barney, 2007; Gartner, 1990; Mitchell et al., 2002; Shane & Venkataraman, 2000)? Entrepreneurship researchers have approached this broad question from a variety of vantage points, resulting in several sub-domains that have increased our understanding of the thinking and acting of entrepreneurs¹. For instance, these sub-domains have increased our understanding of entrepreneurial behavior (Gartner, Bird, & Starr, 1992), entrepreneurial cognition (Mitchell et al., 2002), and entrepreneurial action in the pursuit of entrepreneurial opportunity (Baker, Miner, & Easley, 2003; McMullen & Shepherd, 2006; Sarasvathy, 2001; Shah & Tripsas, 2007) in important ways. As such, we now know a great deal about the different types of behavior involved in the process of opportunity pursuit, the types of

¹ In this chapter, in speak of entrepreneurs, we view them as “entrepreneurial practitioners”; and as such consider the use of practice theory to apply explicitly.

thinking involved, and some of the conditions under which each type of behavior and thinking may be more effective than others (e.g., Baker & Nelson, 2005; Gartner, Bird, & Starr, 1992; Mitchell, Busenitz, Bird, Marie Gaglio, McMullen, Morse, & Smith, 2007).

However, the progress toward understanding and explaining the thinking and doing of entrepreneurs has been hindered by a number of theoretical shortcomings. This is the case particularly because most of the studies to date rarely consider seriously the ever changing and dynamic nature of the personal (arising from both the mind and the body) and contextual or situational factors that influence an entrepreneur's thinking and doing (e.g., Davidsson, 2003; Dimov, 2007; Zahra & Wright, 2011). Vahidnia et al. (2017) recently reviewed key research on thinking and doing of entrepreneurs and provided evidence that much of this research suffers from what they call the problem of *fixed conceptualizations*. By fixed conceptualizations, they (2017: 39) mean that much of research on thinking and doing of entrepreneurs treats “entrepreneurs, their character, motivations, tendencies, and social contexts” as fixed factors that are “seldom, if ever, assumed to change.” They argue that such fixed conceptualizations prevent further theory development and research in all those cases in which entrepreneurial thinking and doing occurs in a dynamic and changing context partly because a mismatch arises between the static theoretical assumptions that entrepreneurship researchers often rely upon to explain those phenomena (associated with thinking and doing of entrepreneurs) that are inherently dynamic.

In response to observations such as these, two important, although separate, approaches have started to grapple explicitly with the effects on entrepreneurial thinking and doing, of the ever-changing factors associated with entrepreneurs, their bodies, minds, motivations, tendencies, available means and ends, social contexts, and so forth. These two approaches include: (1) practice theories of entrepreneurship (Gartner et al., 2016; Johannisson, 2011), and

(2) socially situated entrepreneurial cognition (Cacciotti et al., 2016; Mitchell et al., 2011; Mitchell et al., 2014; Vahidnia et al., 2017). However, the two approaches have remained under-connected and there is great promise in linking the two approaches. Therefore, in this chapter, we are concerned with introducing an explicit cognitive agenda to practice-based entrepreneurship theory and research. Thus, in the first section we attempt to offer a way to connect these two approaches by showing how the broader assumptions, contexts, and theoretical themes or theses of these two approaches align greatly. In the next section, we offer explicit directions for future research which may prove fruitful in better explaining entrepreneurial thinking and doing.

Broad Assertions and Theoretical Context

From the vantage point of practice theories, entrepreneurship may best be explained “as an (everyday) hands-on practice, including routines as well as improvisation in order to cope with coincidence” (Johannisson, 2011: 136). Gartner and colleagues (2016: 813) define a *practice* as “a routinized type of human performance consisting of several elements interconnected to one another. These are forms of bodily activities, forms of mental activities, ‘tools’ and their use, background knowledge in the form of understanding and know-how, states of emotion and motivational knowledge.” Others view practices as “embodied, materially mediated arrays of human activity centrally organized around shared practical understanding” (Schatzki 2001: 2). Accordingly, many factors such as the everyday organizing activities (including bodily and mental activities), habits, repetition, improvisation, tacit knowledge, tools (physical, language, etc.), social environments, and so forth are expected to be considered in explanations of human thinking and doing by using the notion of practice.

In practice theories, the context is often theorized to demonstrate two key characterizations. First, the context is *dynamic* (Keating, Geiger, & McLoughlin, 2014). For

instance, “the notion of ‘contextual constraint’ as an exogenous and static barrier [is] replaced by a more dynamic and reflexive one, illustrated in part through elucidation of the methods that entrepreneurial actors use to structure interaction” (Chalmers & Shaw, 2017: 35). Second the context is an emergent (*organizing*) one: “Instead of reflecting upon what vocabulary is used to make sense of the emerging process, the practice approach focuses on actions and interactions, their source, pattern-making and outcomes. It is about getting things done” (Johannisson, 2011: 137).

Dynamism and emergence also compose two important contextual assumptions of the socially situated cognition theory (Semin & Smith, 2013). The context is dynamic because a variety of factors may introduce change in most human, social situations and the function of social cognition is to register these changes constantly in order to prepare the agent for adaptive action within such a changing context (Smith & Semin, 2004). The context is an organizing, emergent one because as a constantly evolving resource, the social cognition influences “the parts and subsystems that generate it rather than the reverse causal direction” (Semin & Smith, 2013: 125). In socially situated cognition theory, the dynamism and the emergent (*organizing*) nature of social cognition has roots in pragmatism and pragmatic action. As Semin and Smith (2013: 129; emphasis in original) maintain:

The *affordances* ... of a situation and the relational nature between the agent and an object—social or physical...—determine the respective representations. In this view, mental representations serve pragmatic or functional concerns and are dynamically tied to action rather than invariant and static representations. Such representations in turn shape their actions flexibly and allow them to adapt to continuously changing situations.

In addition to the similar contextual assumptions, both practice theories and socially situated cognition theory take, there are several key themes, or theses, in each of these two theoretical

approaches that highly align with one another and thus suggest that providing a linkage between the two theories can be promising. We review these key themes below.

As Gartner et al. (2016: 814) maintain, “typical practice studies ... concomitantly (1) identify the every-day and socially situated nature of entrepreneurship; (2) recognize entrepreneurship practice [i.e., bodily and mental activities], tools and methods used and (3) relate and integrate these with the cognitions, behaviours, and/or skills of entrepreneurship practitioners.” How do these factors translate into terms associated with socially situated cognition theory in entrepreneurship? Randolph-Seng et al. (2015) propose that many of these factors compose the very essence, or the *microfoundations*, of socially situated entrepreneurial cognition. Accordingly, we extend Gartner et al. (2016)’s observation mentioned above. We argue that some of the major themes of practice theories can further be stylized and categorized under four (stylized) themes or theses so that their broad assertions, arguments, or assumptions may be linked to socially situated cognition theory more systematically. These themes, as we stylize them, include: (1) the everydayness theme, (2) the body-and-the-mind theme, (3) the situated theme, and (4) the interconnectedness theme. As we explain below, each of these broad themes has matching counterparts in socially situated approaches to human, including entrepreneurial, cognition.

In the remainder of this section, we explain each of these themes and provide evidence from the socially situated cognition research (Smith & Semin, 2004; Mitchell et al., 2011) to show how many of the ideas from the socially situated cognition literature can readily be linked to these four stylized themes of practice theories that we have stylized here to enable a more systematic way of linking the two literatures. Table 1 summarizes this linkage and the evidence that support it.

 Insert Table 1 About Here

The Everydayness Theme

Mike Ramsay, co-founder of TiVo: "...if you think about all these massive things that we had to deal with every single day of TiVo's existence, you realize that it was a big deal and not for the faint of heart." - Livingston (2007: 203)

In practice theories, actors are often immersed in a great number of everyday activities (Orr, 1996). Similarly, many entrepreneurs, such as Mike Ramsay, co-founder of TiVo, experience the everydayness nature of entrepreneurial thinking and doing. Accordingly, the notion of everyday entrepreneurship in all the forms that it can take is gaining increasing attention within entrepreneurship theory and research (Gartner et al., 2016; Welter, Baker, Audretsch, & Gartner, 2017). For example, scholars observe that entrepreneurial "practitioners move bodies, handle objects, treat subjects, describe things and understand the world" (Gartner et al., 2016: 814). Indeed, these "everyday, often mundane activities [that] people do to get their work done constitute the foundations of social order and institutions" and thus, are central not peripheral in explaining entrepreneurial thinking and doing (Chalmers & Shaw, 2017: 20). A key question is: What role does socially situated cognition play in relation to the centrality of what Bourdieu (1990: 221) refers to as "everyday actions and everyday remarks"?

From the perspective of socially situated cognition theory, cognition—with its certain evolutionary and biological roots—developed primarily to support adaptive action taken routinely in a dynamic (changing) environment (Fiske, 1992). Accordingly, cognition is fundamentally *action-oriented* (Smith & Semin, 2004). As such, rather than being a resource developed for its own sake, it has evolved to support and regulate human action. Indeed, we now know that the mind attends to the specifics of the world in various ways to understand the

nuances of the world in order to engage in continuous streams of adaptive activity and to achieve action goals (Barsalou, 2003; Smith & Semin, 2007). Thus, although there exists a duality between human cognition and human action, that is, cognition influences action (cognition-action link) and action impacts cognition (action-cognition link), the latter is of higher importance: from a biological standpoint, adaptive action within the social and natural environment has primacy over thinking in the service of thinking alone (Agre, 1997; Brown, Collins, & Duguid, 1989; Franklin, 1995; Semin & Smith, 2013). For instance, in many cognitive processes such as knowledge or learning, the “activity in which knowledge is developed and deployed ... is not separable from or ancillary to learning and cognition. Nor is it neutral. Rather, it is an integral part of what is learned. Situations might be said to co-produce knowledge through activity” (Brown, Collins, & Duguid, 1989: 32).

Within entrepreneurship research on thinking and doing of entrepreneurs, much research to date has focused primarily on the cognition-action link; that is, what consequences arise when entrepreneurs possess certain cognitive abilities or resources and, as such, the action-cognition link has remained under-explored (Grégoire, Corbett, & McMullen, 2011). In recent years, however, scholars have started to consider the role of the details of activities more directly, even seemingly ordinary ones, in shaping cognition or cognitive processes, such as making important entrepreneurial decisions. For example, Cardon, Wincent, Singh, and Drnovšek (2009) make a case regarding how various types of social roles and the associated activities one is involved in invoke various forms of identity. This, in turn, invokes various levels of entrepreneurial passion, which is a cognitive resource often necessary for selecting which type of entrepreneurial opportunities one decides to pursue. Similarly, Chan and Park (2015) found that the details of certain entrepreneurial activities, such as variations in the types of images and colors used in

business plans, influenced cognitive processes of key decision makers by impacting positive or negative judgments of certain entrepreneurial decision makers during the screening stages of new venture creation. Likewise, Chan, Park, and Patel (2017) found that various levels of company name fluency had important effects on key pre-venture and post-success financing decisions. Although studies such as these are increasing, research on action-oriented nature of cognition, and how it can further our knowledge of entrepreneurial practice and the associated processes, is only in its beginning stages.

The-Body-and-the-Mind Theme

Steve Perlman, co-founder of WebTV: “And then I was very tired. I was physically, bodily tired, as you can imagine [because of] such a hard effort.” - Livingston (2007: 176)

Mark Fletcher, founder of ONElist: “Startups are just so amazingly fun; they are so amazingly stressful. Whether you are an engineer or whether you are a founder, at least for me, it takes every emotion you’ve got and multiplies it 100-fold. Higher highs, lower lows than any other work experience.” - Livingston (2007: 240)

James Hong, co-founder of HOT or NOT: “...there’s no such thing as easy entrepreneurship. It’s going to be painful, it’s going to be emotionally unstable, you’re going to feel insecure. If you’re not already bipolar, you will feel like you are.” - Livingston (2007: 385)

Unlike many influential approaches that often focus solely on the influence of the mind in entrepreneurial thinking and doing, practice theories place a high emphasis on the simultaneous effects of both the body and the mind on entrepreneurs’ thinking and doing (Bourdieu, 1990; Johannisson, 2011). As is clearly seen in the case of the entrepreneurs Steve Perlman, Mark Fletcher, and James Hong mentioned in the above quotes, an emphasis on body and mind may better reflect the reality of entrepreneurs. In Bourdieu’s (e.g., 1984, 1990) view, many of preferences individuals demonstrate in their thinking and acting are not merely the results of their own mental processing or reflections, i.e., coming solely from within the mind, but

embodied dispositions acquired through prolonged social (e.g., socialization) processes. Thus, the body plays important roles in nearly all human thinking and doing, even in the preferences or *tastes* one demonstrates. Similarly, as Cetina, Schatzki, and Von Savigny (2005: 18) put it: “Since the prominence of practical understanding is tied to the body’s meditative positions between mind and activity and between individual activity and social manifold, understanding is stretched between two poles: the body on the one side and the social world on the other.” But, what is the socially situated, cognitive nature of a bodily-linked mind in such contexts?

In socially situated cognition theory, “the human body is more than an output device for the cognitive machinery” (Semin & Smith, 2013: 131). Instead, cognition and cognitive processes are grounded fundamentally in the body and in various bodily states—hence cognition is *embodied*. This is partly because human experiences with and perceptions of the world are constrained by the very structure of human body and mind (Gibbs, 2006). Indeed, the very processes that humans use to categorize their social context (and thereby to reason within such a context) are often viewed to be functioning as a result of the operation of the mind. But fundamentally they are embodied, where human, bodily experiences with the world and imagination both play key roles in categorizing things and reasoning about them (Lakoff, 1987). Some go so far as to say that without the body and its various emotions, the agent is not likely to be able to function or reason as a human being (Smith & Semin, 2004). Accordingly, Semin and Smith, 2013: 134) maintain that,

...the notion of embodiment has opened the imagination for the examination of diverse bodily influences in interaction with a great variety of external circumstances, ranging from such physical features of the environment as temperature to linguistic ecologies. Thus, embodiment as an umbrella has been of great service to open entirely new ways of thinking, all of which are waiting for integration at a theoretical level.

Within entrepreneurship research, some studies have started to further uncover the embodied aspects of entrepreneurial cognition. For example, research shows that “the nature of founders’ affect shapes the sensemaking efforts and actions taken in creating new ventures. Activated affect (such as anger or excitement) may be particularly important to create the energy needed to engage in risky and extended efforts to create a new organization” (Walsh & Bartunek, 2011: 1038). Similarly, an individual’s “identity, as an embodied cognitive factor, has important roles in the types of entrepreneurial opportunities one pursues and the types of entrepreneurial action one takes,” because “there emerge forms of ‘identity-based affinity’ ... that leads to varying degrees of negative or positive evaluation of various entrepreneurial opportunities with different empirical content” (Fauchart & Gruber, 2011: 952). Similarly, Cacciotti et al. (2016) provide evidence that, as opposed to treating fear of failure as a trait or a purely cognitive factor, we may need to approach viewing fear of failure as an embodied factor that shapes individuals’ experiences with various aspects of entrepreneurial processes. As a stream of research on the embodied nature of entrepreneurial cognition accumulates, we can further our knowledge of entrepreneurial practice and the associated cognitive processes that underlie it in important ways.

The Situated Theme

Mena Trott, co-founder of Six Apart: “It’s really complicated, and I think that most people who aren’t in our situation can’t really pass accurate judgment.” - Livingston (2007: 412)

Practice theories attempt to take into account the details of the situation in which human activities take place explicitly (Bourdieu, 1990; Johannisson, 2011). Like Mena Trott’s situation, they regard it difficult to explain human thinking and acting without sufficient attention to the totality of the situation. Accordingly, practice is often “associated with coping with the local, the situated, specific, concrete and detailed” nature of thinking and acting in their richly

contextualized social and environmental contexts (Johannisson, 2011: 136-137). Accordingly, many of the notions often taken to be universal, such as knowledge, language, culture, etc. are taken to be local, situated, and specific from the perspective of practice theories (e.g., Bourdieu, 1990). Additionally, thinking and doing are situated shared understandings. That is, human action, interaction, and deliberation take place within a broader set of specific details that collectively create shared, evolving realities in relation to which one can understand and explain instances or patterns of successful or unsuccessful thinking and doing (Chalmers & Shaw, 2017). But these very same situations are also subject to situated action and thus are likely to be transformed to new states. One may ask: How may the situated nature of practice be linked to socially situated cognitive foundations of thinking and doing?

From socially situated cognition theory, cognition is *situated* such that it is rooted indistinguishably in the social and environmental contexts in which it forms (Caporael, 1997). Indeed, actors constantly *lean on* the details of their situation and use situational resources (i.e., local knowledge) in order to think and take action (Agre, 1997). Accordingly, from this perspective, resources such as human knowledge are situated in their context, culture, and other environmental factors. Thus, for instance, when viewed to be situated, knowledge refers to a *capacity* to act within a social and environmental setting adaptively (Brown, Collins, & Duguid, 1989; Clancey, 1995). In this sense, rather than being abstract or detached, knowledge of things, and the concepts that help represent these things, is evolving constantly. Actors use evolving sets of concepts, as they operate within a changing environment constantly in order to link their thinking and doing tightly to the evolving nature of their situation as well as the changing demands that such a situation necessitates on actors' thinking and doing (Barsalou, 2003, 2008). Therefore, a concept "will continually evolve with each new occasion of use, because new

situations, negotiations, and activities inevitably recast it in a new, more densely textured form. So, a concept, like the meaning of a word, is always under construction.” (Brown, Collins, & Duguid, 1989: 33). Indeed, that many of the concepts humans in one social setting use may not necessarily be used or understood in other social contexts in part reflects the notion that the defining features of a situation create constraints on cognition (Smith & Semin, 2004). Accordingly, the situated nature of cognition suggests that human mental representations are constructed to meet the demands of the situated action and are thus organized around an action-environment interface, not abstract and detached mental resources (Barsalou, 2003; Smith & Semin, 2007).

Within entrepreneurial cognition research, Haynie, Shepherd, Mosakowski, and Earley (2010) argue that dynamism and uncertainty are inherent to most entrepreneurial contexts and, accordingly, cognitive adaptability is an important resource many entrepreneurs need to develop. Haynie and Shepherd (2009) also develop a measure of cognitive adaptability that can offer a way to measure to what extent entrepreneurs are likely to be adaptable to the demands of their situation (or potentially may need additional training to improve their cognitive adaptability). Furthermore, Baucus, Baucus, and Mitchell (2014) provided evidence that even very small changes in entrepreneurs’ situation had important implications for thinking and doing of entrepreneurs in their study. Similarly, in a longitudinal case study of a female entrepreneur operating in the information technology industry in Iran, Vahidnia and Mitchell (2017) found that as opposed to being abstract or general conceptions, or being defined solely in terms of market conditions or profit rewards, entrepreneurial opportunities greatly showed the properties of situated concepts: that is concepts with a constantly evolved meaning. In addition, they provided evidence regarding how and why the entrepreneur in their study constantly leaned on

her social situation, culture, institutional factors, religion, family considerations, and personal limitations, among other factors, to position her entrepreneurial efforts vis-à-vis not only market participants or competitors, but also to a set of broader factors associated with her social and cultural life.

The Interconnectedness Theme

Max Levchin, co-founder of PayPal: "...Bob and I built this system that was part visualization package, part graph balancing tool, that would try to represent large-scale travels of money in the system in a visual form. Taking that as a base, we built all these different tools that would allow computers to predict where particularly expensive losses would be and then represent the networks of losses to the investigators in such a way that they could very quickly make a decision whether or not to pursue a particular case." - Livingston (2007: 9)

Practice theories often explicitly consider the interdependence of actors, such as the above-quoted entrepreneur Max Levchin, with other people, objects, and tools in their broader context, as these actors attempt to get important things done. Thus, not only the body, the mind, and the broader social or situational factors are important, but also the many ways that actors rely on other people and tools are central in explaining human practices. Additionally, these very same interconnected sets of people, tools, systems, and methods ultimately create shared systems of beliefs or cognitive systems through which key knowledge and ideas are preserved. For instance, in Bourdieu's (1990: 53) terms: "The practical world that is constituted in the relationship with the *habitus*, acting as a system of cognitive and motivating structures, is a world of already realized ends—procedures to follow, paths to take—and of objects endowed with a 'permanent teleological character,' ... tools or institutions." Thus, before any particular individual can act, significant effort has already been expended to create knowledge or learning by various other social actors—most notably, previous generations. Massive effort has also been used to embed such knowledge in various tools, institutions, cultural practices, and language,

among other social and contextual resources. Accordingly, a potentially endless number of possibilities for thinking and doing in each situation has been reduced to a more manageable range, which brings opportunities for, and constraints on, thinking and doing in each social environment (e.g., Johannisson, 2011). However, this leads to the question, what are the cognitive underpinnings of such forms of interconnectedness between agents, other people, and tools?

In socially situated cognition theory, cognition is treated as *distributed* in a number of important senses. First, often agents rely both on their own mental and bodily abilities and also on reaching out to other people or employing other tools to process information, make decisions, and take action (Clark, 1997; Semin & Smith, 2013). Many activities or tasks are so complex that under normal circumstances no single individual is likely to be able to perform all the associated parts. It is only by *leaning* on other people, tools, and methods that many complex tasks are doable (Agre, 1997). Second, social culture, knowledge, language, and institutions are viewed not only to be situated, but also shared among extensive social participants whose thinking and doing are shaped and shape these factors strongly and continuously (Smith & Semin, 2004, 2007). Accordingly, these factors permit participants in a social situation to participate in a shared reality, communicate effectively within such a reality, and engage in adaptive action to achieve goals within this reality, including changing the very same reality. Third, culture, knowledge, language, institutions, tools, and many objects in the environment are viewed to act as both resources for thinking and doing as well as constraints on what is likely or possible (Clancey, 1997). For instance, an “important defining feature of culture is given by tools and their use.... Importantly, tools carry cultural information and shape the historical and cultural range of things that are possible in socially situated cognition and action” (Smith &

Semin, 2004). Accordingly, these factors are integral to thinking and doing. Thus, they are not detached from cognitive and behavioral processes.

Within entrepreneurship research, theorizing and research that take into account the distributed nature of cognition has been increasing. For instance, scholars have studied how transactive memory systems, as important forms of distributed cognition, permit members of entrepreneurial teams to achieve various entrepreneurial purposes (e.g., Zheng, 2012; Zheng & Mai, 2013). Similarly, theories and studies of entrepreneurial passion show that passion as a cognitive resource is tool and object oriented and, as such, has certain distributed roots. Thus, one can see how tools and objects can fuel the cognitive engine of many real-world entrepreneurs (Cardon et al., 2009; Dew et al., 2015). Likewise, Corbett, Neck, and DeTienne, (2007) found that members of some entrepreneurial firms rely on certain procedures and tools that are distributed across various parts of the organization as these members pursued entrepreneurial opportunities, and that even many of the learnings from their entrepreneurial failures were guided by these very same distributed procedures or tools.

To sum, above we offered four broad (stylized) themes of practice theories and provided evidence regarding how these themes, and the broader assumptions on which they operate, have similar counterparts in the socially situated cognition theory. Now that we have established that there exist evidence linking the two theories, we may propose how practice theories may gain further insights from the contributions or assertions of socially situated cognitive theory. Thus, in the next section we provide some of the fruitful avenues for future research in the study of entrepreneurial behavior, practices, and process using the insights from socially situated cognitive.

DIRECTIONS

In the previous section we have argued that there exist important links between ideas and approaches taken by practice theories and socially situated cognition theory to explain human thinking and acting. In this section we now propose four possible future directions that socially situated cognition theory can offer to extend practice oriented theories and studies within entrepreneurship research.

Future Direction 1: Deepening Understanding of Reasoning

Attending to the various factors that influence entrepreneurial practices (e.g., bodily, mental, situated, distributed, etc.) requires a level of depth in the entrepreneurial reasoning that is involved as the process of opportunity pursuit unfolds. One of the promising areas for future research is thus to study the richness with which entrepreneurs engage in reasoning as they pursue entrepreneurial opportunities (Baron & Ward, 2004; Ward, 2004). Indeed, entrepreneurs are argued to engage in important and rich forms of reasoning, such as using distinct types of analogical or metaphorical language, as they create new ventures (Cornelissen & Clarke, 2010). An emphasis on reasoning is consistent with practice theories, which often view actors to be mostly aware of their engagement in various types of thinking and activities in the fields in which these they engage. In these theories, often actors are conceived to be mostly intentional agents that attempt to achieve goals and get things done within a changing and often complex environment. Navigation through such an environment often demands a level of richness in reasoning.

One important question in socially situated cognition-based approach to entrepreneurship asks: how is reasoning affected by situated, adaptive action of entrepreneurs? One important stream of research in this area focuses on the role of categories and categorization in reasoning,

as these elements are viewed to be among the most fundamental aspects of cognition (Rosch, 1978). According to Lakoff (1987), reasoning occurs primarily through categories (of things) and fundamentally depends on processes of categorization. In this view, human beings categorize a set of things not just for the sake of creating abstract mental representation of those things (cf. Barsalou, 2003), but more importantly in order to subject those things to situated action (Brown, 1958; Lakoff, 1987). For example, when an actor chooses among terms such as “money,” “coin,” “a 1952 dime,” or “dime” to refer to a particular metal object, the actor is likely to subject that object to distinct courses of action (Brown, 1958). For instance, by using the term “a 1952 dime” (as opposed to simply a “dime”) to refer to the object, the object is more likely to be kept than spent. As a result, categorization has a functional purpose. Also, it is assumed that categorization, and the associated reasoning processes that rely upon it, help actors to consider the demands of their bodies, minds, social situations, cultures, and other key factors adaptively in their situated action. For example, research has found that in various emotional states (i.e., bodily states), people categorize things or objects distinctively (Niedenthal, Halberstadt, & Innes-Ker, 1999) and thereby subject these objects to different courses of action. Similarly, the culture in which one operates is important in how individuals categorize abstract or concrete objects (Smith & Semin, 2004).

In situations that are entrepreneurial in nature, such as the prior examples we used from various entrepreneurs, entrepreneurs’ body, mind, culture, language, tools, and other socially situated factors are likely to be in flux depending on the situation. This in turn leads to changes in the way entrepreneurs categorize objects or people and thereby subject these objects or people to action. At present, our depth of knowledge related to entrepreneurial reasoning in general, and the role of categorization—as an action-oriented, embodied, situated, and distributed mechanism

- in reasoning in particular, is still limited in its richness. However, we believe that a fruitful direction for future research is to focus on how entrepreneurs categorize the objects and people they face, how categorization processes unfold or change during time, and what consequences these processes have. Additionally, it is useful to study how the categories used in reasoning connect to or influence one another, are modified, discarded, or endure, and how they shape reasoning of entrepreneurs. It is likely that once we identify key nuances and richness related to how reasoning through categorization and categories operate, we will be able to identify the particularities associated with their roles in entrepreneurial practices. Possibly such identification would better position us to improve thinking and doing of entrepreneurs by intervening in the processes through which they reason.

Future Direction 2: Investigating Conceptual Combinations

A second related future direction is to understand how categories of objects and people, both imagined and concrete, are combined in entrepreneurial processes by entrepreneurs in order to create new conceptual combinations and thereby enhance the effectiveness of their practices. Fodor and Pylyshyn (1988) argue that because of its complex nature, as it is embedded in a variety of situated factors, conceptual combination is perhaps the most fundamental cognitive ability that distinguishes human beings from other animals. According to Wu and Barsalou (2009: 173):

Conceptual combination is a fundamental process in human cognition. Besides knowing thousands of individual concepts, people can combine these concepts into an infinite number of more complex concepts. Conceptual combination is found throughout higher cognition. During the perception of a novel scene, concepts that categorize scene components are combined to interpret the novel configuration of entities and events perceived. During language production, speakers combine concepts as they conceptualize what to convey in an utterance. In turn, listeners combine concepts for words in sentences to conceptualize what speakers are saying. During thought, agents combine concepts as they solve problems, reason, and make decisions.

One of the central ideas in entrepreneurship research is the idea of “new combinations” proposed by Schumpeter (1934). Although the idea of new combinations has been around for decades, its cognitive nature and full implications for studies of entrepreneurial thinking and doing have not been considered seriously (Ward, 2004). New combinations, such as new venture ideas, are inherently cognitive (Davidsson, 2015), and as such always have empirical content (Hill & Birkinshaw, 2010). That is, they are composed of various components or sets of real or imaginary objects, locations, people, etc. (Barsalou, 2003, 2008; Vahidnia & Mitchell, 2017). Still, within extant entrepreneurship research, our understanding of the types, antecedents, dynamics, and consequences of various forms of conceptual combinations is limited.

Note that both practice theories and socially situated cognition theory suggest that human thinking and acting are simultaneously enabled and constrained by the very same culture, language, knowledge, institutions, tools, and ways of doing things through and in which it is embedded. This very observation should be true about conceptual combination of ideas as well. Although in theory a limited number of concepts can create an unlimited number of new ideas or conceptions, in practice, many of these conceptual combinations are constrained by the culture, language, knowledge, and institutions in which they arise. As such, while some forms of conceptual combinations may be available in one social setting, other combinations may not, giving rise to a variety of important implications.

Based on the above argument, then, several important questions arise. How do entrepreneurs combine various types of concepts and create new ones? How do entrepreneurs lean on their situations, other people, tools, shared systems, cultures, institutions, and so forth to combine these factors such that effective conceptual combinations are created? How is a particular conceptual combination selected over others? How are conceptual combinations

modified over time? What roles do culture, institutions, language, situated knowledge, one's body and mind, available tools or methods, play in shaping conceptual combination of ideas? What properties make some conceptual combinations more suitable than others in a particular social setting?

In addition, can statistical investigation of conceptual combinations (Pollack, 1990) shed light on the idea of new combinations? For instance, what types of detailed features or forms of associations do successful conceptual combinations have? Additionally, what configuration of factors are more likely to create better conceptual combinations in each social situation? It is likely that once we uncover more nuances of the types, processes, and consequences of various types of conceptual combination, as it occurs in its social context, we are more likely to be able to help entrepreneurs create and enact these combinations successfully.

Future Direction 3: Decomposing the Experimental Nature of the Process

While new conceptual combinations created by entrepreneurs provide the basis for new venture ideas, these combinations are not only constrained by practitioners' cognition and context, but also are likely to be tested and shaped in the very same context (Shepherd, 2015)—in particular by other social agents in the social context. The experimental nature of this testing process suggests that, although these *distributed*-like tests may disqualify certain ideas, such tests also may prompt other agents or people in the same social situation to provide feedback, thereby to refine and iterate certain other ideas into useful new combinations (cf. Dimov, 2007).

Additionally, new combinations are to be viewed as being products of other people's influence, arising from these other people's bodies, minds, and social situations. Temporarily- or permanently-failed trials by entrepreneurs are thus integral parts of the *entrepreneurial* process; and such trials can be conceived as reality checks and lessons learned that help to develop ideas

into practicable future realities. Interestingly, many of entrepreneurial efforts—both successes and failures—become distributed, as they become available in the wider environment in the form of entrepreneurial narratives, stories, gossip, or shared understandings that serve the function of explaining what works and what does not work in that environment.

Thus, any given situation can and often does shape the actions of its practitioners through the dynamics and specific relations that exist among any given entrepreneur and the other people with whom they interact. Furthermore, various approaches to thinking and doing are preserved or discarded through the ordinary human interaction that occurs in entrepreneurial practice. Such evolving interactions create what is often referred to as adaptive *co-regulation* of thinking and doing in socially situated cognition theory (Semin & Smith, 2013). From this view, “cognition is not identified with detached thought, but rather with adaptively successful interaction with other agents and the world” (Semin & Smith, 2013: 126-127). In particular, many of the actions other people take, or the emotions they show, during their interactions with a given entrepreneur have important effects on thinking and doing of that entrepreneur. This is the case because the actions, movements, and emotions of other people or agents with whom one interacts are readily mapped onto one’s own body and thereby influence one’s behavior.

Therefore, we suggest that the third fruitful direction for future research is to decompose the process of “learning through experimenting” and to explore how the dynamics among agents in a situation influence important consequences, such as learning outcomes. For example, Autio, Dahlander, and Frederiksen (2013) found that online user communities facilitate collective experimenting around new venture ideas, or conceptual combinations, and that user feedback importantly shaped evaluation of these ideas, encouraged certain practitioners to further engage in entrepreneurial behavior, and thus pursue the associated entrepreneurial ideas. By decomposing

the process from the vantage point of the socially situated cognition theory offered herein, a number of important questions arise. For example: How do entrepreneurs experiment by relying upon their stakeholders (including stakeholders' bodies, bodily activities, emotions, and so forth), tools, cultures, and/or institutions? How are interactions deemed to be successful or unsuccessful? How are conceptually combined new venture ideas shaped by this process (that is, how much of the entrepreneurial action is regulated by the practitioner and how much is by other agents or the environment)? Additionally, what roles do bodily activities, bodily gestures or movements, physical distance from other agents, or various forms of body language play in co-regulation of thinking and doing of entrepreneurs, and how do these factors influence formation, modification, and discarding of certain conceptual combinations (or new venture ideas) and not others?

Future Direction 4: Appreciating Cognitive Apprenticeship and Leaning on the Environment

A related important aspect of practice is that frequently the practitioner must deal with a variety of local, specific, and detailed factors, which arise from the body, mind, social situation, and other people or tools in the environment, and that may place various demands on adaptive action (Gartner et al., 2016; Johannisson, 2011). While some factors may change, others may last longer (e.g., habit-based factors). Still, new factors may be introduced or disappear. Because cognition likely evolved to support situated, adaptive action within a dynamic environment (Smith & Semin, 2004), one key way that cognition supports adaptive action is that it leans on the environment itself in various ways, registers important factors or elements of the activity-situation interface, and keeps track of many, if not all, of the key attributes or properties of the related practice (Agre & Chapman, 1990), including stability (e.g., routine) and changes (e.g.,

improvisation) that may be a part of practice. This process is often called indexicalization of representation (Barwise & Perry, 1983). As Brown, Collins, and Duguid (1989: 37) maintain:

... the structure of cognition is widely distributed across the environment, both social and physical. And we suggest that the environment, therefore, contributes importantly to indexical representations people form in activity. These representations, in turn, contribute to future activity. Indexical representations developed through engagement in a task may greatly increase the efficiency with which subsequent tasks can be done, if part of the environment that structures the representations remains invariant. This is evident in the ability to perform tasks that cannot be described or remembered in the absence of the situation. Recurring features of the environment may thus afford recurrent sequences of actions. Memory and subsequent actions ... are not context-independent processes. Routines ... may well be a product of this sort of indexicalization.

Accordingly, we suggest that future entrepreneurship theorizing and research can increase our understanding of various entrepreneurial behaviors and practices by studying how entrepreneurs reach out to or lean on the detailed features of their environment, register these features, and act upon them. For instance, culture, institutions, norms, and other broader social factors often create opportunities for and constraints on acting (Welter, 2011).

However, we do not know many of the details that are involved in the process beyond this general assertion. How specifically do entrepreneurs simultaneously take advantage of situational opportunities and while avoiding situational constraints on their practices? What types of elements are indexicalized? Which ones are ignored? How and why? How are these elements communicated with other stakeholders upon whom successful entrepreneurial practice depends? Is there any conflict among indexicalized features of a situation? If yes, how are these conflicts resolved cognitively and behaviorally? What are the consequences of such conflicts on the body and the mind of the entrepreneur and for those future entrepreneurial practices? Creating indexicalized representation can help define and solve entrepreneurial problems or issues simultaneously (Brown, Collins, & Duguid, 1989). Accordingly, we believe that by focusing on

the types, antecedents, processes, and consequences of indexicalization, future entrepreneurship research on entrepreneurial practices can benefit from such an approach, which enables us to uncover the details of the processes associated with simultaneously defining and solving various complex problems associated with many entrepreneurial practices. More generally, once answers to the above questions are provided, we may be able to provide a more comprehensive and integrated model of entrepreneurial thinking and doing.

CONCLUSION

In this paper, we have sought to highlight the linkage between practice theories and socially situated cognition theory. In doing so, we have drawn attention to the similarities between the sets of ideas that are utilized by each of these theories. To us these similarities validate the fundamental nature of the shared ideas, and as a result their extraordinary promise for application and integration. As Smith and Semin (2004) emphasize in their suggestion of socially situated cognition as a focus of scholarly attention (which integrates the situated cognition and social psychology views):

“Despite this fundamental conceptual similarity ... situated cognition and social psychology have had little or no contact, although neighboring subdisciplines... We believe that vigorous attempts at integration and mutual recognition—from both sides of this conceptual divide—will pay rich dividends in future theoretical and empirical progress” (p. xxx).

We see a similar opportunity for the integration and mutual recognition between practice theories and socially situated cognition theory, in the study of entrepreneurship. As we have argued, the integration and application of these ideas can be helpful to providing explanations both for entrepreneurs and for those who study them, as we seek to understand their relationships with the greater environment (Gartner et al., 2016: 813); and as they seek to use their developing cognitive, motivational and emotional abilities to engage with the broader social context

(Mitchell et al., 2011: 775). Returning to the assertion by Asch (1952) in the epigraph that began this chapter, it is our hope investigating these entrepreneurs in their actual (versus isolated) setting will grant a greater sense of meaning both to us and to them.

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Table 1. Stylized Themes of Practice Theories and Their Links to the Themes of Socially Situated Cognition

Stylized Theme	Some Key Excerpts
The everydayness theme; corresponding to the action-oriented nature of cognition	<p>“...activity and situations are integral to cognition...” (Brown, Collins, & Duguid, 1989: 32)</p> <p>“...thinking is for doing.” (Fiske, 1992: 877)</p> <p>“The overriding task of mind is to produce the next action.” (Franklin, 1995: 18)</p> <p>“...the world is its own best representation” (Agre, 1997: 63)</p> <p>“...cognition evolved for the control of adaptive action, not for its own sake.” (Smith & Semin, 2004: 57)</p> <p>“The [socially situated cognition] perspective invites changing the ‘what is cognition?’ question to ‘what is cognition <i>for?</i>’” (Semin & Smith, 2013: 129)</p> <p>“...cognition is geared to action in the natural and social environment, and therefore has evolved in myriad ways to exploit objects and social structure available in these environments...” (Dew et al., 2015: 145)</p>
The body-and-the-mind theme; corresponding to the embodied nature of cognition	<p>“[We need to] question the view of reason as disembodied symbol-manipulation and correspondingly to question the most popular version of the mind-as-computer metaphor.” (Lakoff, 1987: 8)</p> <p>“...an emotionless cognitive agent would not be smart and rational, but totally nonfunctional...” (Smith & Semin, 2004: 71)</p> <p>“Embodiment in the field of cognitive science refers to understanding the role of an agent’s own body in its everyday, situated cognition.” (Gibbs, 2006: 1)</p> <p>“One’s identity, as an embodied cognitive factor, has important roles in the types of entrepreneurial opportunities one pursues and the types of entrepreneurial action one takes in the pursuit of such opportunities.” (Fauchart & Gruber, 2011: 952)</p> <p>“...cognition is <i>embodied</i>, since our experiences of the world (social or otherwise) originate from bodily interactions, and the architecture of our body shapes the range of interactions we can engage in with our social and physical environment.” (Semin & Smith, 2013: 130)</p>
The situated theme; corresponding to the situated nature of cognition	<p>“...knowledge is situated, being in part a product of the activity, context, and culture in which it is developed and used.” (Brown, Collins, & Duguid, 1989: 32)</p> <p>“Knowledge is a capacity to behave adaptively within an environment; it cannot be reduced to (replaced by) representations of behavior or the environment.” (Clancey, 1995: 229)</p> <p>“...human cognition [is] inextricably embedded in the social structural context in which it occurs.” (Caporael, 1997: 277)</p> <p>“Far from the Cartesian ideal of detached contemplation, real agents <i>lean</i> on the world.” (Agre, 1997: 63, emphasis in original).</p> <p>“Because the conceptual system’s primary purpose is to support situated action, it becomes organised around the action-environment interface.” (Barsalou, 2003: 513)</p> <p>“The defining features or affordances ... of [an] environment are resources for, and constraints on, cognition.” (Smith & Semin, 2004: 81)</p> <p>“...situated action underlies cognition.” (Barsalou, 2008: 617)</p> <p>“...we urge theorists to ... conceptualize representations as states that are constructed online in specific contexts.” (Smith & Semin, 2007: 134)</p>

Stylized Theme	Some Key Excerpts
The interconnectedness theme; corresponding to the distributed nature of cognition	<p>“...the agent remains locked within the envelope of skin and skull, but that beliefs, knowledge, and perhaps other mental states now depend on physical vehicles that can (at times) spread out to include select aspects of the local environment. Such a picture preserves the idea of the agent as the combination of body and biological brain, and allows to speak—as we surely should—of the agent’s sometimes manipulating and structuring those same external resources in ways designed to further extend, offload, or transform her own basic problem-solving activities. But it allows also that in this “reaching out” to the world we sometimes create wider cognitive and computational webs: webs whose understanding and analysis requires the application of the tools and concepts of cognitive science to larger, hybrid entities comprising brains, bodies, and a wide variety of external structures and processes.” (Clark, 1997: 218)</p> <p>“Culture is pervasive; we are participating in a culture and shaping it by everything we do... Knowledge is pervasive in all our capabilities to participate in our society; it is not merely beliefs and theories describing what we do” (Clancey, 1997: 271).</p> <p>“The evolution of human society in general and individual functioning in society cannot be understood properly unless we conceive of knowledge as a cumulative process that is distributed and preserved by diverse means. Such means include physical tools (such as compasses, hammers, and calculators), the structuring of the physical environment (road signs, the architecture of restaurants, and post offices), and the distribution of knowledge across people and groups (car mechanics, navigators, programmers).” (Smith & Semin, 2004: 89)</p> <p>“...cognition is socially enabled and distributed through communication... Communication fundamentally shapes and even constitutes cognition, making cognition truly social. Many tasks, such as performing heart surgery or navigating a large ship, supersede the capabilities of an individual and require the collaborative operation of a group that has a shared reality facilitating the coordination of its actions. In such situations, cognition is to be found in collaborative communication rather than in any one single individual’s head.” (Smith & Semin, 2007: 134)</p>
