

THE ROLE OF NARRATIVE TRANSPORTATION IN
ENTREPRENEURSHIP PITCH MICROPROCESSES

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Abstract: This research conceptualizes startup investments as a function of three interconnected factors influencing each other: entrepreneurs, the opportunity/venture, and investors. Entrepreneurs must effectively communicate their ideas in a manner that investors can understand and accept in order to secure funding for start-up ventures. Entrepreneurs utilize a pitch to explain the new venture concept and motivate investors to invest. If an investor is familiar with a narrative, its characters, or plot, they will be more interested and engaged. Investors may seek to incorporate additional thoughts, make suggestions to adapt the opportunity and ultimately render a decision of whether to commit resources.

Narrative transportation theory suggests persuasive communication changes attitudes and perceptions through connections to characters or affective cognitive responses to the themes or messages contained within a narrative. When the effects of narrative transportation are experienced, individuals are transported into a story and may begin to accept a narrative world in lieu of real-world facts, knowledge or personal experiences. Narrative transportation can activate cognitive processes such as mental simulation and cognitive elaboration. If investors are narratively transported into the pitch narrative, collaboration and idea exchange may increase as investors generate new ideas, improvements or adaptations that may be perceivably incorporated into a proposed opportunity.

Path analysis was used to analyze two studies conducted to understand how familiar pitch narratives can transport investors, stimulate certain cognitive processes (perceived realism, cognitive elaboration, and thought confidence), and lead to mentally simulated adaptations so that resource commitment decisions can be determined. Results from the studies confirmed that cognitive processes induced by narrative transportation fully mediate the relationship between familiarity and entrepreneurial opportunity adaptation, and that entrepreneurial adaptation has a positive significant relationship with resource decision making, such that at high levels of entrepreneurial opportunity adaptation there is an increase in the likelihood of resource commitments.

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CHAPTER I

INTRODUCTION

Dissertation Proposal Background

Entrepreneurs must often secure funding to survive and sustain start-up ventures. Unless they can overcome the liability of newness (Aldrich & Auster, 1986; Stinchcombe & March, 1965) and achieve a level of perceived legitimacy with their stakeholders (Zimmerman & Zeitz, 2002), it is unlikely they will be able to obtain the necessary funding (Rutherford, Tocher et al., 2016; Tost, 2011). To accomplish this, entrepreneurs must be able to effectively communicate their ideas in a manner that can be understood and accepted by others (Hill & Levenhagen, 1995); but it remains unclear in entrepreneurship literature as to how interactions between entrepreneurs and angel investors (angels) during a business pitch event specifically enable cognitive responses to finalize an investment decisions.

Prior research has shown that angels are willing to invest in higher risk - high return entrepreneurial opportunities in order to gain a share of influence, income and eventually capital gains (Hindle & Wenban, 1999; Mason & Stark, 2004). Angels often have little information available about start-ups they are evaluating, and new or unexpected information can cause angels to reassess their position (Paul et al., 2007). Angels

assess opportunities and determine investments based on their experiences from professional careers, entrepreneurial endeavors, investments, personal experiences, and interactions with entrepreneurial founders (Parhankangas & Ehrlich, 2014; Politis & Landström, 2002). Angels reflect on their historical experiences by cogitatively reflecting or by experiencing more interpretations of that event through social and personal interactions. Individuals can mentally simulate either by conceptualizing what might have transpired if historical circumstances had been slightly different, or counterfactually thinking by developing hypothetical histories and outcomes that may be significantly greater than the history actually experienced (Harrison et al., 2015). Angels also receive information from entrepreneur pitches, mentally simulate and cognitively elaborate future outcomes. Angel evaluations can be influenced by interactions and the entrepreneur's impression management strategies (Parhankangas & Ehrlich, 2014). In some cases, angel investment decision making relies on shortcut decision-making heuristics to deal with uncertainty and ambiguity (Busenitz, Moesel et al., 1997; Harrison et al., 2015). However, in practice investment decision making does not always follow consistent or prescribed processes (Busenitz et al., 1997).

Microprocess research may allow for a better understanding of these interactions and how decisions are ultimately made (Bitektine & Haack, 2015; Powell & Colyvas, 2008; Tost, 2011). Recent entrepreneurship literature has demonstrated that microprocess in the start-up of new ventures converge and manifest at macro-levels (Corner & Wu, 2012). This cross-level impact is often theorized, but rarely illustrated empirically (Lichtenstein et al., 2006). To more completely understand these, so called, "micro-motors" of new venture creation, scholarly work must develop theory that examines enaction, interpretation, translation, and meaning (Powell & Colyvas, 2008). Microprocess research can assist in understanding the

taken-for-granted formal and rational processes of organizations (Drori et al., 2006). Moreover, the combination of micro- and macro-level processes allows for better understanding of how individuals create, adapt, and destroy institutions (Bitektine & Haack, 2015; Powell & Colyvas, 2008).

In this research, I conceptualize start-up investments as a function of three interconnected factors influencing each other: the entrepreneur(s), the opportunity, and the investor (Davidsson, 2015; Gianiodis et al., 2017; Shane & Eckhardt, 2003). This interconnectivity can be established through interactions such as narrative pitches, discovery, dialogue, collaboration, and negotiations. For the purposes of this dissertation in understanding microprocesses of the pitch interactions between the entrepreneur and investor, I encompass all elements of the interaction into the single, multidimensional construct—the pitch. Although other research suggests there are separate steps such as diligence and negotiations (Cardon et al., 2009; Clark, 2008; Clarke et al., 2019; Paul et al., 2007; Sudek, 2006), it may be overly simplistic to view them as independent or necessarily sequential (Amatucci & Sohl, 2004). In practice, the “stages” of the pitch process often overlap and the boundaries of each step are blurred. In order for a resource commitment decision to be reached, dialogue and interactions continue between the entrepreneur and the investor and ideas are exchanged nonlinearly (Paul et al., 2007)—a loop can occur at any stage of an investment consideration process as angels iterate pitched opportunities (Amatucci & Sohl, 2004).

The interaction that begins with a pitch narrative may trigger a dialogue between the entrepreneur (the storyteller) and the investor (the story receiver). As storytellers and story receivers process narratives, certain cognitive responses, such as mental simulations or counterfactual thinking, can begin as sensegiving and sensemaking take root (Gaglio, 2004;

Hill & Levenhagen, 1995) and continue throughout an interaction (e.g. pitch, discovery, diligence and negotiation). As new information is received and processed, cognitive elaborations can generate new ideas that may be incorporated into the proposed opportunity, which initiates a transition from viewing the opportunity from a third-party perspective to a first-party actor (Gaglio, 2004; Gaglio & Katz, 2001; McMullen & Shepherd, 2006).

Uncertainty and lack of information can prevent entrepreneurial actions, as well as stakeholder investments (Douglas & Shepherd, 2000; McMullen & Shepherd, 2006). When entrepreneurial actors, including stakeholders, are able to transition their perspectives from viewing an opportunity as being something possible for “someone” to being a possible opportunity for the actors themselves, then the entrepreneurial action is more likely (McMullen & Shepherd, 2006).

The entrepreneur’s narrative can stimulate stakeholders to engage in a process of assessment, reflection and discovery (Clark, 2008; Parhankangas & Ehrlich, 2014). The engagement can lead to a shift in perspective and buy-in, whereby both parties agree on how, when, and what the future looks like (McMullen & Shepherd, 2006). If this perspective shift is spurned by a combination of new information about an opportunity, the stakeholder’s tacit knowledge, and a willingness to bear uncertainty, entrepreneurial action is likely (Clark, 2008; Harrison et al., 2015; McMullen & Shepherd, 2006). For example, angels receiving a pitch may mentally simulate, cognitively elaborate, generate, and suggest additional ideas they perceive may enhance future venture performance, reduce uncertainty, or address their concerns. Entrepreneurs may subsequently agree with investors suggestions, but then suggest an additional modification, which the investor may (or may not) agree with. If the angel begins to cognitively buy-in to the opportunity, the perception of a third-person (the

entrepreneur's) idea transitions to a first-person (our or my) opportunity (McMullen & Shepherd, 2006). Though the opportunity may only exist as mental images and alchemy, the parties may begin to perceive it as coming to life. If the entrepreneur and investor collaboratively build upon an initially pitched idea, then a kind of future opportunity *helix* is established representing the entrepreneur, opportunity, and investor that is proposed as the parties create and bring life to the pitched idea. If the final modified (or morphed) opportunity has been engineered (or reengineered) by the dyad, the components that comprised the original idea may have been perceivably improved or changed altogether. This new DNA structure may be what is needed in order for the investor to build enough confidence to finally reach a decision to commit resources.

Metaphorically speaking, the entrepreneur and investor are the initial DNA strands of the future mutually perceived entrepreneur-investor-opportunity nexus (Davidsson, 2015; Eckhardt & Shane, 2013; Gianiodis et al., 2017; Shane & Eckhardt, 2003). The business opportunity pitch, as well as the cogitated and elaborated ideas become the blocks or “rungs” of an Opportunity Cogitation Helix. The Opportunity Cogitation Helix represents the cognitive processes that occur as the investor receives and processes an entrepreneur's opportunity narrative, encompass: 1) their perception of the realism of the opportunity, 2) cognitively elaborating and adapting the entrepreneurial opportunity to a more desirable mental image, and 3) establishing a level of thought confidence that allows them to accept a cogitated alternative(s) so that the morphed opportunity can be brought to life. The culmination of microprocesses facilitate a quelling of concerns and an adaptation of a proposed opportunity to a more acceptable form or configuration so that a decision can either be made to commit resources, or not. The weaving of the helix occurs through both

sensegiving and sensemaking (Gioia & Chittipeddi, 1991; Hill & Levenhagen, 1995; Weick, 1988, 1995, 1995). The cogitated opportunity helix construction may lead to an increase in the angel's confidence such that a threshold is achieved and a decision is made to invest even though she/he was initially reluctant to do so. It is not necessarily the case that the proposed modifications are based on grounded facts or assumptions substantiated with real world solutions. Some or all of the contributed ideas may be illusory or unavailable at the time the decisions within the pitch interaction are made (Farquhar & Pratkanis, 1993).

As noted, though, these decision processes are not well understood. Additional clarity is needed to better understand how microprocesses enable investors to reach a decision to invest in a new venture. I will study the microlevel process dynamics that ultimately lead to investor judgements towards a decision to invest. This research will further establish entrepreneurial opportunity adaptation as a construct that measures the perceived variation made to a new venture opportunity from the start of a pitch to the point in the process when an investor renders a decision to commit resources.

To accomplish this, I build upon transportation theory, from psychology, which suggests that persuasive communication can change attitudes and perceptions through affective cognitive responses or connections to themes, messages, or characters contained within a narrative (Green et al., 2004). When individuals experience effects of narrative transportation, the cognitive and heuristic processes of mental simulation, counterfactual thinking, and cognitive elaboration are activated (Green & Brock, 2000). In keeping with microprocess research, the storytelling and receiving context is where these cognitive and heuristic processes are stimulated (Colyvas & Jonsson, 2011; Tost, 2011). Transported individuals may begin to accept a narrative world in lieu of real-world facts, knowledge or

personal experiences. This cognitive transition moves the transported individual closer to a first person perspective, where action can potentially be taken (McMullen & Shepherd, 2006). In this dissertation, I seek to extend this research by examining how entrepreneurs use pitch-related microprocesses to present opportunities to investors so that they can view and accept opportunities from a first-person point of view, rather than from a third-party perspective.

More specifically, I introduce narrative transportation literature to evaluate the microprocess that occur within an entrepreneurs' business pitch interactions with an angel. Entrepreneurs pursuing early stage opportunities utilize narrative storytelling to persuade investors into making investments. The entrepreneur's goal is to develop and deliver the story in a way that is familiar to something in their background and captures the investor's attention. Once the investor is transported into the narrative, the potential for idea exchange and a resulting investment increase. If the narrative is familiar and in line with an investor's beliefs, narrative transportation may reduce their critical thoughts and suspend analytical thinking (Chang, 2008; Green & Brock, 2000). Conversely, if elements of a narrative differ from an investor's beliefs or understanding, they will generate critical thoughts and increase analytical thought processing (Moyer-Gusé & Nabi, 2010; Van Laer et al., 2013). I evaluate *how* these cognitive and heuristic processes might lead to a morphing of the originally intended (pitched) opportunity into something that is perceived to be different than its original form.

I posit that perceived realism of the pitch narrative, cognitive elaboration and thought confidence can lead to a perceived change in the originally pitched opportunity. I seek to answer three research questions.

- 1) When receiving business pitches from entrepreneurs, how do angels, despite their reluctance, make decisions to invest in opportunities even though key facts, market performance data, or other information is missing?
- 2) When angels perceive an information gap, or deem the pitch narrative describing the potential success of the proposed opportunity to be unrealistic, how do subsequent microprocesses enable a decision to invest?
- 3) As an entrepreneur and investor share ideas and elaborate on a pitched opportunity, does it morph into something different than what was originally intended by the entrepreneur?

Contributions of the Study

This dissertation makes several contributions to the field of entrepreneurship and entrepreneurial practice.

To the Field of Entrepreneurship

This dissertation offers two key contributions: 1) I address a gap in literature, I study microprocesses within the entrepreneurs' business pitch to angels; whereby funding decisions are made *even though* an angel does not immediately choose to make an investment decision; and 2) I introduce narrative transportation theory to entrepreneurship literature, contributing to prior work on cognitive and heuristic processes that occur during entrepreneurial opportunity discovery and creation (Gaglio, 2004; Gaglio & Katz, 2001).

A gap exists in extant entrepreneurs literature as to how the interactions between entrepreneurs and angels during a pitch event enable cognitive responses to finalize an investment decision. Moreover, the affect the pitch narrative has on investor cognition has not been fully addressed and it remains unclear as to how stories stimulate investor thoughts and mental simulations of future

outcomes (Martens et al., 2007; O'Connor, 2002). Theory is needed to bridge this nontrivial gap in understanding, as the entrepreneur's interaction with investors during a pitch interaction is a key event for the acquisition of critical resources (Pollack et al., 2012; Rutherford et al., 2016; Spinuzzi et al., 2014; Tost, 2011). New theory can provide critical insight into these interactions, cognitive processes, and ways in which outcomes are determined and further entrepreneurship research (Johnston, 2014).

To accomplish this, I will study the mediating effects of the interactions between entrepreneurs and investor audiences in order to better understand the microprocesses that occur when entrepreneurs successfully align their own subjective vision of a nascent opportunity with that of an investor, despite an investor's initial reluctance to invest. The Opportunity Cogitation Helix is introduced to measure the mediating effects of this interaction, as investors change their confidence to a threshold enabling them to make a decision to offer an investment, or not. Finally, I introduce a new measure, Entrepreneurial Opportunity Adaptation, to gauge the amount of variation that a stakeholder perceives must be made to a pitched opportunity before they can be persuaded to commit resources.

To Practitioners

This dissertation also makes contributions to practitioners of the entrepreneurial process. Entrepreneurs must overcome significant challenges to secure resources necessary to launch and sustain new ventures (Aldrich & Fiol, 1994; Pollack et al., 2012; Rutherford et al., 2016). Start-ups often lack historical performance records, material evidence of value, or evidence of sustainability (Brealey et al., 1991; Pollack et al., 2012; Rutherford et al., 2016; Sudek, 2006). However, entrepreneurs can use stories to advocate and communicate opportunities, reduce the uncertainty, influence beliefs and persuade stakeholders to commit resources (Aldrich & Fiol, 1994; Cardon et al., 2009; Lounsbury & Glynn, 2001; Parhankangas &

Ehrlich, 2014). This dissertation helps entrepreneurs to understand 1) the importance of including narratives in their pitches, 2) the importance of incorporating elements that are familiar to stakeholders, 3) how stakeholders process their perception a story's realism, and 4) how pitches are capable of stimulating cognitive responses that simulate and elaborate on story interpretations. It also informs entrepreneurs and stakeholders about the effects of narrative transportation, narrative persuasion, and the adaptations that can be mentally and collaboratively constructed as entrepreneurial opportunities are perceived to take a new form of life and decisions are made to commit resources.

Research Limitations

Notwithstanding the contributions this study will make, limitations exist and should be considered. First, the generalizability of the results should be considered. Although entrepreneurs secure resources through a number of different methods and mediums, the results of this study should be interpreted in the context in which they were examined (i.e., in quick pitch events such as university pitch competitions and Shark Tank) (Clark, 2008; Clarke et al., 2019; Clingingsmith & Shane, 2018; Short et al., 2017). Future researchers are encouraged to replicate and extend the current study to determine whether similar results replicate in other contexts and interactions where other variables might influence pitches, interactions and resource commitment decision making.

Further, both studies conducted in this research analyze opportunities that are in early stage of the start-up cycle. Entrepreneurial finance can occur at many stages throughout the life of a new venture (Clingingsmith & Shane, 2018). Future studies should consider studying narrative transportation and entrepreneurial opportunity adaptation of ventures that

are beyond the start-up stage to understand the degree of variation that may be perceptively constructed when firms have historical performance and material evidence of value.

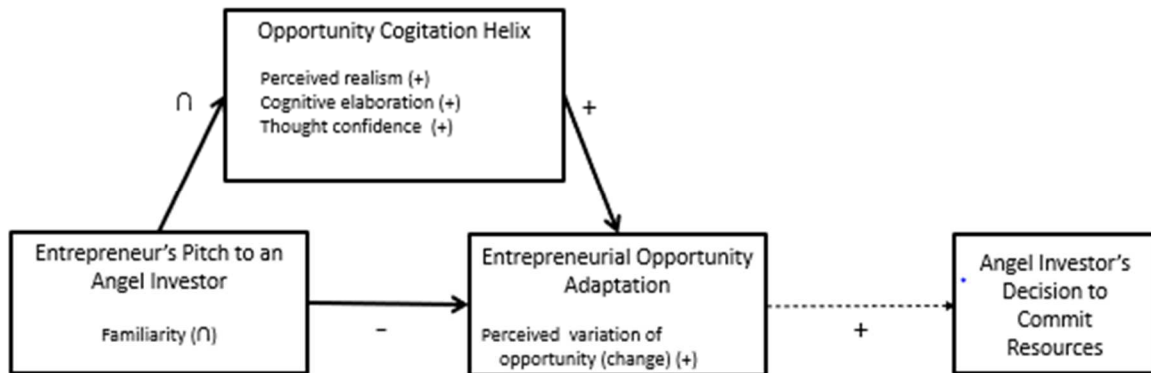
This research focuses on the early stage of entrepreneur and investor interactions—the elevator pitch. Since pitches must be short, they typically cannot provide a complete account of an entrepreneurial opportunity (Maxwell et al., 2011). Thus, investors rarely choose to commit resources to an entrepreneurial opportunity on the basis of an elevator pitch interaction alone (Clingsmith & Shane, 2018). The pitch often motivates investors to continue discussions and discovery through the review and analysis of business plans and pitch decks (Clark, 2008). Thus, there is a limitation in this research dealing with time and longitudinal analysis. As entrepreneurs communicate additional information, interact with investors, and both parties evaluate other aspects of resource commitments such as financial terms, the degree of entrepreneurial adaptation, decision to commit resources, and willingness to act on adapted opportunities may be affected.

Finally, this research focuses on pitch interactions between entrepreneurs and angels. There are other stakeholders who can provide resources to entrepreneurs (Ramadani, 2009). Angels are inclined to become involved in their investments, mentor entrepreneurs, and provide other resources such as access to personal networks (Politis, 2008; Ramadani, 2009; Sudek, 2006). The role of the stakeholder beyond financial investment, motivations and the expectations gains beyond monetary returns (or lack thereof) may affect narrative transportability (Green, 2004; Green & Brock, 2000, 2002) or perceived need to make adaptations to the targeted investment.

Presentation Format

This dissertation is structured as follows: Chapter II includes a thorough review of narrative transportation theory. I introduce the entrepreneur's business pitch to investors as a strategic means of obtaining investments. I then provide an overview of how narratives can trigger responses from investors leading to dialogue and exchanges of information, suggestions and ideas. I explain how cognitive and heuristic processes can be stimulated when an investor recognizes or perceives something familiar about the entrepreneur, characters portrayed, the narrative plot, or other recognizable story or business plan-related elements presented in a business pitch. I propose how the information exchange between the investor and entrepreneur can lead to additional idea elaborations which are incorporated into the entrepreneur's originally pitched opportunity. I suggest these elaborations have the potential to alter what was originally proposed by the entrepreneur, resulting in a variation that can be perceived by a third party as a changed or a completely different venture altogether. I proposed the transformation of a pitched opportunity may be necessary to increase the investor's confidence to a threshold where a decision to commit resources can be made. Finally, Chapter III presents the methods and measures I will employ to conduct and complete an empirical study to demonstrate the mediating effects of the Opportunity Cogitation Helix on an investors decision to commit resources and introduce the Entrepreneurial Opportunity Adaptation measure to gauge the perceived variance in a pitched opportunity that occurs from the initial point of the pitch interaction to the final resource commitment decision.

Figure 1. Theoretical Model



CHAPTER II

REVIEW OF LITERATURE AND HYPOTHESIS DEVELOPMENT

Overview

This dissertation weaves entrepreneurship literature that discusses stakeholder funding processes (Chen et al., 2009; Clark, 2008; Mason & Rogers, 1997; Mason & Stark, 2004; Murphy, 2018; Pollack et al., 2012; Rutherford et al., 2016; Sudek, 2006; Warnick et al., 2018; Wiltbank et al., 2009; Wong et al., 2009) with narrative transportation theory from psychology (Gerrig, 1993; Green, 2004; Green & Brock, 2000, 2002). Narrative transportation theory addresses the phenomenon of storytellers employing narratives to persuade an audience to adopt certain beliefs or take action (Farquhar & Pratkanis, 1993; Green, 2004; Green & Brock, 2000; Pratkanis & Farquhar, 1992). Here, it is used to better understand and evaluate the audience's cognitive processes that occur as entrepreneurs pursuing new ventures incorporate stories in their pitches to communicate information and persuade stakeholders to commit resources. More specifically, it will be employed to study how interactions with stakeholders that begin with an entrepreneur's pitch narrative may generate dialogue between the entrepreneur (the storyteller) and the investor (story receiver) leading to a variation in the opportunity discussed. I evaluate elements of narrative transportation such as familiarity (Green, 2004; Green & Brock,

2000; Strange & Leung, 1999; Van Laer et al., 2013), perceived realism (Busselle & Bilandzic, 2009; Cho, et al., 2014; Gerbner & Gross, 1976; Green, 2004), cognitive elaboration (Gaglio, 2004; Green & Brock, 2000; Kahneman & Tversky, 1981; Tormala & Petty, 2004), and thought confidence (Hedges, 1974; Petty et al., 2002) to understand how angel investors assess information received from the entrepreneur, compare it to their own knowledge, experience, and beliefs and render decision of whether or not to commit resources.

Further, in this dissertation I link research in extant entrepreneurship literature that examines interactions between entrepreneurs and their targeted stakeholders, cognitive processes such as sensegiving, sensemaking, mental simulations, and counterfactual thinking, with psychology literature that discusses how persuasive narratives are capable of changing actual attitudes and beliefs (Farquhar & Pratkanis, 1993; Gioia & Chittipeddi, 1991; Green, 2004; Green & Brock, 2000, 2002; Green et al., 2004; Weick, 1979; Weick, 1995; Weick et al., 2005). More specifically, this research will review the microprocesses of business pitches to better understand how entrepreneurs develop and deliver pitch narratives to persuade investors to make decisions to commit funding resources by introducing narrative transportation theory to entrepreneurship process literature (Green, 2004; Green & Brock, 2000, 2002).

Entrepreneurs must obtain resources in order to survive and develop sustainable ventures (Pollack et al., 2012; Singh et al., 2003). They do this by persuading stakeholders to commit valuable resources through a combination of sensegiving and sensemaking processes (Clarke et al., 2019; Lounsbury & Glynn, 2001; Navis & Glynn, 2011; Pollack et al., 2012; Weick, 1995; Weick et al., 2005). Entrepreneurs have traditionally utilized oral presentations called

pitches that incorporate narratives and stories as tools to convey information, help stakeholders make sense of what the proposed venture idea is, and guide their decisions towards a decision to invest (Gioia & Chittipeddi, 1991; Hill & Levenhagen, 1995; Murphy, 2018). Pitches that contain limited information, such as presenting financial projections without a narrative to describe context, can create an information gap for investors and lead to loss of interest (Clark, 2008; Mason & Stark, 2004). Pitches that include narratives or stories can help stakeholders to make sense of what is being proposed, identify potential risks, substantiate the feasibility of a proposed venture investment opportunity, and facilitate decision-making necessary for future actions required to launch and sustain a business (Gioia & Chittipeddi, 1991; O'Connor, 2002). Entrepreneurs can also use narratives to help stakeholders perceive how they might take action on (or in) a proposed venture investment by shifting their perspectives from third person “outsiders” to first person “participants” (McMullen & Shepherd, 2006). Narratives can help stakeholders imagine how they themselves might be involved in new ventures by mentally simulating futures scenarios, risks, and outcomes (Gaglio, 2004; Kier & McMullen, 2018; McMullen & Kier, 2017; McMullen & Shepherd, 2006).

Entrepreneurs pursuing start-up ventures must overcome a unique challenge referred to as the liability of newness when seeking stakeholder support (Aldrich & Auster, 1986; Rutherford et al., 2016; Scott, 1994; Stinchcombe & March, 1965). The liability of newness refers to stakeholder perceptions of risk in new internal processes, operations, external market or stakeholder acceptance, or other unknown factors of new ventures (Hunt & Aldrich, 1996; Rutherford et al., 2016; Scott, 1994). A liability of newness can create uncertainty for investors who do not understand necessary details of a new venture due to

information asymmetry between the entrepreneur and the investor (Akerlof, 1978; Baum & Silverman, 2004). Thus, information about new ventures must be communicated in a manner that is organized, efficient, easily understood, and is either familiar or of interest to the investor (Clark, 2008; Clarke et al., 2019; Daly & Davy, 2016; Pollack et al., 2012; Spinuzzi et al., 2014). Entrepreneurs who present unfamiliar, confusing, unorganized, incomplete, or poorly communicated plans for future ventures may have difficulty attracting critical resources, such as funding (Clark, 2008; Clarke et al., 2019; Pollack et al., 2012).

New ventures may not have as many funding options as mature firms due to a liability of newness (Berger & Udell, 1998; Rutherford, 2015). Many entrepreneurs pursuing start-ups turn to angel investors (angels) for financial support if they are unable to obtain funds from funds commercial lending or venture capital sources, nor family and friends (Harrison et al., 2015; Iqbal et al., 2019; Ramadani, 2009; Short et al., 2017). Angels are hands-on investors who invest their own money, operating either as an individual or as part of a syndicate (Cardon et al., 2009; Sudek, 2006). Angels often invest in start-ups and are willing to contribute knowledge and relationships to help entrepreneurs start or develop their businesses. (Ramadani, 2009; Warnick et al., 2018).

Angels prefer investment proposals that incorporate, among other things, familiar business (or industry) content, moderate levels of promotion of an entrepreneur's innovation, emphasis of competition, and an openness to high levels of opinion conformity (Mason & Stark, 2004; Parhankangas & Ehrlich, 2014; Paul et al., 2007). Entrepreneurs can improve their sensegiving appeal to angels if they demonstrate humility and have are willing to be coached (Politis, 2008). Sensegiving the process of helping others to make sense of things, such as new information or events that are unfamiliar (Gioia & Chittipeddi, 1991; Weick et

al., 2005). An entrepreneur who demonstrates openness to feedback, new ideas and suggestions can mitigate an angel's perceived concerns that an entrepreneur's unrestrained passion reflects inflated ego or resistance to accept necessary input from the investor, other key stakeholders, or even the market (Warnick et al., 2018).

Upon receiving a pitch, angels will assess whether the entrepreneur conveyed enough desirable information (as compared to their own knowledge) and make determination regarding whether the proposed venture investment opportunity is worthy of a resource commitment (Ardichvili et al., 2002; Cardon et al., 2009; Mason & Stark, 2004; Parhankangas & Ehrlich, 2014; Paul et al., 2007). However, if unfamiliar information is presented, a gap in information exists, or the suggested performance outcome proposed is not perceived to be realistic, angels will potentially engage in dialogue with the entrepreneurs to address their concerns (Parhankangas & Ehrlich, 2014; Paul et al., 2007; Politis, 2008; Ramadani, 2009; Sudek, 2006; Warnick et al., 2018). An information exchange may ensue as both parties cogitate and cognitively elaborate on other possibilities to increase the likelihood of a successful outcome, even though the collaboratively simulated future is counter to events that happened in past (Frederiks et al., 2019; Green & Brock, 2002; Lounsbury & Glynn, 2001; Olekalns & Smith, 2013).

If the collaborative exchange adds new ideas, varies or alters originally proposed plans (e.g., business model), the proposed opportunity may morph into something new, yet noticeably different than what was originally intended. Though both parties agree and perceive the altered opportunity to be more realistic and likely to yield favorable results, it is still a subjective and illusory adaptation of a proposed *entrepreneurial opportunity* (Farquhar & Pratkanis, 1993; Pratkanis & Farquhar, 1992). The extent of the entrepreneurial

opportunity adaptation may not be measurably noticeable immediately by the parties until the intended business plan is rewritten and a full consideration is given to the extent of the change.

Transportation Theory

In this dissertation, I use narrative transportation theory to understand the microprocesses involved in pitches for investor funding. Transportation theory was introduced by Green & Brock (2000,2002) based on seminal research by Gerrig (1993) and later Strange and Leung (1999). Gerrig (1993, pp. 10-11) first summarized an audience's absorption into a story as follows: "Someone ('the traveler') is transported, by some means of transportation, as a result of performing certain actions. The traveler goes some distance from his or her world of origin, which makes some aspects of the world of origin inaccessible. The traveler returns to the world of origin, somewhat changed by the journey." Transportation theory extends this concept by asserting that as individuals are absorbed into the narrative they are experiencing, they may subsequently show the effects of the narrative in their actual beliefs. This concept is further characterized through distinct cognitive processes and a convergence of feelings, attention and imagery (Green & Brock, 2000, 2002). For example, if individuals who are transported by a narrative begin to think counterfactually can experience envy or regret as they begin to think about what "could have been," imagining outcomes better than those attained (Baron, 2000; Roese, 1997). If mentally simulated outcomes are different than what has actually occurred, an individual may gain insight into the factors that produced the negative experience, and become excited about a better outcome based on the narrative generated alternative (Baron, 2000).

Narratives and stories can persuade and significantly shape cognition (Gottschall, 2012; Johnson & Tuckett, 2017; Martens et al., 2007). When individuals experience the cognitive effects of narrative transportation, they begin to accept a narrative world in lieu of “real-world” facts, knowledge or personal experiences. This effect can occur on two levels: physical and psychological. If a physical effect is experienced, certain real-time awareness can be diminished, such a lack of noticing other actions or conversations in the same room (Green & Brock, 2000). If a psychological effect is experienced, individuals experience a subjective distancing of themselves from reality whereby certain real-world facts are discarded even though they may contradict arguments or assertions made in a narrative (Gerrig, 1993; Green & Brock, 2002; Strange & Leung, 1999). Though they may know the events of a story are not real, individuals who are immersed into a narrative may also become emotional and establish strong motivations. In some cases, transported audiences may fail to see errors, weak or faulty arguments in narratives, lending support to the notion that narrative transportation can create a certain degree of suspension of disbelief or lack of attention to logic (Dal Cin et al., 2004; Green & Brock, 2000). Upon surfacing from the immersion of a narrative, individuals may actually be changed by their experience (Gerrig, 1993; Green & Brock, 2000, 2002).

Narrative transportation resulting from persuasive communication can change attitudes and perceptions through connections to characters or affective cognitive responses to the themes or messages contained within a narrative (Green et al., 2004). Cognitive processes, such as mental simulations, may be initiated as the audience is narratively transported into the story being told, recall actual experiences, and begin to self-reference a similar story from their experience. As individuals simulate events of a narrative plot they may personally relate

to the story, or self-reference, particularly if something about the narrative or its characters are familiar (Escalas, 2006). They may then come to better understand the experiences described in the narrative and their attitudes may become more harmonious with the imagined experience (De Graaf et al., 2012; Mar & Oatley, 2008). Highly persuasive narratives can also influence the heuristics of an audience and how they self-reference (Bandura, 1986; Bandura, 2001; Bandura, 2009; De Graaf et al., 2012). Kahneman (1981) introduce the simulation heuristic, whereby individuals answer questions by mentally simulating causal sequences and outcomes. These simulations allow individuals to produce predicted outcomes, as well as establish a plan as to how the outcomes can be achieved. This can also occur when reality is compared to a favored alternative or outcome other than what an individual failed to reach, but could easily imagine achieving (Kahneman & Tversky, 1981).

Self-referencing occurs when an audience processes information by connecting it to their personal experiences (Escalas, 2006). Self-referencing is a cognitive process individuals use to understand information they are receiving that somehow pertains to them by comparing and contrasting the message to self-relevant information stored in their memories (Debevec & Romeo, 1992). Depending upon how the narrative is delivered and, in turn, processed by the audience; the resulting response can be positive or negative. If the response is positive, less critical analysis of an argument or proposal may result due to reduced negative thoughts and a stronger affective response, which can then enhance influence or persuasion when the receiver's reflecting emotions are positive (Escalas, 2004). Individuals who contemplate future events produce greater positive affect than when past events are recalled (Caruso et al., 2008; Van Boven & Ashworth, 2007).

Narrative self-referencing affects persuasion through transportation (Green & Brock, 2000). Therefore, when engaged in narrative transportation, affective responses are able to influence persuasion rather than the audience's systematic analysis of the strength of the message. When individuals self-reference by recalling an episode from the past, they are effectively "transported" by their self-constructed mental narrative and story, enhancing persuasion without increasing the cognitive elaboration of a contention or argument (Baumgartner et al., 1992; Escalas, 2006; Sujan et al., 1993). When individuals are immersed into a story, they may be less aware of real-world facts that could contradict assertions or arguments made in the narrative (Green & Brock, 2000). Thus, narrative transportation can be perceived as a convergent process (Green & Brock, 2000). In entrepreneurship, a desirable outcome for an entrepreneur is to elicit more favorable attitudes and intentions from investors during and after their pitch interactions by enabling the investor to self-reference as they are transported by the narrative (Debevec & Romeo, 1992). In this regard (Ryder & Vogeley, 2018), the narrative can be used to transport the investor, enable elaboration and cogitation, and segue into a dialogue that leads to a resource commitment decision (Ryder & Vogeley, 2018).

Self-referencing can occur in two different ways: narrative self-referencing and analytical self-referencing (Escalas, 2004, 2006). Narrative self-referencing typically leads to a favorable identification of the narrative and its focal message. Individuals who narratively self-reference engage in mental simulations (which can include autobiographical memory recall) and possible cognitive elaborations leading to persuasion due to reduced consideration of weak arguments and generate positive affect from the narrative (Escalas, 2006; Green & Brock, 2000). Alternatively, individuals who do not think in a story format tend to engage in

analytical self-referencing. Analytical self-referencing leads to cognitive elaboration of a narrative's arguments and facilitates a more critical evaluation of a narrative message or contentions (Escalas, 2006). Individuals who analytically self-reference can produce higher levels of elaboration on the arguments of a pitch narrative, and will lead to favorable evaluations only when they perceive the message is strong (Escalas, 2006). Table 1 summarizes narrative transportation literature.

Table 1. Summary of Narrative Transportation Literature

Reference	Key Points
Polkinghorne, 1991	A narrative plot that is capable of linking together previously disparate events into a new whole event can enable story receivers to reintegrate and renew their self-narrative.
Debevec & Romeo, 1992	A desirable outcome for an entrepreneur to elicit more favorable attitudes and intentions during their pitch interactions is to enable the investor to self-referencing.
Gerrig, 1993	Individuals are transported from his/her real world into a world created by a narrative, and some aspects of the real world become inaccessible. They become lost in a story. When an audience experiences narrative transportation, they are often described as being transported by a narrative into the narrative world, perceivably experiencing it first-hand. They may even lose touch with reality while being transported. Transported individuals may experience strong motivations even if they know the events of the narrative are not real.
Strange & Leung, 1999	Narrative transportation can evoke "reminders," recollections or memories of past experiences or events. Familiarity with a narrative or prior knowledge can encourage story receivers to recollect or remember "reminders" such as connections between the narrative content and the receiver's own life. Fictional stories can frame causal thinking.
Green & Brock, 2000	Narratives have the power to persuade and change beliefs. While immersed in narratives, individuals may be less aware of real-world facts that contradict assertions made in the narrative. Story givers with low-credibility or lacking cogent arguments can use narratives to persuade story receivers to adopt certain beliefs. Transported individuals may have greater empathy or likeness for characters in a narrative and can be persuaded by the beliefs expressed by them.
Green & Brock, 2002	Narrative transportation is characterized through distinct cognitive processes and a convergence of feelings, attention and imagery.

Reference	Key Points
Slater & Rouner, 2002	Narrative transportation can reduce negative thoughts or resistance even if the plot of the narrative is inconsistent with prior beliefs.
Green, 2004	<p>Story Receiver immersion into a narrative may impact his/her real-life beliefs.</p> <p>Individuals with experience or prior knowledge relevant to the elements of themes of a narrative are more likely to be transported into a story.</p> <p>Story receivers can be drawn to narratives where content that matches their self-concept or a pre-existing link exists.</p> <p>Story receivers may be drawn to stories where they have some prior experience or perceived link with the characters.</p>
Escalas, 2004	<p>Mental simulation causes individuals to engage in narrative processing.</p> <p>Narrative processing transports an individual's attention away from critical thoughts and generates positive affect, which can affect attitudes and evaluations.</p>
Escalas, 2006	<p>Individuals who engage in narrative self-referencing may generate a favorable evaluation of the pitched <i>product</i>, regardless the argument strength within the pitch.</p> <p>An audience's skepticism of the presenting party's intentions can moderate the effects of self-referencing.</p> <p>Individuals who analytically self-reference will produce higher levels of elaboration on the arguments of a pitch narrative, and will lead to favorable evaluations only when they perceive the message is strong.</p>
Van Boven & Ashworth, 2007	<p>Individuals who imagine hypothetical future events can produce current emotion significantly more intense than emotion produced by recalling an event actually experienced.</p> <p>Individuals engage in higher levels of mental simulation when anticipating and imagination future events than during retrospection.</p>
Caruso et al., 2008	Individuals who contemplate future events produce greater affect than when past events are contemplated.
Moyer-Gusé & Nabi, 2010	Narrative transportation may reduce an audience's negative reactance, counterarguing, and perceived invulnerability when experiencing persuasive arguments.
Gottschall, 2012	Stories can shape an individual's cognition and beliefs.
Johnson & Tuckett, 2017	Individual's investment predictions and choices instead influenced by narrative thinking.

Narrative transportation can occur as part of the sensemaking process as an audience receives a narrative that contains new, confusing or uncertain ideas. Sensemaking generally refers to the various processes individuals go through in order to make sense of information, events or concepts that are new, confusing, or ambiguous (Brown et al., 2015; Colville et al.,

2012; Maitlis, 2005). When individuals engage in sensemaking, they turn circumstances into a something that that can be comprehended in words (Brown et al., 2015; Maitlis, 2005; Taylor & Van Every, 1999; Weick, 1988).

Sensemaking

Sensemaking was originally introduced by Karl Weick (1979, 1995). Sensemaking encompasses the construction of meaning by parties who are receiving information, a message or proposal so they can develop a framework to understand the nature of whatever *it* is (Gioia & Chittipeddi, 1991; Weick, 1979; Weick, 1995). Sensemaking can be considered a collaborative and social practice where individuals' share discursive accounts or constructions of reality through interaction with one another to establish order from previously unordered environmental cues and establish a new perception (or subjective redefinition) of reality (Holt & Macpherson, 2010; Maitlis, 2005; Weick, 1995).

The sensemaking process can be viewed as an ongoing formation of logic by connecting salient actions, beliefs and observations as reasons for each other (Schildt et al., 2019). This web of interconnectivity can be driven by unexpected contradictions involving the creation of new observable phenomena and selective attention by individuals who are trying to make sense of their environment as they extract observations or cues (Schildt et al., 2019; Weick, 1995). Thus, sensemaking is about making sense of discrepant observations, events and beliefs by somehow connecting them to something familiar so they can be perceived as plausible (Schildt et al., 2019). Narratives can evoke two distinctive cognitive responses: critical thoughts and narrative thoughts. If confronted with a claim that is not consistent with their own beliefs, story receivers will tend to generate critical thoughts (Moyer-Gusé & Nabi, 2010). On the other hand, narrative thoughts are self-generated depictions of the narrative's

plot or structure, containing cues from the narrative such as characters, objects of the plot (Escalas, 2004). Narrative transportation may reduce critical thoughts (Van Laer et al., 2013), even if the plot of the narrative is inconsistent with prior beliefs (Slater & Rouner, 2002).

Sensemaking typically occurs when actors in the entrepreneurial process encounter new, ambiguous experiences and apply the logic of the sensemaking processes (Weick, 1988, 1995) and using their imagination (Lachmann, 1986) to legitimize their new actions (Aggestam, 2014; Aldrich & Auster, 1986). For example, angel investors who actively invest screen new opportunities by evaluating risks, comparing initial information about the opportunities against their experience, and determining whether there is probable plausibility for an investment. If an aspect of the opportunity interests them, they may decide to entertain a business pitch (Paul et al., 2007). If the pitch contains a narrative with elements familiar to investors, they may be transported into the story narrative as they attempt to make sense of the story, recall similar experiences or empathize with the characters or plot (Escalas, 2004; Green, 2004). The sensemaking and sensegiving that occurs between the entrepreneur and investor can create a segue from a presenter describing an opportunity to an audience to a collaborative discovery of possibility and alternatives possible to make an idea come to life.

The Sensemaking of Angel Investors

In entrepreneurship, entrepreneurial actors and non-actors (such as investors) must make sense of various pieces of information received so that future decision can be made and actions taken. Failure to make sense of information that is received can lead those in the entrepreneurial process to uncertainty, doubt, or lack of action (McMullen & Shepherd, 2006). Investors are stakeholders who constantly face ambiguity when considering new information, particularly when encountering opportunities to invest in new ventures with

limited information (Gioia & Chittipeddi, 1991; Plummer et al., 2016). Investors may receive contradictory signals, signs of exuberance, unrealistic projections, or indications of a sheer lack of entrepreneurial experience. However, some or all of this information could also be perceived as compelling indication of a new venture's investment potential (Plummer et al., 2016). In order to help investors make sense of their projections, hopes, and business plans, entrepreneurs must find ways to relay important and relevant information in a way that can be understood. Entrepreneurs often use narratives and stories as sensemaking devices to attract funding from investors (Holt & Macpherson, 2010; Lounsbury & Glynn, 2001).

Narratives and stories help entrepreneurs to persuade investors to consider, understand, and ultimately invest in the proposed ventures they are pitching (Clark, 2008; Green, 2004; Pollack et al., 2012; Rutherford & Buller, 2007; Rutherford et al., 2016). If they are successful in their attempts to persuade, narrative transportation may reduce an investor's negative reactance, counterarguing, and perceived vulnerability when experiencing persuasive arguments during a pitch (Moyer-Gusé & Nabi, 2010). Investors may not have enough information when they initially receive a pitch to confidently render a decision to commit resources. However, the transported investor may request additional information or make a suggestion that will address the perceived gap. For example, when angels ask questions to determine the subsequent actions they should take, they begin establish forces necessary to bring the opportunity into future existence (McMullen & Dimov, 2013; McMullen & Shepherd, 2006; Weick et al., 2005).

Angels will finance nascent ventures and help develop opportunities, especially if they perceive them to be innovative and have high growth potential (Iqbal et al., 2019; Ramadani, 2009; Wiltbank et al., 2009). In addition to financial resources, angels can also provide

important nonfinancial resources including human capital (knowledge, skills, and abilities), social capital (networks/contacts), and organization capital (proprietary technologies, databases, or patents) (Ardichvili et al., 2002).

Angels are defined as individuals who act either alone or in a syndicate, investing their own money or other resources directly in an opportunity or business not affiliated with their own family (Clark, 2008; Harrison et al., 2015; Mason & Stark, 2004). They often take an active involvement in their post-investment businesses by leveraging their experiences, network, or other resources deemed necessary (Mason & Stark, 2004; Mason & Harrison, 2008). Angels act as economically rational investors, seeking to maximize their return on investment considering an acceptable level of risk (Ardichvili et al., 2002). Angels will consider investing in opportunities pitched to them if there is sufficient factual information, realistic performance forecasts, sufficient preparedness and agency representation, and a fit with their existing portfolio or investment interests (Chen et al., 2009; Paul et al., 2007; Pollack et al., 2012; Schulz & Schmücker, 2017; Sudek, 2006). If entrepreneurs provide a complete amount of required information and reasonable expectations are proposed, angels might determine the investment is a “no brainer” or a “sure thing” from a risk/return perspective (Pollack et al., 2012; Ramadani, 2009; Rutherford et al., 2016).

Angels consider a number of things when evaluating investment opportunities during a pitch. For example, angels typically place less consideration on financial information presented in a pitch relative to other types of investors or lenders. Many angels have limited deal flow and may have less comparative information or data to assess business or market risk (Mason & Stark, 2004). An angel’s overall evaluation of an entrepreneurial investment relative to risk is influenced by: 1) the familiarity of product, market, and industry; 2) an

assessment of entrepreneur's knowledge, personality, passion, and preparedness; 3) scalability and growth opportunities; 4) the prospective returns they might receive; and 5) the angel's potential level of future involvement in the venture post-investment (Chen et al., 2009; Harrison et al., 2015; Mason & Rogers, 1997; Mason & Stark, 2004). As they assess risks, angels will typically consider market and agency risk (Ardichvili et al., 2002; Mason & Rogers, 1997; Mason & Stark, 2004; Wong et al., 2009). Angels who live or work in close proximity to their venture investments tend to be familiar with local or regional opportunities and challenges and can keep a watchful eye on their investments. In turn, they can assist their business investments to navigate those respective issues, accordingly (Ramadani, 2009).

Angels tend to perform their own due diligence and will typically invest in business ventures that are targeting industries familiar to them (Wong et al., 2009). They leverage both their tacit (personal experience and expertise) and explicit (externally shared) knowledge to adapt to new information they receive (Tang et al., 2012; Weick, 1995). If they are able to associate new information to their tacit and explicit knowledge, they are capable of making unprecedented connections to a larger picture (Lehrer, 2008; Tang et al., 2012). Angels will likely not decide to invest until they are able to gain business insight, cognitively and heuristically satisfy their concerns, assess the entrepreneur's characteristics, and overcome their doubts (Iqbal et al., 2019; Lehrer, 2008; Mason & Stark, 2004; McMullen & Shepherd, 2006).

Angel investors' interest and willingness to invest in business opportunities are significantly related to their familiarity, understanding of the content, and perception of quality of entrepreneurs' pitch presentations (Clark, 2008; Ding et al., 2014; Schulz &

Schmücker, 2017). If a business plan contains realistically relevant information and the pitch is perceived to be acceptable, the investor may have enough information to move forward with a decision to commit resources. The information investors receive, along with their prior knowledge and experience may reduce the risks of uncertainty such that there is no need to consider or suggest changes to the entrepreneur's proposed business plan or strategy.

Entrepreneurs who conform to an angel's ideas and expectations are more likely to be successful with sensegiving and persuasive efforts (Ding et al., 2014; Harrison et al., 2015; Warnick et al., 2018). In particular, angels prefer investment proposals that incorporate moderate use of positive language, moderate levels of promotion of an entrepreneur's innovation, an emphasis of competition, and an openness to opinion conformity (Parhankangas & Ehrlich, 2014). Entrepreneurs can improve their appeal to angels if they demonstrate humility and have are willing to be coached. An entrepreneur who demonstrates openness to feedback, new ideas and suggestions can mitigate an angel's concerns that an entrepreneur's unrestrained passion reflects inflated ego or resistance to accept necessary input from the investor, other key stakeholders, or even the market (Warnick et al., 2018).

While there is arguably risk in any investment, it would seem logical that ostensibly rational investors, such as angel investors (angels), would not invest in an opportunity that is pitched to them if it there is lack of a performance track record, evidence of market acceptance, or an already established type of legitimacy. Nevertheless, entrepreneurs are still successful in persuading investors to commit resources (Short et al., 2017). Table 2 summarizes literature on angel investors.

Table 2. Summary of Angel Investment Literature

Reference	Key Points
MacMillan, Siegel et al., 1985	Investors not only want to understand the proposed business investment opportunity, but also the entrepreneur who is proposing the opportunity and whether they are suitable to build a business that will succeed.
Mason & Rogers, 1997	<p>Angels tend to initially be concerned with agency risk associated with entrepreneurs who have divergent interests.</p> <p>Given their concerns of agency risk, angels' will be concerned with the entrepreneurs' demonstrated receptiveness to feedback and influence.</p> <p>An angel's primary concerns are typically related to: 1) the growth potential of the business, 2) the prospective returns that they might realize, and 3) the type or level of influence they might have on the investment.</p>
Ardichvili et al., 2002	Angels can provide non-financial resources including human capital (knowledge, skills, and abilities), social capital (networks/contacts), and organization capital (proprietary technologies, databases, or patents).
Mason & Stark, 2004	<p>Angels will tend to be more open to the opportunity's industry sector than venture capital investors or lenders. Angels also want to be familiar with or generally understand the generic underlying business than their investor counterparts.</p> <p>Agreements established between angels and entrepreneurs they agree to fund tend to be more focused on relationship-based merits, such as the ability to communicate, align and agree on ideas.</p>
Sudek, 2006	<p>Passion and commitment, and enthusiasm are often the most important criteria considered from the investor's point of view.</p> <p>Entrepreneurs ability to manage their presentation to angels, answer their questions, and facilitate relationship building through the process will have an impact on their ability to secure funding.</p>
Mason & Harrison, 2008	Angel investors are defined as individuals who act alone or in a syndicate who invest their own assets directly in a business investment in which there is no family connection. After investing, angels typically take active involvement in the business directly or via a co-investor in a role such as an advisor or board member.
Politis, 2008	<p>In most cases, business angels and entrepreneurs have fairly active business relationships.</p> <p>The business angels' prior experience and career prepares them to conduct due diligence necessary to assess the merits and risks of prospective business investments familiar to them, so they can add value to ventures they invest in based on their experiential business know-how.</p>
Wiltbank et al., 2009	<p>Angel investors leverage their own entrepreneurial experience and expertise when dealing with the challenges they face in investing.</p> <p>Angels initially approach investments as outsiders seeking to predict future performance. As they learn more about investment opportunities, they shift from considering how each opportunity is pursued to which opportunity should be pursued.</p>

Reference	Key Points
Wong et al., 2009	<p>Angels seek to control agency costs by ensuring the entrepreneur's interests are aligned with the firms interests through large ownership positions.</p> <p>Angels can play a networking role for entrepreneurs pursuing start-ups by introducing them to a larger network of contacts and access to additional capital financing.</p>
Ramadani, 2009	<p>Angels typically fill the finance and other resource gaps an entrepreneur can obtain from family and friends on one side, and institutional or venture capital sources on the other side.</p> <p>Angels who live or work in close proximity to their venture investments tend to be familiar with local or regional opportunities and challenges. In turn, they can assist their business investments to navigate those respective issues, accordingly.</p> <p>Angels tend to be concerned about agency risks, including whether or not the entrepreneur is knowledgeable about the business.</p>
Pollack et al., 2012	<p>Without a good pitch that can be present to angel investors, entrepreneurs will not likely be able to obtain necessary funding.</p> <p>Investor's decisions to invest in new firms involve substantial subjective evaluations based on their inquiries of certain unobservable characteristics of entrepreneurs and their proposed new ventures from features that are known and easily demonstrated.</p>
Parhankangas & Ehrlich, 2014	<p>Entrepreneurs must balance their expression of originality and appeal to convention. Their business models and products should be presented in a manner that seems familiar enough to the angel to be understandable and legitimate but still novel enough to generate an impression they will address an unmet customer need in the marketplace.</p>
Ding et al., 2014	<p>An angel's familiarity with respective business field of the investment opportunity, the entrepreneur, and the third party who referred the investment proposal to them are highly correlated to their final investment decision.</p> <p>Angel investment evaluations are influenced by subjective factors such as the entrepreneur's work ethic, personality characteristics, business understanding, realistically perceived notion of their proposed venture's valuation.</p>
Harrison et al., 2015	<p>As entrepreneurs pitch to angels, the potential rewards, perceived realism of their business projections and market potential gain in importance.</p>
Schulz & Schmücker, 2017	<p>It is common angels to review a summarized business plan and received a business pitch.</p>

Reference	Key Points
Warnick et al., 2018	<p>As angels increase their investing experience, they obtain first-hand experience of the challenges and uncertainties of product and service viability.</p> <p>Entrepreneurs who effectively demonstrate product and entrepreneurial passion increase an investors' probability of investment in their proposed business investment.</p> <p>Entrepreneurs can maximize their appeal to angels if they demonstrate humility and have are willing to be coached. An entrepreneur who demonstrates openness to feedback, new ideas and suggestions can mitigate an angel's concerns that an entrepreneur's unrestrained passion reflects inflated ego or resistance to accept necessary input from the investor, other key stakeholders, or even the market.</p>
"Angel Capital Association: FAQs for Angels & Entrepreneurs," 2019	<p>Since November, 2019 it is estimated that there are 300,000 people who have made angel investments in the last two years. Individual angels make investments ranging between \$5,000 to \$100,000, and angel groups can make investments ranging as high as \$1 million to \$2 million.</p>
Iqbal et al., 2019	<p>Angels rely on their relationships and less formal techniques to make determinations for ventures investments.</p> <p>Unless a pitched opportunity can successfully pass through an initial screening, it is unlikely an angel will invest.</p>

Sensegiving

Sensegiving has since been widely studied in entrepreneurship (Petkova et al., 2013; Weick et al., 2005). Sensegiving refers to entrepreneurial actors' ability to utilize metaphors, communicate narratives that explain what will happen against the background of relevant alternatives, and provide suitable dialogue that guide stakeholders to form their expectations, such as when entrepreneurs deliver a business pitch to investors (Gioia & Chittipeddi, 1991; Hill & Levenhagen, 1995). Sensegiving encompasses the processes one party enacts to influence another party's sensemaking, construction of definitions and meanings toward a preferred characterization of a certain organizational reality (Gioia & Chittipeddi, 1991; Weick et al., 2005; Whetten, 1984). In entrepreneurship, sensegiving most often refers to an entrepreneurial actors' ability to communicate information, through communication tools such of narratives, to explain what will happen once actions are taken against the background

of relevant alternatives, as well as provide suitable dialogue that guide stakeholders to form their expectations (Gioia & Chittipeddi, 1991; Hill & Levenhagen, 1995).

Entrepreneurs pursuing new ventures often find it difficult to communicate the suitability, relevance, and feasibility of their ideas to stakeholder audiences (Audretsch et al., 2012; Hill & Levenhagen, 1995). Entrepreneurs must be able to verbally articulate in order to successfully communicate ideas and persuade both internal and external stakeholders (Thomas et al., 1992). Entrepreneurs who are skilled at verbally articulating their ideas, perceptions and concepts can organize stakeholders around a common purpose and establish a basis for decision making (Hill & Levenhagen, 1995). However, sensegiving can be particularly daunting for entrepreneurs pursuing start-up or early stage investment funding (Aldrich & Baker, 2001; Pollack et al., 2012; Rutherford et al., 2016). Entrepreneurs will often accomplish sensegiving in early stages of business formation by developing business pitches that incorporate stories (Lounsbury & Glynn, 2001; Navis & Glynn, 2011).

Two parties must be involved in order for sensegiving and sensemaking to occur as part of the narrative transportation process: a storyteller (presenter) and a story-receiver (audience). The story-teller must create a narrative world, along with characters and settings for transportation to occur (Green, 2004). Green and Brock (2000) note that story-tellers who present narrative accounts typically present stories that raise unanswered questions, present conflicts that are yet to be resolved, or depict activities not yet complete. If presented in a manner that is familiar and interesting to an audience, storytellers are capable of persuading audiences through stories and narratives (Green & Brock, 2000). For the purpose of this dissertation I will study entrepreneurs as the story-tellers.

Entrepreneurs utilize narratives and stories, typically in the form of a business pitch, to convey an identifiable portrayal of their venture to persuade stakeholders to provide resources (Clark, 2008; Martens et al., 2007; Pollack et al., 2012; Spinuzzi et al., 2014). Narratives and stories help entrepreneurs to elaborate on their proposed logic surrounding the opportunities they are exploiting and embed their intended entrepreneurial actions within broader discourse (Martens et al., 2007).

The story-telling and pitch tactics an entrepreneur employs helps their targeted stakeholders make sense of the proposed venture so that the stakeholder will deem the opportunity worthy of a commitment of resources (Pollack et al., 2012; Rutherford et al., 2016; Zimmerman & Zeitz, 2002). Once entrepreneurs have gained investors' attention and engagement occurs, storytelling can be used to help the investor form mental imagery and simulate information. As the pitch interaction proceeds, the investor will perceive the realism of the story and if the narrative is deemed plausible, mental simulation can lead to cognitive elaboration. In many ways the sensemaking mind is allergic to uncertainty, coincidence and randomness (Gottschall, 2012). If investors cannot find fully constructed plans and fact-based causal sequences in a pitch, they might try to create or impose them. In some ways, the mentally simulating and elaborative mind can manufacture stories that are easier to believe and understand, or construct theories lacking fact but appear reasonable (Gottschall, 2012). In other ways, investors can self-deceive by becoming fixated on desirable but unavailable opportunities, becoming overly optimistic by cognitively constructing plans and playbooks that are perceived to strengthen the original idea or reduce risks (Farquhar & Pratkanis, 1993; Pratkanis & Farquhar, 1992). The investor's cogitation, dialogue and interplay with the entrepreneur can contribute to sensemaking, particularly if the investor's ideas and

recommendations are received, accepted and used to adapt the opportunity to a degree deemed acceptable (Politis, 2008). As the investor's thoughts turn optimistic and confidence is increased, a decision to commit resources to the adapted, improved, or potentially fully redesigned and restructured) opportunity might be more likely (Fiske, 1993; Moyer-Gusé & Nabi, 2010). In the following section, I will discuss sensegiving, the challenges surrounding the entrepreneur's need to obtain resources, and the business pitch.

The Opportunity Cogitation Helix

A helix is commonly related to deoxyribonucleic acid (DNA), the spiral chain of nucleotides in a complex molecule. A DNA helix consists of two strands that contain blocks of base elements such that a sort of spiral ladder is formed (Dickerson, 1983). It is a fundamental element of life; thus, all living creatures have some form of DNA. Similarly, entrepreneurship is the conception and creation of opportunities and the subsequent launch, development, growth, and operation of new ventures (Baron, 2007; Shane, 2003). An entrepreneurial opportunity cannot exist without an entrepreneur who possesses appropriate qualities (e.g., alertness) to act on it (Kirzner, 1997; Shane & Venkataraman, 2000). Thus, exploitation of a perceived opportunity depends upon an interaction between the nexus of 1) a perceived opportunity, and 2) an alert entrepreneur who exploits it (Shane & Eckhardt, 2003). Entrepreneurial alertness is comprised of three key elements, including: 1) an entrepreneur scanning information and searching for opportunities, 2) the ability to connect information that may have been previously disparate, and 3) crafting evaluations to determine the existence of a potential business opportunity (Tang et al., 2012). As entrepreneurs identify opportunities they wish to exploit, they must in turn communicate that information to stakeholders in order to obtain critical resources necessary to establish, grow

and sustain their ventures (Lounsbury & Glynn, 2001; McMullen & Shepherd, 2006; Pollack et al., 2012). This requires them to effectively communicate their information to their stakeholder audiences through a combination of sensegiving and sensemaking processes, as well as persuasive tools such as business pitches that incorporate narratives (Mason & Stark, 2004; O'Connor, 2002; Pollack et al., 2012). Well-delivered pitches that capably present persuasive narratives can help the entrepreneur to elicit interest from stakeholders as they become open to receive information and thinking about causal sequences and outcomes. Otherwise, entrepreneurs who are unable to convince stakeholders to pursue their orally portrayed investment opportunity are likely to seriously compromise their ability (at least with certain audiences) of persuading the stakeholder to commit resources (Clark, 2008). Well-prepared, passionate delivery of pitches as well as persuasive narrative content leads to a greater evaluation of funding potential (Cardon et al., 2009). Thus, the Opportunity Cogitation Helix is an amalgamation of cognitive process, spurred by an entrepreneurial opportunity pitch resulting in narrative transportation. The Opportunity Cogitation Helix construct is being introduced in order to bridge the research gap between an entrepreneur's own conceptual ideas and the venture mutually determined to be worthy of investment by an angel. It is the temporal microprocess, culminating into a singular moment, when an entrepreneur successfully aligns their individual subjective perception of an opportunity with various suggestions, alterations or idea contributions of an angel (Purtell, Caston, & Grumbles, 2019; Purtell et al., 2019). The helix may be a minor alteration, considerable adaptation, or complete reengineering of the original opportunity concept that allows the investor reach a thought confidence threshold such as they are able to make a resource commitment decision.

Entrepreneurs utilize business pitches as a method to introduce their proposed ventures to potential investors, convey necessary information, address concerns and persuasively guides their decision making (Clark, 2008; Pollack et al., 2012). They deliver their pitches through a combination of narratives, storytelling, and sensegiving (Clarke et al., 2019; Lounsbury & Glynn, 2001; Navis & Glynn, 2011; Pollack et al., 2012; Weick, 1995; Weick et al., 2005). A pitch is a narrative or story used to logically explain to an investor how a future opportunity will successfully perform and generate a return on invested capital. In this way, an entrepreneur's pitch is similar to a storyteller presenting a story narrative to an audience. Story narratives can help entrepreneurs justify the viability of their proposed investment opportunity, persuade stakeholders to contribute or invest, and facilitate near-term decisions that are critical to the success of the entrepreneur's proposal (O'Connor, 2002).

Entrepreneurs incorporate narratives into their pitches to explain their predictions about the future or suggest what the future will look like if certain necessary dependencies are satisfied and events occur (Frydrych et al., 2016; Johnson & Tuckett, 2017). A narrative that is structured with a positive future outlook and ending suggests to the story receiver that a good ending will occur (Gottschall, 2012; Johnson & Tuckett, 2017). The future tends to be more psychologically real than what historically occurred and can evokes stronger affective reactions (Caruso et al., 2008; Johnson & Tuckett, 2017; Van Boven & Ashworth, 2007). If story receivers are already familiar with or are informed about the future, they may have a better clue as to how a story might end despite what they may have experienced in the past (Caruso et al., 2008; Gottschall, 2012; Johnson & Tuckett, 2017). For example, an overly-optimistic expectation of future results (such as the abnormal performance of an investment)

can occur if a narrative includes information that suggests recent performance has (or will) exceeded expectations (Johnson & Tuckett, 2017).

Pitches for start-up ventures contain various persuasive details such as the founder's background, venture history, product or service details, markets served, growth opportunities and anticipated future outcomes. Pitches also contain business plans. Elements of a business plan contained within the pitch can be based on actual historical performance which is extrapolated into future expected results. On the other hand, the entrepreneur's proposed future performance outcome contained within the pitch may be entirely predicted or hypothesized (Pollack et al., 2012). Depending on the realistic nature of the proposed future performance, entrepreneurs can use pitches explicitly to persuade investors in order to obtain agreement, offer funding and invest (Chang, 2008; Escalas, 2004).

Entrepreneurs should tailor business plans to their respective audience so that details are familiar (Mason & Stark, 2004). Investors typically require business plans with relevant, actual, or realistic data and facts as they evaluate proposed business investment opportunities so they can establish an understanding of the proposed strategy before they can commit to invest (Ding et al., 2014; Mason & Stark, 2004). As the business plan is pitched and the narrative is delivered, investors generally evaluate a number of details, such as: the preparation and passion exhibited by management, the nature of the business proposed, the proposed venture's speed to market introduction and acceptance, growth prospects, competitive advantages, initial and future capital requirements, management characteristics, the potential return on investments, and exit strategy (Chen et al., 2009; Fried & Hisrich, 1994; Mason & Stark, 2004).

Entrepreneurs must first be able to communicate their idea to investors and convey what *it* is, what the results of successful operationalization will be, and how they plan to get to the desired end-state (Hill & Levenhagen, 1995). Investors will initially view an opportunity from a third-party perspective, likely with doubt or uncertainty (McMullen & Shepherd, 2006; Parhankangas & Ehrlich, 2014; Wiltbank et al., 2009). They initially approach investments as outsiders seeking to determine the future performance and whether they should commit their resources and become involved. As they learn more about investment opportunities and become more interested, they shift from considering how each opportunity might be pursued to which opportunity should be pursued (Wiltbank et al., 2009).

It is possible for entrepreneurs to present their pitch in a manner that enables the investor to see the idea from a first-person point of view, rather than a third-party observation (McMullen & Shepherd, 2006). If the entrepreneur is successful and the investor is receptive to the idea proposed, they will begin to engage in dialogue to ensure the elements of the idea such as the underlying business plan and future anticipate results are understood. If the pitch narrative is not completely understood, is unfamiliar, certain details are perceived to be inaccurate, or information is altogether missing it is likely that the investor will face an initial level of uncertainty and need to make a build enough confidence to invest (or not) (Knight, 2012; Mason & Rogers, 1997; Mason & Stark, 2004; Schumpeter, 1934).

If the pitch narrative, product, service or industry is familiar to investors, or they have personal experience with key aspects of the proposed opportunity, they are more likely to be interested in the pitch (Van Laer et al., 2013). A familiar topic that is presented in a coherent manner can increase the likelihood of an investor focusing their attention, motivating them to concentrate more on the narrative (Gerrig, 1993; Van Laer et al., 2013). As they listen to a

pitch, investors incorporate their experiences, contemplate complementary capabilities of other held investments or alternatives, and mentally simulate the probabilities that their investment in the pitched opportunity may result in a desirable investment outcome (McGrath, 1996; Rita, 1997, 1999; Roese, 1997; Roese & Epstude, 2017). If an opportunity is deemed viable and enough information is understood to enable the entrepreneur-investor dyad to conclude the mutually agreed opportunity is worthy of a funding commitment, then efforts to launch the venture continue. However, the information used to support this decision may not be based in historical fact nor actual reality. The thoughts of the future could be *prefactual* conditional (if-then) propositions about an action-outcome or means-end combination that may occur in the future (Epstude et al., 2016). Through dialogue, co-creative thinking (Whalen & Akaka, 2016), counterfactual thinking (Farquhar & Pratkanis, 1993; Roese, 1997) and mental simulation (Gaglio, 2004; Schaerer et al., 2018; Taylor et al., 1998) the perceived opportunity may be a shared adaptation of the future *entrepreneurial* opportunity, that is created through the dyad's collective imagination and positive thinking. When there is a gap in information presented in the pitch, the narrative describing the potential success of the opportunity is not perceived to be realistic by an investor, or some other aspect of the entrepreneur's pitch is deemed unacceptable, it is unclear in extant literature how subsequent cognitive or heuristic microprocesses occur to enable an investor to make a funding decision. It is also unclear how the interaction, dialogue, cognition and idea exchange amongst entrepreneurs and investors during or after a pitch can bridge information or knowledge gaps in order to allow investors make the decision to commit resources. In the following sections, I will review story-receiver (audience) sensemaking in order to better understand how investors receive information, interpret it and make decisions to commit

resources to start-up or early-stage ventures. Potential business opportunities are subjectively assessed by actors of the entrepreneurial process as they contemplate new venture ideas. New venture ideas are defined as “imagined future ventures” (Davidsson & Tonelli, 2013). New venture ideas constantly evolve and change. As they evolve, entrepreneurs build implicit and incomplete outlines of future ventures and formulate ways to gain support from potential stakeholders (Davidsson & Tonelli, 2013). However, just because opportunities are subjectively perceived to exist by an entrepreneur does not mean that everyone perceives it the same way (Kirzner, 1979; Shane & Venkataraman, 2000). Entrepreneurs may need to strategically improvise or “play pretend” in order to align subjective perceptions of their intended venture with the eyes of stakeholders (Baker, Miner, & Easley, 2003). In many ways, entrepreneurs talk their businesses into existence (Weick et al., 2005).

Entrepreneurs pursuing new ventures may have difficulty formalizing and efficiently communicating their ideas if they lack materially viable or easily understandable advantages, such as patents, working prototypes, or demonstrable financial performance records (Baum & Silverman, 2004). Lack of substantive evidence can leave investors with a gap in understanding, particularly if a narrative is not familiar or they do not agree with the entrepreneur’s vision or perception of the future (Audretsch et al., 2012; Cohen & Lemley, 2001). An inability to adequately present or explain expected details to a stakeholder could result in uncertainty or even doubt, leading to perceived concerns of investment risk (Knight, 2012). Entrepreneurs who pitch opportunities lacking cogent arguments or that have low credibility can pitches that incorporate narratives to persuade stakeholders to adopt certain beliefs, such as the viability and future success of a new venture (Clark, 2008; Clarke et al., 2019; Green & Brock, 2000).

Extant literature attempts to bring clarity to the entrepreneurial process, how funding resources are attained, and the cognitive and heuristic processes both entrepreneurs and investors undertake to agree to enter into a contract with one another for funding agreements (Bloodgood et al., 2017; Pollack et al., 2012; Rutherford & Buller, 2007; Rutherford et al., 2016; Shaw, 1921). However, this same literature fails to address the temporal moment the actual opportunity “conception” occurs between the entrepreneur and investor when, during a pitch process, new venture “life” is created or new “venture DNA” is established. The literature suggests that both entrepreneurs and investors use their ability to mentally construct a vision of a future opportunity, reframe what is known, and evaluate how various real and hypothetical inputs will interact to produce a desirably profitable outcome (Farquhar & Pratkanis, 1993; Gaglio, 2004; Gianiodis et al., 2017; Pratkanis & Farquhar, 1992). Kirzner (1985) referred to this opportunity identification process as breaking a prevailing means-end framework by thinking in a manner that is counterfactual to what is currently known or historical reality. When individuals think counterfactually, their reality is compared to a favored future alternative event, even though they may have failed to successfully achieve the same event in the past but can still easily imagine reaching it (Kahneman & Tversky, 1981). Entrepreneurs who receive and incorporate new information may perceive new opportunities, or rethink how prior failures or historically performance might have been more successful if that same information had been available earlier (Baron, 2000). Other literature discusses creation or discovery of opportunities that evolve as entrepreneurs act with various stakeholders, including investors, but still fails to pinpoint the point in time that mutual legitimation occurs (Davidsson, 2015, 2017; Davidsson & Tonelli, 2013). Despite the various aspects of the entrepreneurial resource gathering and funding process, the temporal processes

of how investors and entrepreneurs reach a mutual agreement to enter into a funding deal remains unclear. Perhaps through the interactions between the entrepreneur and investor during the pitch process, the entrepreneur is able to present the venture investment in a way that moves the investor from perceiving it from third-person perceived opportunity to a first person point of view so that a willingness to take action becomes a possibility (McMullen & Shepherd, 2006).

Before business can exist in physical form, they initially are initially conceived through cognitive processes such as mental simulation. Entrepreneurs must think through multiple scenarios and determine the likelihood of future success. Individuals tend to be relatively accurate but are not perfect when expecting an outcome; they use both their expectancies and new information to form their impressions (Fiske, 1993). For example, if investors perceive future events to be controllable, they may believe there are steps they can take to increase the likelihood of a desirable investment outcomes. If they can more easily bring to mind their own actions than those of entrepreneurs, investors are likely to conclude that desired outcomes are more likely to occur (Weinstein, 1980). As entrepreneur's subjectively contemplate various new venture idea alternatives, they may become fixated on one that is subjectively perceived to hold the most promise. Until such time as action is taken to pursue the venture at some point in the future, the idea is contained within the mind of the entrepreneur. The entrepreneur may perceive the opportunity to be real, but unless it is actually available in some real form it is a phantom alternative (Pratkanis & Farquhar, 1992). Phantom alternatives are choice options that are perceived as real to an individual but are not actually available at the time a decision is made (Farquhar & Pratkanis, 1993; Pratkanis & Farquhar, 1992). Even though it may be a vivid image of a successful future venture to the

entrepreneur, the fact remains that it is still simply an illusory premonition of the future. As they commit more thought to the new venture idea, entrepreneurs may become fixated and determined to obtain resources and mobilize efforts to pursue it (Pratkanis & Farquhar, 1992). If not fully understood and appreciated, phantoms can cause an individual to generate biases, deception, and suboptimal decisions (Farquhar & Pratkanis, 1993). However, phantom alternatives are used to reference an individual's illusory alternatives available now or in the immediately relevant future. It is not used to reference alternatives collaboratively contemplated for potential future opportunities if certain means-end outcomes are achieved, regardless of whether those means and ends are realistic or hypothetical.

If an investor's suggestion adds new elements to the business plan, or modifies a strategy originally intended, then the investor is metaphorically altering the original DNA of the pitched opportunity. An entrepreneur who is receptive to this suggestion or alteration may simply accept it, or propose another alternative in response to the investor's suggestion. However, both iterations can be an alteration of the original DNA of the opportunity if accepted by the other party. As collaboration and elaboration continues, a new DNA helix forms and the pitched idea begins to vary from its original form. Each new or altered idea proposed by one party and accepted by the other begins to modify the originally presented opportunity into something that is, to some degree, potentially different. As entrepreneurs and investors share ideas or interactively elaborate and collaborate on possible future actions, whether to either perceivably reduce risk or increase chances of success, does the original opportunity presented morph into something different than what was original pitched?

Opportunity Cogitation Helix Boundary Conditions

Not all entrepreneurial pitches result in an Opportunity Cogitation Helix. If the narrative in the entrepreneur's pitch contains information is perceived to be 1) realistic, 2) ascribes the dimensions of perceived realism, and 3) is considered low or manageable risk, then the investor may not need additional discovery or co-creative thoughts to justify an investment decision. In certain cases, a pitch may provide enough information that the investor considers it a low-risk/high certainty "no brainer" to motivate them to present a funding offer with few to no suggested alterations to the proposed plan during the pre-investment interaction. In other cases, there may be an information or logic gap that investors feel they are compelled to understand, or otherwise confirm certain assumptions. If the perceived realism of the pitch narrative is low, then cognitive processes such as cognitive analytical self-referencing or others may be activated. These cognitive processes may allow angels to mentally construct necessary bits of information such as future alternatives, assumed resource availability, or forecast how future events might unfold so that they can then make sense of what is being proposed and achieve a level of confidence to enable them provide a funding offer.

Further, an entrepreneur, or team of entrepreneurs alone without a shared perception by a stakeholder cannot initiate an Opportunity Cogitation Helix. In order for the helix to be established and grow, there must be more than one (or multiple) parties. At least one entrepreneur and one investor must be involved. Literature suggests that the definition of opportunity is vague and not completely understood in the academic community (Davidsson & Tonelli, 2013). It is unclear when the label "opportunity" can be applied to an entrepreneur's idea for a new venture in its early stages of development (Dimov, 2011), and in post-hoc analysis there is lack of agreement as to what to call an entrepreneur's action that

end up being unfeasible or imitative (Davidsson & Tonelli, 2013). If the entrepreneur's subjective perception of their opportunity is that it is credible and legitimate, but that perception is not shared by an investor, then I submit the opportunity is a new venture idea that is not accepted by critical resource providers.

The Opportunity Cogitation Helix is not firm level cocreation (Von Hippel, 1989). In marketing literature, cocreation is based on two factors: 1) corporations producing goods more efficiently than their competitors by leveraging the end-users activity in the value chain (Prahalad & Ramaswamy, 2000; Vargo & Lusch, 2014; Von Hippel, 2007), and 2) corporations leveraging end-user experiences with respective products or services in order to add value (Prahalad & Ramaswamy, 2000; Vargo & Lusch, 2014). Rather than leveraging an end-user's experiences to improve an existing product, service, or firm the Opportunity Cogitation Helix is a microprocess within the entrepreneurial journey between entrepreneur and investor parties. It is a multiparty interaction between entrepreneurs pitching what they perceive to be a new opportunity and angel investors who suggest alterations to a business plan or strategy before they will be willing to invest their money.

When a decision is made to fund and contribute to establishment of a *new* "future" venture, a temporal threshold is achieved within the pitch and funding decision micro-processes, whereby the interacting parties mutually agree the subjective opportunity has legitimacy and is worth continuing. (McMullen & Dimov, 2013; Rutherford & Buller, 2007; Zimmerman & Zeitz, 2002). It can only occur when cognitive processes are enacted and conceptual ideas are contributed by both the entrepreneur and the investor to the originally proposed idea. At this point in the process both the entrepreneur and investor have built enough confidence and formed the subjective belief that the reward for their future actions is

worth the cost and risks to both parties of the dyad (McMullen & Shepherd, 2006). Effectively, the Opportunity Cogitation Helix bridges gaps that may exist in the investors mind leading to an initial reluctance to invest. Through interactions enabling incrementally contributed ideas, assumptions or elaboration to an entrepreneur's business plans, an investment decision can be enabled that would not have otherwise been. Entrepreneurs' ability to manage their presentation to angels, answer their questions, and facilitate relationship building through the process will have an impact on their ability to secure funding (Sudek, 2006).

Opportunity Cogitation Helix Scope Conditions

As the helix measures activity that occurs between the entrepreneur and the investor in order to persuade the investor to commit resources, it also naturally incorporates time. As angels become more involved in the consideration of a pitched opportunity, the likelihood of them amending the idea or the underlying business plan increases as well (Paul et al., 2007). Conversely, if no time is devoted by the investor to amend the idea that is proposed, then a helix cannot form.

A number of conditions can prevent an Opportunity Cogitation Helix from occurring. Contextual situations could preclude story receivers from responding to narratives. For example, if narrative material is dull, or the story receivers are in boring or stressful situations they may desire to be elsewhere and less motivated to transport themselves into the narrative being presented to them (Green & Brock, 2000). A story receiver's transportability, or natural propensity to be transported when presented with a narrative, correlates with their ability to be empathic, mental simulate, and be induced into narrative transportation (Busselle & Bilandzic, 2009; Van Laer et al., 2013). If story receivers are low in transportability, they

may not be interested in certain narratives and less likely to be narratively transported (Van Laer et al., 2013)

Entrepreneurs can also demonstrate too much passion and influenceability. Entrepreneurs must balance their expression of originality and appeal to convention. Their business models and products should be presented in a manner that seems familiar enough to the angel to be understandable and legitimate but still novel enough to generate an impression they will address an unmet customer need in the marketplace (Parhankangas & Ehrlich, 2014).

Entrepreneurs who are not open to dialogue or are not willing to respond to questions will likely not successfully obtain angel investments. Investor's decisions to invest in new firms involve substantial subjective evaluations based on their inquiries of certain unobservable characteristics of entrepreneurs and their proposed new ventures from features that are known and easily demonstrated (Pollack et al., 2012). Angels iterate throughout the investment analysis process as they evaluate details, adding information to their assessments as it is provided by entrepreneurs pitching their business opportunities (Paul et al., 2007).

They must sometimes rely on their intuition as they integrate disparate information (Hisrich & Jankowicz, 1990). At any point of the Opportunity Cogitation Helix process, an entrepreneur's presentation of unfavorable information or an unexpected questionable event can cause angels to reassess their decision to commit resources to an investment (Paul et al., 2007).

Entrepreneurs can be individuals or can team together as a group. Similarly, investors could act alone or represent a group or panel that might be part of a pitch competition or funding opportunity similar to the television series "Shark Tank" (Smith & Viceisza, 2018). The Opportunity Cogitation Helix is temporal and can be formed by an entrepreneur and

investor dyad or multi-party pitch engagement, such as a team of entrepreneurs or a panel of investors. Thus, the Opportunity Cogitation Helix only occurs with thoughts, concepts or ideas are contributed to an idea by members from more than one party after a pitch has begun. It is the *microprocess* that occurs during the pitch interaction of an entrepreneur and investor as an initial opportunity is augmented or morphed into something perceivably different than what was originally proposed by the entrepreneur. This significance of the augmentation may not be realized by all parties simultaneously as they engage in dialogue. The significance of the change may be most easily recognized by a third party who observes the interaction, similar to someone watching a caterpillar morph through chrysalis and into the form of a butterfly. Likewise, the entrepreneur and investor may not realize the significance of the augmentation until after the pitch engagement is complete, once they revisit the original business plan and compare it to new or final expectations. Just as an entrepreneur's subjective and conceptual opportunity that is not shared with an investor does not constitute a helix, neither is an investor's ideas generated once the pitch is received but not shared back with the entrepreneur. Key factors that contribute to an Opportunity Cogitation Helix are 1) the medium, 2) the quantity of interactive thought sharing and collaborative elaboration, and 3) the length of time that transpires during a pitch interaction from the point of the first interaction of the dyad until a final decision to commit resources is made. Moreover, a pitch narrative that has an extremely high level of perceived realism, leading to a convincing argument and easily concluded decision to move forward would preclude the need for creative discovery and the ensuing Opportunity Cogitation Helix. A lack of perceived realism or thought confidence increases the likelihood of an Opportunity Cogitation Helix.

Antecedents to the Opportunity Cogitation Helix

Stories permeate human culture and have accompanied social life for most of recorded history (Boyd, 2009; Lounsbury & Glynn, 2001; Van Laer et al., 2013). Through cultural entrepreneurship (Lounsbury & Glynn, 2001), entrepreneurs can leverage cultural dynamics to obtain critical resources through the strategic use of stories (Aldrich & Auster, 1986; Aldrich & Herker, 1977; Lounsbury & Glynn, 2001). Stories can be crafted to help explain, rationalize, and advocate new ventures to reduce the uncertainty typically associated with entrepreneurship (Aldrich & Fiol, 1994; Lounsbury & Glynn, 2001). Research demonstrates story receivers who distinguish a story from a series of propositions, and are receptive to the story, can activate affective and cognitive responses that can eventually affect their attitudes, intentions, and behaviors (Adaval, Isbell et al., 2007; Elsbach, 1999; Van Laer et al., 2013). Environmental conditions such as pitch interactions and narrative persuasion, can have an affect an individual's connection to an organization (Elsbach, 1999). If attentive to a story, individuals may find themselves mentally transported into the story due to a number of reasons, such as empathy for the characters of the story or the familiarity of the plot. Narrative transportation theory purports that when story receivers lose themselves in a story, their intentions and attitudes can change to echo the story (Green, 2004; Green et al., 2004). The mental state of the story receiver can be affected through the persuasiveness of the narrative, causing the story receiver to experience narrative transportation and mental imagery (Gerrig, 1993; Green & Brock, 2002; Van Laer et al., 2013). If the story receiver begins the process of narrative transportation, a number of cognitive and heuristic process are affected. Depending on the content, context, familiarity or the transportability of the story

receivers themselves, there could be a number of things that cause narrative transportation to begin (Van Laer et al., 2013).

Antecedents to narrative transportation can stem from the story receiver, such as their familiarity with, and attention to, a story (Busselle & Bilandzic, 2009; Escalas, 2004; Gerrig, 1993; Green, 2004; Van Laer et al., 2013). The extent to which the investor is familiar with a story, engaged, or transported into the narrative world plays a role in the effect of persuasive outcomes the narrative might generate (De Graaf et al., 2012).

Familiarity

Familiarity is an antecedent to the cognitive responses affected by narrative transportation. Familiarity can induce cognitive elaboration, mental simulation, counterfactual thinking and other cognitive or heuristic processes (Van Laer et al., 2013). Familiarity, or prior knowledge of something, in a narrative can encourage story receivers to recollect or remember “reminders” such as connections between the narrative content and the receiver’s own life (Strange & Leung, 1999). Moreover, characters who are portrayed in a narrative can induce transportation. Story receivers may be drawn to stories where they have some prior experience or perceived link with the characters (Green et al., 2004). Transported individuals may have greater empathy or likeness for characters in a narrative and can be persuaded by the beliefs expressed by them (Green & Brock, 2000). Individuals who have similar experiences or are familiar with story-relevant themes or issues may be likely to generate story-consistent attitudes or beliefs (Green, 2004).

Pitches may enable the entrepreneur to describe their opportunity in a narrative format that is familiar and more easily recognized by investors who have similar experiences, knowledge, or education. Once entrepreneurs have pitched opportunities in a manner that is

familiar to the investor, it can be generally assumed that some degree of interest is provoked in the angel if they choose to investigate the project in more detail (Schulz, 2017). Angels tend to invest in opportunities they are familiar with. An angel's familiarity with the respective business field of the investment opportunity, the entrepreneur, or business plan elements of an investment proposal are highly correlated to their final investment decision (Ding et al., 2014).

As angels increase experience, they obtain first-hand experience of the challenges and uncertainties of product and service viability (Warnick et al., 2018). While angels will tend to be more open to the opportunity's industry sector, they want to be familiar with or generally understand the generic underlying business (Mason & Stark, 2004; Ramadani, 2009). The angel's career and investing experience prepares them to identify familiar business concepts or requirements, conduct due diligence necessary to assess the merits and risks of prospective business investments, and determine if they can add value to ventures post-investment based on their experiential business know-how (Mason & Stark, 2004; Ramadani, 2009; Warnick et al., 2018). Investors who are considering investment opportunities in highly familiar industries will be more confident in developing exit plans, such as knowing when they should bail out and whether or not doing so will be necessary (MacMillan et al., 1985). An angel's familiarity with certain industries, markets or products may also lead them to inquire about the degree of familiarity entrepreneurs have with their intended target markets (Warnick et al., 2018). Investors not only want to understand the proposed business investment opportunity, but also the entrepreneur who is proposing the opportunity and whether they are suitable to build a business that will succeed (MacMillan et al., 1985).

HYPOTHESIS 1: The relation between familiarity and the perceived change in the opportunity is negative, such that an entrepreneur’s pitch that is highly familiar to an investor will result in a minimal variation to the proposed opportunity.

Table 3 summarizes literature on familiarity.

Table 3. Summary of Familiarity Literature

Reference	Key Points
MacMillan et al., 1985	Investors who are considering investment opportunity in highly familiar industries will be confident in developing an exit plan, such as knowing when they should bail out and whether or not doing so will be necessary.
Strange & Leung, 1999	Familiarity with a narrative or prior knowledge can encourage story receivers to recollect or remember “reminders” such as connections between the narrative content and the receiver’s own life Fictional stories can frame causal thinking.
Green & Brock, 2000	Transported individuals may have greater empathy or likeness for characters in a narrative and can be persuaded by the beliefs expressed by them.
Green, 2004	Individuals with experience or prior knowledge relevant to the elements of themes of a narrative are more likely to be transported into a story Story receivers can be drawn to narratives where content that matches their self-concept or a pre-existing link exists Story receivers may be drawn to stories where they have some prior experience or perceived link with the characters.
Mason & Stark, 2004	Angels will tend to invest in opportunities they are familiar with. While angels will tend to be more open to the opportunity’s industry sector, they want to be familiar with or generally understand the generic underlying business. Familiarity with the underlying business allows them to judge how they can incorporate their own experience and business knowledge to their business investments.
Ramadani, 2009	Angels typically invest in ventures that operate in business sectors or industries they are familiar with.
Wong et al., 2009	Angels typically perform their own due diligence. Therefore, they will typically invest in business ventures that are targeting industries familiar to them.
Schulz & Schmücker, 2017	Once entrepreneurs have pitched opportunities in a manner that is familiar to the investor, it can be generally assumed that some degree of interest is provoked in the angel to investigate the project in more detail.
Warnick et al., 2018	An angel’s familiarity with certain industries, markets or products may lead them to inquire about the degree of familiarity entrepreneurs have with their intended target markets.

If the pitched opportunity is familiar to the investor or they have knowledge about something key to the idea, the potential for the investor to assume a first-person view of the opportunity is increased. If an individual views an opportunity from a first-person perspective they may exhibit a willingness to potentially bear the uncertainty necessary to take action (McMullen & Shepherd, 2006). The effect of transportation as an Opportunity Cogitation Helix is developed can be better understood through cognitive processes such as mental simulation and counterfactual thinking, which will be reviewed in the next section.

Mental Simulations and Counterfactual Thinking

Entrepreneurship evolves through a continuous process and encompasses elements of time (Dimov, 2010; McMullen & Dimov, 2013). As time passes, entrepreneurs gather information, process it, and contemplate opportunities to combine resources for establishing marketable ventures capable of creating profits and desirable outcomes (Baker & Nelson, 2005; McMullen & Dimov, 2013). Kirzner (1985) refers to this process as opportunity identification, breaking a prevailing means-end framework as opportunities are evaluated. Market actors and decision makers, such as investors, seek to make business interactions work within an existing means-end framework, aspiring to make decisions and act in a manner that optimally allocates scarce resources in order to achieve the maximum return possible (Gaglio & Katz, 2001). Both entrepreneurs and investors who are evaluating various opportunities must mentally construct a vision of a future, reframe what is known, re-evaluate how various inputs will interact to produce a desirable outcome, and calculate the likelihood of success. Entrepreneurs and third-party stakeholders utilize two cognitive and heuristic processes to mentally develop opportunities, reason, and calculate probabilities of success, referred to as mental simulations and counterfactual thinking (Gaglio, 2004).

Mental Simulations

Mental simulations are cognitive constructions that are imitative of a future event based on causal sequences of successive interdependent interactions (Gaglio, 2004; Taylor et al., 1998; Taylor & Schneider, 1989). Mental simulations are often developed in the form of mental narratives or stories that may be aligned in fact and logic or counterfactuals (Fiske, 1993; Polkinghorne, 1991). Information acquired through narratives of fictional worlds can be persuasive and incorporated into real-world knowledge (Gerrig & Prentice, 1991). The persuasiveness of narratives may rely on the extent they are able to activate transportation and the subsequent mental imagery (Green & Brock, 2000). A narrative plot capable of linking together previously disparate events into a new whole event can enable story receivers to reintegrate and renew their own self-narratives (Polkinghorne, 1991). Mental simulation can provide individuals with a perceived window to the future by enabling them to envision various possibilities and then develop plans to achieve them (Taylor et al., 1998). Like entrepreneurs, investors can mentally simulate during a pitch event. For example, investors may be biased towards certain facts or experiences and may mentally simulate alternative possibilities or probabilities of success as they process information received from a pitch (Franke et al., 2006; Murnieks et al., 2011).

Counterfactual Thinking

Counterfactual thinking refers to thought processes that are not aligned with reality based on actual history (Gaglio, 2004; Roese, 1997; Seelau et al., 1995). When individuals think counterfactually, thoughts about the future can relieve the negative affect caused by thinking about how a negative outcome that has been experienced could have otherwise been avoided (Boninger et al., 1994). Whether individuals imagine outcomes that are positive or negative,

evaluations of factual events and responses to them can be influenced by counterfactuals (Miller, Turnbull, & McFarland, 1990; Pratkanis & Farquhar, 1992). The impetus for counterfactual thinking fall across three categories of constraints (Seelau et al., 1995): 1) an individual's understanding of natural and social laws; 2) the purpose for doing counterfactual thinking (such as a desire to improve performance by concentrating on antecedents and outcomes that can be personally controlled or influenced); and 3) the ease with which an individual can determine possible antecedents, dependencies, sequences, and outcomes (Gaglio, 2004; Kahneman & Tversky, 1981; Seelau et al., 1995). Table 4 summarizes literature on mental simulations and counterfactual thinking.

Table 4. Summary of Mental Simulations and Counterfactual Thinking Literature

Reference	Key Points
Kahneman & Tversky, 1981	When individuals think counterfactually, reality is compared to a favored future alternative event, even though they failed to successfully achieve the same event in the past but can still easily imagine reaching it.
Gerrig & Prentice, 1991	Information acquired through narratives of fictional worlds are incorporated into real-world knowledge.
Pratkanis & Farquhar, 1992	A phantom alternative is an individual's choice option that is perceived to be real but is in reality unavailable at the time a decision is made. It is a mentally simulated or counterfactual illusory choice, not actual option.
Fiske, 1993	Individuals tend to be relatively accurate but are not perfect when expecting an outcome; they use both their expectancies and new information to form their impressions.
Farquhar & Pratkanis, 1993	If not fully understood and appreciated, mentally simulated or counterfactual phantoms can cause an individual to generate biases, deception, and suboptimal decisions.
Boninger et al., 1994	When individuals think counterfactually, thoughts about the future can relieve the negative affect caused by thinking about how a negative outcome that has been experienced could have otherwise been avoided.
Seelau et al., 1995	The impetus for counterfactual thinking fall across three categories of constraints: 1) an individual's understanding of natural and social laws; 2) the purpose for doing counterfactual thinking (such as a desire to improve performance by concentrating on antecedents and outcomes that can be personally controlled or influenced); and 3) the ease with which an individual can determine possible antecedents, dependencies, sequences, and outcomes.

Reference	Key Points
Roese, 1997	Counterfactuals thinking produces mental representations of alternatives of the past. Counterfactuals can produce consequences that are both aversive and beneficial.
Taylor et al., 1998	Mental simulation can provide individuals with a perceived window to the future by enabling them to envision various possibilities and then develop plans to achieve them.
Green & Brock, 2000	The production of mental imagery is a mediator of the effect of narratives on beliefs and expressions. The persuasiveness of narratives may rely on the extent are able to activate transportation and the subsequent mental imagery.
Baron, 2000	Entrepreneurs who receive and incorporate new information may perceive new possibilities that if they had access to in the past may have led to better historical performance, but also lead to perceptions of successful future performance.
Gaglio & Katz, 2001	Non-entrepreneurial market actors and decision makers, such as investors, seek to make business interactions work within an existing means-end framework. They mentally simulate, aspiring to make decisions and act in a manner that optimally allocates scarce resources in order to achieve the maximum return possible.
Slater & Rouner, 2002	Narrative transportation can reduce negative thoughts or resistance even if the plot of the narrative is inconsistent with prior beliefs.
Green, 2004	Individuals utilize two cognitive and heuristic processes to mentally develop opportunities, reason, and calculate probabilities of success, referred to as mental simulations and counterfactual thinking.
Van Boven & Ashworth, 2007	Individuals engage in higher levels of mental simulation when anticipating and imagination future events than during retrospection.
Van Laer et al., 2013	Verisimilitude is the subjective perception that something may actually happen.
Epstude et al., 2016	Prefactual thoughts are conditional (if-then) propositions about an action-outcome or means-end combination that may occur in the future.
Roese & Epstude, 2017	Individuals who think counterfactually reflect on what might have been, or how their past might have been different had something else had occurred.

Perceived Realism

Transportation is positively correlated with perceived realism (Green, 2004). Perceived realism, the audience’s judgment of the degree to which a “narrative world” correlates to the “real world,” is central to narrative persuasion (Busselle & Bilandzic, 2009; Cho et al., 2014; Gerbner & Gross, 1976; Green, 2004). Fictional stories can frame causal thinking similar to

nonfictional accounts (Strange & Leung, 1999). Story receivers who are transported by narratives believe those stories are more realistic (Green, 2004). Familiarity or prior experience with the themes of a story increase narrative transportation leading to greater perceptions of realism and more story-consistent beliefs (Green, 2004).

Individuals have a tendency to be particularly unrealistically optimistic about future life events, and at times can build confidence leading to an error in judgement labeled as unrealistic optimism (Weinstein, 1980). As entrepreneurs pitch to angels, the potential rewards, perceived realism of their financial projections and market potential gain in importance (Harrison et al., 2015).

The perceived realism of the story is highly influenced by verisimilitude of the narrative (Van Laer et al., 2013). Verisimilitude is an audience's perception of a narrative's truth and "lifelikeness," leading to a conclusion that story events may actually happen or that it constitutes an imaginary solution for a real-life contradiction (Ang, 2013; Van Laer et al., 2013). It is the subjective perception that something may actually happen (Van Laer et al., 2013). If an investor is familiar with a narrative, its characters, or plot, they will be more interested and engaged leading to a higher chance of verisimilitude (Ding et al., 2014; Schulz, 2017). Higher levels of verisimilitude lead to increases in the investor's suspended reality as they are transported into the narrative (Busselle & Bilandzic, 2009). It consists of five dimensions: plausibility, typicality, factuality, perceptual quality, and narrative consistency (Busselle & Bilandzic, 2009; Cho et al., 2014; Green et al., 2004; Hall, 2003).

Plausibility references the degree to which a presented narrative could possibly occur in the "real world." Plausible narratives animate ideas and gain their validity from subsequent activities (Weick et al., 2005). Although a narrative may be plausible, it may not be typical.

Typicality is the degree to which the story a narrative portrays is perceived to fall within the realm of an individual's experiences, whether past or present, and tends to be a more stringent evaluation criterion than plausibility. Factuality, similar to plausibility, references the perceived degree to which a narrative portrays something specific in the real world, such as an actual event. However, factuality concerns actual occurrence whereas plausibility concerns possible occurrence. Perceptual quality is the degree to which manufactured elements of a narrative, such as audio or visual complements, portray a compelling and convincing portrayal of the reality, regardless of the content of the narrative is relevant to the audience's actual experiences. Finally, narrative consistency is the extent to which the elements of a narrative are judged to be coherent and congruent, without many (if any) contradictions (Cho et al., 2014; Hall, 2003). For example, angels considered the perceived realism of forecasted revenues and profits, as well as in the entrepreneurs valuation of the company (Ding et al., 2014; Schulz & Schmücker, 2017).

The plot of a narrative is imaginable if the temporal sequence of events, whether in the past or predictably in the future, is familiar or perceived to be realistic. The mental imagery of an imaginable plot can lead the story receiver to reflect on their own personal experiences (Green & Brock, 2002; Van Laer et al., 2013). Story receivers who perceive unrealistic elements of a narrative's plot or other elements may divert their attention from comprehension. Narratives can be perceived to be unrealistic if there is a flaw in a plot, a character's behavior is inconsistent with his/her motivations, or a portrayal is inconsistent with real world or conventional knowledge (Busselle & Bilandzic, 2009).

Cognitive Elaboration

Cognition has been widely studied in entrepreneurship research. The central question in entrepreneurship has been considered to be “How do people think?” or more specifically “How do entrepreneurs think” (Baron, 2004; Mitchell et al., 2007). Prior research considers individuals’ need for cognition, which refers to a tendency to engage in and enjoy cognitive endeavors requiring effort (Cacioppo et al., 1996; Tormala & Petty, 2004). Despite the need to make sense of the world or solve problems of varying degrees, individuals have varied levels of need for cognition (Cacioppo et al., 1996). Individuals low in need for cognition are typically characterized as more likely to rely on others such as experts or celebrities. On the other hand, individuals high in need for cognition are characterized as more likely to have positive attitudes toward tasks or stimuli requiring reasoning or problem solving and a tendency to pursue effective problem solving and cognitively effortful endeavors. Individuals with a high need for cognition have a tendency to gather and process information effortfully, be more knowledgeable on certain topics and provide more substantive responses on those topics (Cacioppo et al., 1996).

Cognitive elaboration refers to an individual’s level of attention to major points of a persuasive argument and their connection to their own schemas, thoughts, opinions, or experiences (Green & Brock, 2000). Cognitive elaboration can be additive to an argument, or counterfactual. Additive elaborations, such as an additional idea can perceptibly assist an argument that has been presented. Elaborative counterfactual thinking allows individuals to mentally simulate, anticipate and prepare for the future based on deliberate construction and evaluation of alternative sequences of events, actions and outcomes (Gaglio, 2004; Kahneman & Tversky, 1981). Counterfactual elaboration occurs when individuals establish a

future reality by constructing alternatives despite the fact actions and outcomes may have failed in the past (Kahneman & Tversky, 1981). Cognitive elaboration can be triggered when individuals sense a persuasive argument (Tormala & Petty, 2004). The persuasiveness of narratives may rely on the extent they are able to activate transportation and the subsequent mental imagery. The production of mental imagery can mediate the effect of narratives on beliefs and expressions (Green & Brock, 2000). Individuals who are high in their need for cognition or resistant to persuasive arguments that also engage in high levels of cognitive elaboration may increase their certainty of their initial attitudes (Tormala & Petty, 2004).

Entrepreneurial persuasion theory and research has been supported by a cognitive process model called the elaboration likelihood model (ELM) (Green & Brock, 2000; Petty et al., 1981). Green and Brock propose a critical element in ELM is the amount of thought individuals devote to messages being received. Individuals engaged in cognitive elaboration logically consider and evaluate arguments, potentially resulting in a change in attitude or perspective. Thus, cognitive elaboration is typically perceived as a divergent process (Green & Brock, 2000; Green et al., 2004). When individuals perform higher levels of cognitive elaboration to construct dependencies and intermediate steps leading to an outcome, this may lead to a higher perceived likelihood of that same outcome (Kahneman & Tversky, 1981).

Thought Confidence

Thought confidence refers to an individual's conviction of their own thoughts. It suggests the more confident an individual is in their attitude, the more their attitude will influence their behavior, such as the acceptance of a persuasive message (Hedges, 1974; Petty et al., 2002). It is relevant and important to understand whether the thoughts are positive or negative, as both can have differing effects on persuasion. Individuals have a tendency to be

particularly unrealistically optimistic about future life events, and at times can build confidence leading to an error in judgement labeled as unrealistic optimism (Weinstein, 1980). As they build confidence, people expect others to be victims of misfortune rather than themselves. This implies individuals are more likely to have an unrealistic optimism that may lead to errors in judgment and subsequent actions. When positive thoughts dominate in response to a message, increasing confidence in those thoughts increases persuasion, but when negative thoughts dominate, increasing confidence decreases persuasion (Petty et al., 2002). The persuasion outcome is also determined in part by what individuals perceive to be the foundation of their conclusion and what qualifies as relevant evidence for deliberation (Chen et al., 2009). In the case of an entrepreneur's pitch to an angel investor, the goal is to persuade the investor to commit valuable resource to the proposed new venture (Harrison et al., 2015). The investor must have enough confidence in the entrepreneur's pitch proposal to render a decision to commit resources (Warnick et al., 2018). The exchange with the entrepreneur during the pitch, including the formulation of additional ideas, alternatives, or suggestions to alter a business plan may allow investors to increase their confidence to a point at which a resource commitment decision can be made.

Prior research in the domains of persuasion and attitude change describes three dimensions of cognitive processing (thinking) that impact persuasion processes and outcomes: 1) the amount of thinking that occurs, 2) the content and valence of issue-relevant thoughts, and 3) the degree of confidence individuals have in their own ideas and thoughts (Petty et al., 2002). The third dimension, however, is particularly relevant to the persuasiveness of thoughts. The degree of an individual's thought confidence is a metalevel concept, as it incorporates not only the individual's self-generated thoughts, but can also be

influence by the thoughts of others around them (Jost et al., 1998; Petty et al., 2002). A highly positive reaction and subsequent cognitive responses may lead to a greater likelihood of individuals self-validating their own thoughts based on their accumulating level of confidence. Individuals will particularly tend to self-validate when involved in situations that foster a high level of information processing activity (Petty et al., 2002). Conversely, negative reactions have the opposite effect. Whereas high levels of positive thinking and cognitive responses lead to an affirmative persuasion, lower thought quantity or negative thoughts can result in a negative persuasion response (Petty et al., 2002; Petty & Cacioppo, 1979). However, Petty et al. (2002) found that an individual's confidence in their own thoughts can be independent of those same thoughts' actual quality. Moreover, various factors can influence thought confidence such as the mood of an individual, the frequency or ease of which a thought comes to mind, or the credibility of the source of the message, such as the entrepreneur who is delivering a pitch. Leveraging these factors, or certain strategies such as message timing, could allow for manipulation of thought confidence of another party. The process of information acquisition can affect ideas generation, selection of goals, behaviors that are engaged, and the final outcomes attained (McMullen & Dimov, 2013). If thought confidence is induced prior to exposure of a message and cognitive elaboration is not constrained to be high or low, thought confidence can affect the amount of information processing. For example, confident people tend to generate fewer thoughts than those who lack confidence (Tiedens & Linton, 2001). On the other hand, if thought confidence is stimulated after a significant amount of cognitive processing, persuasion can be enhanced if thoughts are favorable but reduced if thoughts are unfavorable (Petty et al., 2002). Similarly,

those who are susceptible to cognitive biases such as overconfidence or failure to thoroughly plan might encourage individuals to move forward and “take the plunge” (Baron, 2004).

In order to maintain a high level of confidence, angels often scout for investment opportunities where they can coach an entrepreneur and provide feedback in order to assist in the development of a venture (Baum & Silverman, 2004). A venture investor’s risk in a start-up is typically highest in the beginning and a confidence threshold will need to be achieved to enable investor to render a decision to commit resources. Thus, early active involvement and application of investors expertise can help them to increase their confidence in the viability of a proposed venture investment (Baum & Silverman, 2004).

As entrepreneurs receive and openly consider others' feedback, they may either increase the number or decrease the of number of claims they make in order to establish a more coherent and acceptable message in their pitch (Spinuzzi et al., 2014). Recent research has demonstrated that when an investor perceives an entrepreneur is receptive and open to feedback, potential concerns associated with investing in an opportunity might be mitigated (Warnick et al., 2018). The entrepreneur’s receptiveness of additional ideas the investor perceives will mitigate concerns or increase performance and may lead the investor to reach a confidence threshold such that a decision can be made to commit resources. An entrepreneur’s pitch narrative, combined with the cognitive elaborations, idea sharing and alteration of the opportunity into something that can be mutually perceived as a subjectively more realistic and viable opportunity can lead to the investor to reach a confidence threshold that a decision can be made to commit resources to the entrepreneur. Table 5 summarizes literature on perceived realism, cognitive elaboration and thought confidence.

Table 5. Summary of Perceived Realism, Cognitive Elaboration, and Thought Confidence Literature

Reference	Key Points
Gerbner & Gross, 1976	Narrative messages, combined with story-telling functions, make people perceive stories as real, normal, and right to a degree that may fit an established social order.
Weinstein, 1980	The more individuals perceive they possess controllability of a positive event, the greater the tendency they will believe that their own chances of a successful outcome are greater than average. If individuals perceive future events to be controllable, they may believe there are steps they can take to increase the likelihood of a desirable outcomes. Thus, the future is perceived to be more realistic. If they can more easily bring to mind their own actions than those of entrepreneurs, investors are likely to conclude that desired outcomes are more likely to occur.
Strange & Leung, 1999	Realistic fictional stories can frame causal thinking, leading to an increase in perceived realism.
Green, 2004	Transportation is positively correlated with perceived realism. Story receivers who are transported by narratives believe those stories are more realistic. Individuals who are transported by narratives exhibit more story-consistent beliefs and can endorse beliefs implied by the narrative.
Busselle & Bilandzic, 2009	Story receivers who perceive unrealistic elements of a narrative may divert their attention from comprehension. Narratives can be perceived to be unrealistic if there is a flaw in a plot, a character's behavior is inconsistent with his/her motivations, or a portrayal is inconsistent with real world or conventional knowledge.
Ding et al., 2014	Angels consider subjective factors, including entrepreneurs' personality characteristics, work ethic, business understanding, and if they are able to communicate the basis for a realistic notion of their proposed venture's valuation.
Cho et al., 2014	Perceived realism is multidimensional, consisting of dimensions that include plausibility, factuality, typicality, perceptual quality, and narrative consistency. It is important to narrative persuasion.
Harrison et al., 2015	As entrepreneurs pitch to angels, the potential rewards, perceived realism of their business projections and market potential gain in importance.
Schulz & Schmücker, 2017	Angels considered the perceived realism of forecasted revenues and profits, as well as in the entrepreneur's valuation of the company.

Entrepreneurial Opportunity Adaptation

Angels will apply what they have learned from an entrepreneur's pitch and may cognitively elaborate by applying their knowledge, adding to their mental picture they are constructing (Harrison et al., 2015). It is likely the angel will communicate their knowledge

and any new idea generated back to the entrepreneur (Ramadani, 2009). However, even if an entrepreneur and an angel investor engage in dialogue, incrementally contribute to a core idea, and consider future risks or dependencies that can be addressed in order to potentially increase the likelihood of a venture's success, they are still only contemplating a mental concept and a subjectively perceived opportunity. The parties of the dyad may have aligned and agreed that the enhanced opportunity will have a higher chance of success with the investor's resources, but it is still a subjective conclusion. The importance of this alignment, however, is that without the modification of the initially pitched opportunity, the investor would not have invested resources. Nevertheless, the opportunity the investor will decide to invest in is still unavailable at the time the decision is made to invest. Similar to Pratkanis's (1992) and Farquhar's (1993) phantom alternative, the illusory future concept is a cogitated adaptation of the opportunity. However, where the phantom alternative is an individual's illusory option or alternative available in the near term, entrepreneurial opportunity adaptation is a dyadically conceived illusory opportunity that is possible at some point in the future (Farquhar & Pratkanis, 1993; Pratkanis & Farquhar, 1992).

If a pitched opportunity is modified to a point an investor perceives necessary criterion are met, the investor may have enough information to render a decision to commit resources without significant dialogue and idea exchange with the entrepreneur. However, if elements of the pitch are unfamiliar to the investor it is likely they will need additional information, requiring dialogue and possible introduction of new ideas so that gaps of information can be bridged with the entrepreneur. If there are high levels of engagement between the entrepreneur and the investor during the pitch process, and the initially pitched opportunity is creatively "morphed" into something varied from what was originally presented, then a more

substantial adaptation of an opportunity is generated. This may be due to interaction that was required to overcome the investor's initial concerns as to the perceived realism of the pitch narrative, increase the investor's confidence of thoughts about the feasibility of the opportunity, or from the elaboration that occurred between the parties as ideas were cognitively created and exchanged. This interaction can lead to an investor perceptually developing a perceptual narrative adaptation that is either acceptable and motivates the investor to commit resources, or is minimally varied, leading the investor to perceive the opportunity still does not have enough merit the venture to be worthy of a resource commitment.

It may or may not be possible for the parties engaged in a pitch interaction to realize the initially pitched opportunity has changed. If an investor suggests an idea that is tied to a resource the investor can provide to the entrepreneur and subsequently requires the entrepreneur to augment the pitched opportunity to incorporate that dependency, then the investor (and possibly the entrepreneur) may both realize that there is noticeable variation in the opportunity post-augmentation. Conversely, if narrative transportation occurs, both the investor and entrepreneur empathize with each other and affectively modify the pitched opportunity to lead to what could be metaphorically described as a "happy ending to the story," they may not initially realize the degree of variation in the initially pitched opportunity. Thus, a third party may need to observe the interaction, evaluate and subjectively measure the pre- and post-interaction opportunity. Observation from the third-party perspective may heuristically allow the observer to see the transformation and amount of variation that is applied to the pitched opportunity as the pitch process evolves to the point of a decision to commit resources.

HYPOTHESIS 2: The Opportunity Cogitation Helix mediates the relationship between familiarity and entrepreneurial opportunity adaptation.

HYPOTHESIS 3: There is an inverted U-shaped relationship between familiarity and the Opportunity Cogitation Helix.

It is not uncommon for individuals to consider what might happen in the future, or how the future might be different from the past (Baron, 2000; Van Laer et al., 2013). Narrative transportation can affect and stimulate cognitive processes that simulate how the future will occur, what could influence the future, how different actions might affect the outcome of the future, and mentally imagery of what these futures look like (Baron, 2000; Boninger et al., 1994; Green & Brock, 2000; Wong et al., 2012). Entrepreneurial actors are more susceptible to cogitate future outcomes, build confidence in their orchestration of causal relationships, be overly optimistic, and construct an illusion of control (Baron, 2000; Busenitz et al., 1997). Baron (2000) refers to one of these counterfactual processes to this as “imagining,” whereby individuals recall historical outcomes and consider what might have occurred, or how the future might have been different, if actions or circumstances had been different.

As individuals are increasingly absorbed into a story or transported into a narrative world, they may begin to show effects of the story on their real-world beliefs, future outlooks, or other illusory elements that can possibly be controlled or changed (Gerrig, 1993; Green & Brock, 2000). As people begin to cognitively elaborate, they might begin to access their previous knowledge, experiences or other thoughts to adapt narratives to that which they are familiar (Escalas, 2006; Green & Brock, 2000). Individuals high levels of self-efficacy beliefs related various disciplines of their innovative capacity are likely to engage in innovative behavior that complements those beliefs (Ng & Lucianetti, 2016). This tendency

to innovatively adapt new possibilities to that which is familiar, or perceived to be more controllable, can also have effects in contexts stakeholder assessments of new entrepreneurial opportunities.

An investor's uncertainty about the future outcome of a new entrepreneurial opportunity may require alternative approaches to support the desire to have some control over achieving favorable outcomes (Knight, 2012; Wiltbank et al., 2009). Sarasvathy (2001) suggests nonpredictive control as a concept whereby individuals attempt to increase control, reducing concerns about the accuracy of predictions. When presented with new entrepreneurial opportunities, investors who emphasize non-predictive control may present effective alternatives to increase certainty on their mental images of the future (Sarasvathy, 2001; Wiltbank et al., 2009). Thus, when transported by narratives high levels of cognitive activity may lead to an increased desire to adapt the respective story so that it is perceived to be more realistic, or more controllable.

HYPOTHESIS 4: The relationship between the Opportunity Cogitation Helix and entrepreneurial opportunity adaptation is positive, such that at high levels of opportunity cogitation there will be high narrative change expectations.

Perceptual Variation of Opportunity

McMullen and Dimov (2013) propose that scholars shift research from entrepreneurship “as an act” to “a journey,” initiating dialogue about the nature of an entrepreneur’s journey such as when it began and when it ended, even if the process has to be viewed through microfoundational research. Scholars are for the most part third parties, viewing and studying the entrepreneurial process and not necessarily acting as entrepreneurs themselves. Perhaps it

is easier to research and analyze certain processes of entrepreneurship if, like a scholar, the observer is not a stakeholder in the process or is observing from an outsider's perspective.

As dialogue continues throughout the pitch, entrepreneurs and angel investors may be focused on the details of so that an investment decision can be made. Perhaps they are "caught up in the moment" during a positive pitch event, enabling the investor building her/his thought confidence in order to make a determination whether or not to invest. However, it is possible they may not realize the opportunity originally pitched by the entrepreneur is not the same as what has been mentally constructed by the dyad at the end of the conversation. They may not realize that what they have constructed is nothing more than a cogitated adaptation of the opportunity. This may be due to simple miscommunication or an extreme level of thought confidence. Regardless, the evolution of the entrepreneurial opportunity adaptation may be visible by a third party, such as a scholarly researcher, who looks at the definition of the opportunity as it was initially pitched and compares it to the final opportunity that receives an investor's commitment of resources. It may be possible for the third party to make a judgement as to the amount of change that has occurred to the intended new venture opportunity.

HYPOTHESIS 5: The relationship between entrepreneurial opportunity adaptation and decision to commit resources is positive, such that high levels of entrepreneurial opportunity adaptation leads to a higher likelihood of a decision to commit resources.

CHAPTER III

METHODOLOGY

Overview

This chapter describes the data collection procedures, the measures, coding processes, and methods utilized to test the hypotheses posed in the chapter two. I conducted a pilot study to develop measures and test the hypothetical model. In the pilot study, I collected data from university pitch competitions and Amazon Turk to establish and validate measures for the variables, as well as to pilot test the theoretical model. I then utilized two studies to test the proposed model. I asked demographic questions to obtain details about the respondents and confirm their experience as start-up investors. In the first study, investors were asked to view prerecorded videos of start-up pitches from entrepreneurs participating in college pitch competitions. Investors were then asked to answer questions corresponding to each construct of the theoretical model in Figure 1. The survey assessed 1) how familiar each pitch is to the respondent, 2) the perceived realism of the pitch, 3) the respondent's amount of cognitive elaboration, 4) the investor's thought confidence, and 5) the level of entrepreneurial opportunity adaptation the respondent would require to invest. Finally, the survey asked respondents to rate the likelihood they would commit resources to the pitched opportunity. Attention checks

were included in the survey and respondents who did not accurately respond were disqualified and their response were removed from the sample.

The second study employed computer-aided text analysis (CATA) to analyze pitches from the first six seasons of the television show Shark Tank. I used CATA to operationalize and validate the constructs as it has been demonstrated to be an acceptable process to operationalize and validate constructs (Short et al., 2010; Short & Palmer, 2008). It is an appropriate method for this study as it can be used to analyze naturally occurring dialogue (Ridolfo & Hart-Davidson, 2015). A number of CATA software tools have been used to analyze narratives in scholarly research (Ridolfo & Hart-Davidson, 2015; Short et al., 2010; Stephen, 1999). I chose the software tool DICTION for this study (Ridolfo & Hart-Davidson, 2015; Short & Palmer, 2008; Stephen, 1999). DICTION uses either user-defined dictionaries for specific uses or 31 predefined built-in dictionaries, comprised of word lists, to search text for variables such as familiarity, certainty, optimism, activity, and commonality (Digitext, 2013, 2020). Linguistic word-based dictionaries were established to operationalize each of the constructs (familiarity, perceived realism, cognitive elaboration, thought confidence, change/adaptation, and decisions for commitment) as part of the CATA process (Short et al., 2010). All constructed dictionaries were reviewed by trained coders to confirm a high level of agreement. I conducted pretests to confirm that the dictionaries work within the DICTION software tool. I discuss both studies further in the sections below.

Pilot Study

Entrepreneurs often try to persuade investors with a short verbal introduction and explanation of their businesses opportunity called an “elevator pitch” (Clark, 2008). Elevator pitches are constructed to provide an initial glimpse of the proposed venture idea with the

goal of engaging the investor in further conversation and obtaining a commitment for an investment and are often used in university pitch competitions (Clingingsmith & Shane, 2018). Numerous pitch competitions are held by universities every year. These competitions are intended to support training for entrepreneurship students in developing and delivering pitches to panels of judges, including investors. Entrepreneurship students often have start-up ideas that are purely mentally conceived or in early stages of development (Clingingsmith & Shane, 2018). One purpose of pitch competitions is to allow entrepreneurship students an opportunity to present and validate their new venture ideas prior to or in the early stages of launch while winning cash for seed capital and gaining visibility and interest from potential investors (Cornell, 2014). The events typically take place in a face-to-face format or virtually through video conferencing. Pitch competitions typically involve a panel of judges, including individuals familiar with entrepreneurial start-ups, who observe and score a number of pitch presentations. In some competitions, there is a question and answer period where the judges (and investors) can interact with the pitching entrepreneur in order to gain further clarity. At the conclusion of the pitch event, pitching entrepreneurs are often rated and awarded seed funding or scholarships. Investors may also approach the entrepreneurs for further discussions about additional investments.

In order to develop and adapt measures and instruments, I conducted prestudies by 1) attending and testing the adapted measures with judges and investors during student pitch competitions conducted in three universities in the United States, and 2) utilizing prerecorded videos of students pitching at university competitions with MTurk respondents. Items were further validated and refined based on statistical analysis as well as feedback from investors

and judges at the competitions. However, due to unplanned events related to COVID-19, most university pitch competitions were cancelled.

The survey built for this study was reviewed by university judges, investors, and event directors. Pitch competitions usually contain multiple pitch presentations, all of which must be completed within a predefined timeframe. In order to cycle through and score all pitch presentations, pitch competitions only allow a certain amount of time for each entrepreneur to pitch their idea, judges to correspond and finally score the pitch. For example, three different university pitch competitions only allowed judges between five to ten minutes between presentations to complete scoring, complete documentation or any other requirements before the next presentation began. Existing measures for the dependent variables familiarity, perceived realism, cognitive elaboration, and thought confidence have been validated and used in prior studies. However, to accommodate pitch event requirements, the measures were adapted and the instrument was revised to allow surveys to replicate the time and number of items allowed in an actual competition. New measures were developed for the independent variable familiarity and the dependent variables entrepreneurial opportunity adaptation and decision to commit resources.

Sample

I conducted the pilot study using 353 MTurk respondents. I asked respondents to view a prerecorded video pitch, and then respond to questions about their perception of the video. Fifty-six individuals did not pass an attention check, and these responses were removed from the sample. The final sample contained responses from 297 individuals ($N = 297$) who each viewed and responded to one prerecorded pitch. Respondents were then asked to respond to items in a survey.

Development of Items and Measures

The independent variable familiarity and the constructs that comprise the mediating variable Opportunity Cogitation Helix (perceived realism, cognitive elaboration, and thought confidence) are constructs that have been operationalized and measured in a number of research studies related to narrative transportation. The mediating variable entrepreneurial opportunity adaptation and the dependent variable decision to commit resources were new variables that required scales be established.

Items in the corresponding measures were structured as seven-point Likert-type questions. Casper et al. (2019) recommend surveys be built with equal-interval properties in order to improve confidence in the results of subsequent analyses. Data and scales were provided as guidance to develop appropriate intervals and anchors (Casper et al., 2019).

Established measures that were adapted are summarized in Table 6. Adapted measures corresponding to each of the variables used in this study are discussed further in this chapter.

Table 6. Established Measures to be Adapted

Construct	Established Measure Reference (to be adapted)
Familiarity	Caputo & Rouner, 2011; Flavián & Guinalú, 2007
Cognitive Elaboration	Petty et al., 1981; Tormala & Petty, 2004; Villanueva, 2012
Perceived Realism	Busselle & Bilandzic, 2009; Cho et al., 2014; Green, 2004
Thought Confidence	Dimov, 2010; Villanueva, 2012

In order to obtain and ensure reliable and valid scales for the measurement of each variable, I undertook a process of scale refinement in two stages. First, I validated items from these measures by completing an exploratory factor analysis (EFA). Additionally, I completed confirmatory factor analysis (CFA) on each variable in order to ensure construct validity. I developed these measures by conducting a pilot study using sample data from entrepreneurial pitches from three pitch events conducted at universities in the United States,

and MTurk respondents. The directors at each of the pitch events, as well as investors who have served as judges at pitch competitions, consistently indicated that instruments could not contain more than twenty total items. This required the measures for the variables contain an average of approximately three to four items each when compiling the final instrument. The initial list of items for all variables are listed in Table 7 below.

Table 7. Initial List of Items for All Variables

ID	Measurement Item
Familiarity	
FAM_1	I am familiar with the opportunity being pitched.
FAM_2	I am familiar with the type of business being pitched.
FAM_3	I am familiar with the industry of the pitched opportunity.
FAM_4	I am familiar with the ideas that were pitched.
Cognitive Elaboration	
CE_1	I paid attention to the pitched opportunity that was presented.
CE_2	I put effort into listening to the pitched opportunity that was presented.
CE_3	I felt personally involved with the pitched opportunity that was presented.
CE_4	I thought deeply about the issues in the pitched opportunity that was presented.
Perceived Realism	
PR_1	The pitched opportunity is realistic and believable.
PR_2	While receiving the business pitch, I could easily picture the events in it taking place.
PR_3	Events that actually have happened or could happen are discussed in this pitched opportunity.
PR_4	The pitched opportunity was logical and convincing.
PR_5	The pitched opportunity is something that could possibly happen in real life.
PR_6	The events in the pitched opportunity portrayed possible real-life situations.
PR_7	The story in the pitched opportunity could actually happen in real life.
Thought Confidence	
TC_1	Overall, this pitched opportunity seems to be a good investment.
TC_2	Overall, I have a good impression of this pitched opportunity.
TC_3	I feel that this pitched opportunity could become a good business.
TC_4	I have a positive gut feeling about this pitched opportunity.
Entrepreneurial Opportunity Adaptation	
PO_1	The pitched opportunity would need to be altered for me to invest.
PO_2	The entrepreneur would be willing to change the pitched opportunity if feedback was received from an investor.
PO_3	I would make suggestions to alter the pitched opportunity.
PO_4	Investors would make suggestions to alter the pitched opportunity.
PO_5	The entrepreneur seemed willing to modify the opportunity when pitching to the investor.
PO_6	The pitched opportunity would need to change so that an investment could be made.
PO_7	The group discussed things that need to happen (dependencies) for the opportunity to be successful.
PO_8	The entrepreneur indicated he/she could do something new that was suggested by the investor
PO_9	The entrepreneur seemed willing to change the pitched opportunity when receiving feedback from the investor
Decision to Commit Resources	
DC_1	I would be willing to invest in this pitched opportunity.
DC_2	I would be willing to commit resources to this pitched opportunity.

Scale Development

I refined the scales for each variable through an exploratory study of their psychometric properties. I analyzed reliability and unidimensionality of the initial scales and selected final items. In the second stage, I completed a confirmatory factor analysis of each constructs. Reliability can be analyzed through the correlation of each item with the sum of the rest of the items on the scale, referred to as item-total correlation (Bagozzi, 1981). The procedure consisted in checking that the item-total correlation was greater than 0.3 (Nurosis, 1993), and then eliminating those items that failed to reach this threshold.

Scale reliability can be assessed though Cronbach's alpha statistic (Cronbach, 1951; Nunnally, 1978). Some authors recommend the minimum measurement scale value be 0.6 (Robinson, Shaver, & Wrightsman, 1991), while others recommend .7 (Cronbach, 1970; Nunnally, 1978). The results of the Cronbach alpha analysis showed an acceptable degree of internal consistency in the scales of all mediating and dependent variables; in all cases the figure was higher than the 0.60 minimum recommendation ($\alpha = 0.945$ for perceived realism, $\alpha = 0.804$ for cognitive elaboration, $\alpha = 0.937$ for thought confidence, $\alpha = 0.837$ for the combined scale of entrepreneurial opportunity adaptation, and $\alpha = 0.966$ for decision to commit resources). Familiarity is a formative variable established as the weighted sum of items. Items for familiarity were selected from measures established by Caputo & Rouner (2011) (Cronbach's $\alpha = .77$).and Flavian & Guinaliu (2007) (Cronbach's $\alpha = .89$). Reliability results for the scales of the variables are shown in Table 8.

Table 8. Cronbach Alpha for Each Scale

	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Perceived Realism	0.945	0.947	7
Cognitive Elaboration	0.804	0.824	4
Thought Confidence	0.937	0.938	4
Opportunity Cogitation Helix	0.834	0.839	9
Decision to Commit Resources	0.966	0.966	2

Next, I analyzed reliability through item-total correlation (Bagozzi, 1981). The procedure consisted of checking that the aforementioned correlation was greater than 0.3, and eliminating items that failed to reach this minimum level (Nurosis, 1993). The results of Cronbach alpha once the items were deleted showed an acceptable degree of internal consistency in the scales; in the case of all of the mediating variables, the adjusted alpha would be higher than the 0.7 recommended by the strictest suppositions. The item-total correlation showed results for all the items considered that were superior to the minimum requirement of 0.3 (see Table 9), so none of the items was initially eliminated.

The next phase of the analysis was a study of unidimensionality for each of the measurement scales, carried out with the aim of analyzing the degree to which the influence of the proposed scale indicators is exerted on a single dimension (McDonald, 1981). I performed the evaluation of scale unidimensionality using Maximum likelihood and Direct Oblimin rotation.

Table 9. Item Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Familiarity					
FAM_1	11.850	13.137	0.375	0.615	0.340
FAM_2	11.660	15.218	0.283	0.616	0.433
FAM_3	11.750	16.325	0.216	0.519	0.491
FAM_4	12.090	15.329	0.294	0.530	0.424
Perceived Realism					
PR_1	31.200	51.269	0.856	0.863	0.932
PR_2	31.133	51.499	0.909	0.899	0.928
PR_3	30.867	54.740	0.806	0.737	0.937
PR_4	31.500	52.466	0.741	0.747	0.944
PR_5	31.367	51.275	0.804	0.703	0.938
PR_6	31.333	54.782	0.751	0.848	0.942
PR_7	31.200	53.614	0.876	0.927	0.932
Cognitive Elaboration					
CE_1	18.480	3.802	0.683	0.647	0.744
CE_2	18.460	4.253	0.502	0.573	0.810
CE_3	19.110	2.553	0.680	0.649	0.749
CE_4	18.940	2.959	0.733	0.622	0.694
Thought Confidence					
TC_1	8.090	14.946	0.825	0.690	0.925
TC_2	8.430	15.298	0.830	0.706	0.926
TC_3	8.350	15.146	0.865	0.751	0.914
TC_4	8.130	14.003	0.888	0.791	0.906
Entrepreneurial Opportunity Adaptation					
PO_1	41.910	38.199	0.532	0.550	0.820
PO_2	42.020	41.868	0.435	0.467	0.829
PO_3	41.740	37.177	0.689	0.730	0.800
PO_4	41.630	38.200	0.618	0.729	0.808
PO_5	42.040	39.697	0.569	0.589	0.815
PO_6	41.780	39.686	0.504	0.648	0.822
PO_7	41.910	42.425	0.418	0.298	0.830
PO_8	42.370	41.256	0.609	0.723	0.813
PO_9	42.540	41.650	0.552	0.687	0.818

In the case of all three variables that comprise the mediator Opportunity Cogitation Helix, only one factor was identified. Factor loadings are shown in Table 10. In order to reduce the number of items as required by university pitch competitions, each measure was reduced to three items. This was accomplished by removing the item with the lowest factorial loadings.

Table 10. Confirmatory Factorial Loadings for Variables of the Entrepreneurial Cogitation Helix (Perceived Realism, Cognitive Elaboration, and Thought Confidence)

Item	Factorial Loading	Item	Factorial Loading	Item	Factorial Loading
PR_1	0.846	CE_1	0.652	TC_1	0.868
PR_2	0.954	CE_2	0.493	TC_2	0.857
PR_3	0.843	CE_3	0.848	TC_3	0.899
PR_4	0.727	CE_4	0.868	TC_4	0.932
PR_5	0.798				
PR_6	0.825				
PR_7	0.924				

I evaluated the mediating variable entrepreneurial opportunity adaptation over the course of four of the prestudies. Three of these four studies indicated two factors, and one of the studies indicated three factors. Loadings were consistent, with four of the nine items loading on one factor, and five items loading on the other. This indicated that two latent constructs existed. After further review of the items, I determined that one latent factor related primarily to perceptions of the changing the opportunity and investing, while the other factor related to perceptions of both the entrepreneur’s willingness to change the opportunity based on investor interaction. I determined the latter latent factor to be the supported by previous literature related to an entrepreneur-opportunity nexus (Casson, 2005; Davidsson, 2015; Eckhardt & Shane, 2010; Eckhardt & Shane, 2013; Shane, 2003; Shane & Eckhardt, 2003; Shane, 2003) and an entrepreneur-investor-venture nexus (Gioia & Chittipeddi, 1991). Table 11 contains the results of these factor loadings.

Table 11. Factorial Loadings for Entrepreneurial Opportunity Adaptation

ID	Study 1		Study 2		Study 3		Study 4		
	Factor	Factor	Factor	Factor	Factor	Factor	Factor	Factor	
	1	2	1	2	1	2	1	2	3
PO_1	0.752	-0.005	-0.029	0.840	-0.062	-0.844	0.898	-0.066	0.096
PO_2	-0.106	0.765	0.301	0.429	0.259	-0.350	-0.261	0.042	0.775
PO_3	0.836	0.134	0.028	0.832	0.009	-0.797	0.441	0.504	-0.102
PO_4	0.893	-0.029	-0.084	0.766	-0.012	-0.590	0.831	0.330	-0.074
PO_5	-0.050	0.832	0.500	0.202	0.419	-0.169	-0.050	0.871	0.150
PO_6	0.882	-0.151	0.075	0.797	0.067	-0.762	0.805	-0.206	-0.089
PO_7	-0.079	0.610	0.713	0.066	0.618	-0.108	-0.204	0.002	-0.958
PO_8	0.100	0.778	0.910	-0.125	0.892	0.123	-0.656	0.576	0.056
PO_9	0.079	0.845	0.843	-0.044	0.777	0.054	-0.061	0.683	-0.062

I structured items in the corresponding measures as seven-point Likert-type questions. Casper et al. (2019) recommend surveys be built with equal-interval properties in order to improve confidence in the results of subsequent analyses. Data and scales were provided as guidance to develop appropriate intervals and anchors (Casper et al., 2019). The final scales for each construct are represented in Figure 2.

In order to confirm that the final scales worked, I conducted a pilot test using Amazon Mechanical Turk respondents. Three-hundred fifty three individuals responded to the invitation. Items to confirm attention to details were included to increase response accuracy. Fifty-six individuals did either did not correctly answer attention to detail questions or did not complete the survey. Their responses were removed. The remaining 297 respondents ($N = 295$) were asked to watch a prerecorded video of a student pitching at a university pitch competition to a panel of judges, and then respond to the items of the final measures.

Figure 2. Measures and Scales*

ID	Measurement Variable/Item
Familiarity	
FAM_2	I am familiar with the type of business being pitched.
FAM_3	I am familiar with the industry of the pitched opportunity.
FAM_4	I am familiar with the ideas that were pitched.
Cognitive elaboration	
CE_1	I paid attention to the pitched opportunity that was presented.
CE_3	I felt personally involved with the pitched opportunity that was presented.
CE_4	I thought deeply about the issues in the pitched opportunity that was presented.
Perceived realism	
PR_1	The pitched opportunity is realistic and believable.
PR_2	While receiving the business pitch, I could easily picture the events in it taking place.
PR_7	The story in the pitched opportunity could actually happen in real life.
Thought confidence	
TC_1	Overall, this pitched opportunity seems to be a good investment.
TC_3	I feel that this pitched opportunity could become a good business.
TC_4	I have a positive gut feeling about this pitched opportunity.
Entrepreneurial opportunity adaptation	
PO_5	The entrepreneur seemed willing to modify the opportunity when pitching to the investor. to the investor.
PO_7	The groups discussed things that need to happen (dependencies) for the opportunity to be successful.
PO_8	The entrepreneur indicated he/she could do something new that was suggested by the investor.
PO_9	The entrepreneur seemed willing to change the pitched opportunity when receiving feedback from the investor.
Decision to commit resources	
DC_1	I would be willing to invest in this pitched opportunity.
DC_2	I would be willing to commit resources to this pitched opportunity.

**All items were scaled a seven point Likert-scale questions. Anchors and intervals of the summated rating scales were developed in accordance with the recommendations of Casper et al. (2019). [1= Strongly disagree, 7 = Strongly agree]*

Pilot Study Sample Data

I conducted the pilot study using 297 MTurk respondents ($N = 297$). I asked respondents to view a prerecorded video pitch and then respond to questions about their perception of the video. The average age of the respondents in the sample was 37.7 years ($SD = 10.6$). The

average years of experience investing in businesses was reported as 7.0 years ($SD = 12.6$). Sixty-six percent of the respondents were male, and 34% were female.

Pilot Study Descriptive Statistics

The descriptive statistics and correlations for all the variables used in the study are presented in Table 12. The results show that all variables, with the exception of Entrepreneurial Opportunity Adaptation, were significantly related to every other variable. The relationship between familiarity and Entrepreneurial Opportunity Adaptation was negative. However, none of the relationships between Entrepreneurial Opportunity Adaptation and the other variables were significant, although both were positive. Further, neither the linear nor curvilinear relationships between familiarity and thought confidence were significant.

Pilot Study Path Analysis

Path analysis is an appropriate choice for this study because of its ability to analyze reflective latent constructs and trace multiple mediation paths simultaneously. The baseline model indicated lack of adequate fit with data [$\chi^2 = 0.416$, $DF = 2$, n.s., standard root mean square residual (SRMR) = .001, comparative fit index (CFI) = 1.000, Tucker-Lewis index (TLI) = 1.048]. Figure 3 shows the results of the pilot study path analysis. Based on the full model, the results show that the relationship is negative, but not significant ($\beta = -0.033$, n.s.), and that H1 was not supported. The curvilinear relationship between familiarity and the Opportunity Cogitation Helix was positive but not significant ($\beta = -.010$, n.s.). Further, the indirect path between familiarity and entrepreneurial opportunity adaptation ($\beta = 0.071$, n.s.), was not significant, indicating mediation was not present. Thus, H2 nor H3 were supported. The relationship between the Opportunity Cogitation Helix and entrepreneurial opportunity

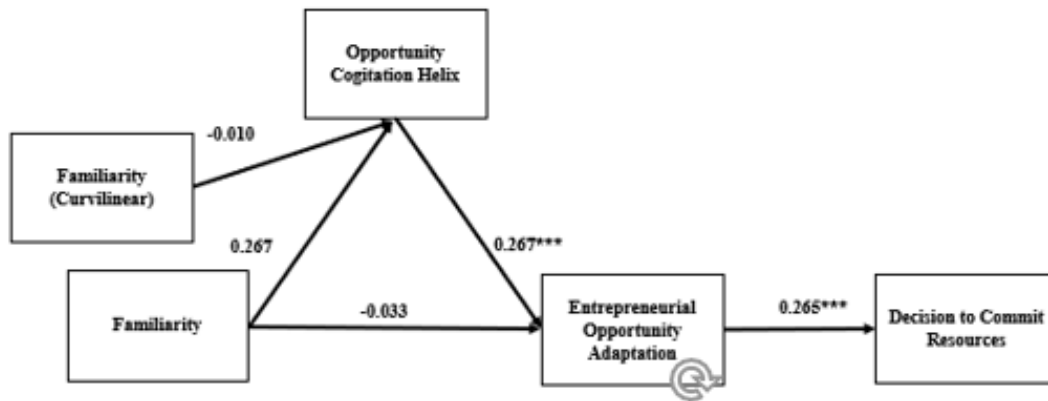
Table 12. Descriptive Statistics (Pilot Test)

Variable	ID	MEAN	SD	1	2	3	4	5	6	7	8
1. Familiarity	FAM	3.84	1.71	1.0000							
2. Familiarity (Quadratic)	FAMQUAD	15.86	9.80	0.9792***	1.0000						
3. Perceived Realism	PR	2.24	1.12	0.2437*	0.2468*	1.0000					
4. Cognitive Elaboration	CE	2.39	1.38	0.3944**	0.3834**	0.5955***	1.0000				
5. Thought Confidence	TC	2.83	1.58	0.1384	0.1297	0.4172***	0.4308***	1.0000			
6. Opportunity Cogitation Helix	HELIX	2.48	1.21	0.3195*	0.3114*	0.7749***	0.8414***	0.7997***	1.0000		
7. Entrepreneurial Opportunity Adaptation	PO	3.62	1.71	-0.0817	-0.0884	0.0101	0.0179	0.2101	0.1113	1.0000	
8. Decision to Commit Resources	DC	3.47	2.01	0.0318*	0.0205*	0.1416***	0.2008***	0.5856***	0.4135***	0.3016	1.0000

*** $p < .0001$, ** $p < .01$, * $p < .05$; $N = 297$

adaptation was positive and significant ($\beta = 0.267, p < .0001$). The relationship between the entrepreneurial opportunity adaptation and decision to commit resources was also positive and significant ($\beta = 0.265, p < .0001$). These results provide strong support for H4 and H5.

Figure 3. Modeling Results for Pilot Study



Study 1

Study 1 surveyed start-up business investors. The survey built for this study was reviewed by university judges, investors, and event directors. Pitch competitions usually contain multiple pitch presentations, all of which must be completed within a predefined timeframe. In order to cycle through and score all pitch presentations, pitch competitions only allow a certain amount of time for each entrepreneur to pitch their idea, judges to correspond and finally score the pitch. For example, three different university pitch competitions only allowed judges between five to ten minutes between presentations to complete scoring and complete documentation or any other requirements before the next presentation began. Thus, existing measures for the dependent variables familiarity, perceived realism, cognitive elaboration, and thought confidence have been validated and used in prior studies. However, to accommodate pitch event requirements, the measures were adapted and the instrument was revised to allow surveys to replicate the time and number of items allowed in an actual

competition. New measures were developed for the independent variable familiarity and the dependent variables entrepreneurial opportunity adaptation and decision to commit resources.

Sample

Investors who invest in start-up opportunities were recruited to respond to a prerecorded video study. Respondents were recruited 1) from recent participation at university pitch competitions, 2) from LinkedIn.com angel investor and start-up investor networking groups, and 3) from investors affiliated with an entrepreneurship center at large, public midwestern university. Seventy individuals responded to the survey invitation. Items were included to verify respondents were business investors, the type of investor they consider themselves to be (i.e., angel or venture capitalist), and the amount of investing experience they have in years. Individuals who did not respond correctly to attention check or were not start-up investors were disqualified from completing the survey. Twelve respondents were disqualified. The 58 remaining respondents were then asked to watch at least one of three prerecorded videos of entrepreneurship students participating in university pitch competitions. Videos were randomly assigned to each respondent. Once the video was viewed, the respondents scored the pitches using validated measures relating to each variable of the theoretical model in Figure 1. The respondents were voluntarily allowed the option to watch and score up to two additional pitch videos, similar to the experience an investor would have at a pitch competition. The instrument used in Study 1 can be found in the Appendix.

Study Design

Respondents watched prerecorded video pitches and then responded to a survey instrument. Each video contained an entrepreneurship pitch and a brief interaction between the

entrepreneurs and panel judges, as well as attending investors, whereby a dialogue occurred and questions were answered. Once viewing was complete, the survey assessed the respondent's level of familiarity with the type of business, industry, and ideas that were pitched. It then evaluated their levels of perceived realism, cognitive elaboration, and thought confidence after they viewed the videos. Finally, respondents responded to items that tapped their cogitation and perceived adaptation or change that would be needed for them to be willing to commit resources to the opportunity.

Familiarity (Independent Variable)

I developed a multi-item measure to calculate the respondent's level of familiarity with the ideas, type of business, and industry of the pitched opportunity. The measure was established by adapting the measures created by Caputo & Rouner (2011) and Flavian et al. (2007). In order to reduce the overall size of the survey instrument so that it could be completed within allowable pitch event time constraints and be acceptable to judges and event administrators who agreed to participate in pretesting, the adapted measure contained fewer items. Caputo and Rouner's (2011) measure was developed to study an audience's behavioral response based on their familiarity with nonfiction and fiction narratives. Flavian et al. (2007) developed a measure to study the effect an audience's familiarity has on their certainty, confidence and loyalty to website or product loyalty. Each item in the adapted measure was structured as a seven-point Likert-type question, ranging from Strongly Disagree (1) to Strongly Agree (7) and statistically validated. Anchors and intervals of the summated rating scales were developed in accordance with the recommendations of Casper et al. (2019).

The Opportunity Cogitation Helix (Mediating Variable)

The Opportunity Cogitation Helix is a mediating variable comprised of three constructs: 1) Perceived Realism, 2) Cognitive Elaboration, and 3) Thought Confidence. The measurements of these variables are discussed individually as follows.

Perceived Realism (Mediating Variable). I measured perceived realism by adapting measures established by Cho et al. (2014), and Buselle & Bizandlic (2009), and Green (2004). Cho et al. (2014) developed a scale to measure an audience's level perceived realism when receiving a narrative. Buselle & Bizandlic (2009) developed a scale to measure an audience's level of perceived narrative realism to study an audience's level of engagement with a narrative. Green (2004) adapted a measure from Elliot et al. (1983) to measure the correlation between narrative transportation and story-consistent beliefs based on prior experience. The adapted measure for this study contained fewer items, reducing the size of the survey instrument so that it could be completed within allowed time constraints during live pitch event pretests and be acceptable to judges and event administrators. Each item in the new measure was structured as a seven-point Likert-type question, ranging from Strongly Disagree (1) to Strongly Agree (7). Anchors and intervals of the summated rating scales were developed in accordance with the recommendations of Casper et al. (2019).

Cognitive Elaboration (Mediating Variable). Respondents were asked to respond to items that measure their level of cognitive elaboration that occurred as they viewed the pitch videos. Cognitive elaboration was measured by adapting the measures established by Petty and Cacioppo (1986), Tormala and Petty (2004), and Villaneuva (2012). Petty and Cacioppo (1986) developed an Elaboration Likelihood Model to measure to and understand the level of cognitive elaboration that occurs when persuasive subtexts are contained within a narrative.

Tormala and Petty (2004) established a measure to understand self-reported elaboration when an audience detects a persuasive argument in a narrative. Villaneuva (2012) developed an Extended Elaboration Likelihood model to measure an audience's cognitive identification with characters, engagement and absorption in a narrative. The adapted measure for this study contained fewer items so the survey instrument could be completed within allowed time constraints during live pitch event pretests and be acceptable to judges and event administrators. I structured each item in the new measure as a seven-point Likert-type question, ranging from Strongly Disagree (1) to Strongly Agree (7). I developed anchors and intervals of the summated rating scales in accordance with the recommendations of Casper et al. (2019).

Thought Confidence (Mediating Variable). Respondents were asked to measure their thought confidence once they have viewed the video. I measured thought confidence by adapting measures established by Dimov (2010) and Villanueva (2012). Dimov (2010) established an opportunity confidence measure to assesses an entrepreneur's confidence that a new business will achieve intended milestones. Villanueva (2012) developed a measure to capture an investor's evaluative confidence based on a rapid initial assessment of a business investment opportunity. Measure adaptation was necessary to reduced the size of the survey instrument so that it could be completed within allowed time constraints during live pitch event pretests and be acceptable to judges and event administrators. Thus, the adapted measure contained fewer items. I structured each item in the new measure as a seven-point Likert-type question, ranging from Strongly Disagree (1) to Strongly Agree (7). Anchors and intervals of the summated rating scales were developed in accordance with the recommendations of Casper et al. (2019).

Entrepreneurial Opportunity Adaptation (Mediating Variable)

I asked respondents to rate their perceptions that an opportunity will need to be adapted or change before they are willing to commit resources. I developed and validated multi-item measures containing seven-point Likert-type questions and scales (0% to 100%) to measure the level of change that the respondent perceives would be required before a consideration of resource commitment could be made. Each Likert-type item in the measure was structured as a seven-point question, with anchors ranging from Strongly Disagree (1) to Strongly Agree (7). I developed anchors and intervals of the summated rating scales in accordance with the recommendations of Casper et al. (2019). A measure containing a scale ranging from 0% to 100% was established to measure the amount of change that the respondent would require in order to consider a dedication of resources to the pitched opportunity.

Decision to Commit Resources (Dependent Variable)

Respondents were finally asked to rate their willingness to commit resources to the pitched opportunity they have viewed. Measures containing Likert-type and scale items were developed to measure the level of the respondent to invest or commit some level of resource to the pitched opportunity. Each Likert-type item in the measure was structured as a seven-point question, ranging from Strongly Disagree (1) to Strongly Agree (7). Anchors and intervals of the summated rating scales were developed in accordance with the recommendations of Casper et al. (2019). A measure containing scales ranging from 0% to 100% was established to measure the likelihood that the respondent would immediately invest in the opportunity as pitched, or the likelihood the respondent would eventually invest at some point in the future.

Analysis

I analyzed Study 1 results via path analysis to determine whether the Opportunity Cogitation Helix and entrepreneurial opportunity adaptation mediate the relationship between investor familiarity and the decision to commit resources in a pitched opportunity. I used structural equation modeling to analyze this study. Path Analysis is an appropriate choice for this study because of its ability to analyze reflective latent constructs and trace multiple mediation paths simultaneously. If these hypotheses are confirmed, then an entrepreneur can potentially understand how to better construct and deliver pitch narratives in a manner that increases the likelihood an investor will commit resources to their proposed ventures.

Study 2

Sample

The data for this study includes 294 business pitches the first six seasons of Shark Tank. Coding data from television media sources are an accepted and well-established methodological technique inside and outside of entrepreneurship research. Data from Shark Tank and other television series have been used in a number of recent research studies and articles. For example, Pollack et al. (2012) used coded Shark Tank transcripts to measure entrepreneur cognitive legitimacy when pitching to the Shark investors. In the medical domain, Diem et al. (1996) used data from television episodes to teach medical techniques relative to cardiopulmonary resuscitation. Shark Tank business pitches are unscripted interactions between entrepreneurs seeking early stage funding and a panel of four to six angel investors (Smith & Viceisza, 2018). The episodes are edited into “palatable acts” for television viewing; however, all interactions and elements critical to the investors’ decisions and final outcome are included in the final production aired on television (Pollack et al.,

2012; Smith & Viceisza, 2018). I used TranscriptionStar (iSource Solutions Inc.) to transcribe the discussions from the video episodes to text. The analysis will focus on the pitch narrative presented by the entrepreneur and the dialogue between the entrepreneur and the panel of investors.

Study Design

I conducted this study by analyzing the pitch narrative presented by the entrepreneur and the dialogue between the entrepreneur and investor parties prior to a final negotiation. The text from the pitch was analyzed to determine whether narrative transportation is occurring and whether perceived realism, cognitive elaboration, and thought confidence mediate the relationship between familiarity and the investors' perceived narrative change expected, and ultimately a decision to commit resources. Sex of both the entrepreneur and the investor has a significant effect on decisions to commit resources (Ewens & Townsend, 2017). This study includes the sex of the entrepreneurs and Sharks as a control to determine whether it has an effect on decision to commit resources when included in the model. Investors increase their consideration of firms that have founders and management teams with relevant experience, signs of market acceptability, and demonstrable sustainability (Ardichvili et al., 2002; Mason & Stark, 2004; Parhankangas & Ehrlich, 2014; Sudek, 2006). Entrepreneur and management team experience can provide signals that a high quality team can be attracted or quality product and services can be established (Hoenig & Henkel, 2015). Investors give special consideration to entrepreneurs who have patents (Parhankangas & Ehrlich, 2014; Sudek, 2006). Patents are relevant selection criteria for start-up investors as they represent a somewhat observable resource and signal competitive advantage (Hoenig & Henkel, 2015). In order to test for effects of entrepreneur maturity, intellectual property and exclusivity of a

product or market, controls also include the age of the firm in years and whether the entrepreneur has patents.

I used computer-aided text analysis (CATA) to operationalize and validate of the constructs. CATA has been demonstrated to be an acceptable process to operationalize and validate constructs and can be used to analyze naturally occurring dialogue (Ridolfo & Hart-Davidson, 2015; Short et al., 2010; Short & Palmer, 2008). Lists of words were generated relating to each construct in the model. The final dictionaries were reviewed and coded by a group of trained judges. Each of the constructs are discussed further, as follows.

Familiarity (Independent Variable)

Van Laer et. al. (2013) demonstrates familiarity is an antecedent to cognitive responses affected by narrative transportation. Familiarity can stimulate cognitive elaboration, mental simulation, counterfactual thinking, and other cognitive or heuristic processes. An audience's familiarity of something in a narrative, such as characters portrayed or prior experiences, can encourage story receivers to recollect, remember, or make connections between the narrative content and the receiver's background and experiences (Green, 2004; Strange & Leung, 1999). DICTION utilizes built-in predefined dictionaries to search for the variable *familiarity*. Additionally, a dictionary identifying words related to familiarity, such as variants of the word *familiar*, was created for DICTION. A frequency count of words was established and used to obtain a measure of how familiar the investors indicate the pitched opportunity is during their dialogue with the entrepreneurs. The dictionary was reviewed by three trained coders. Any words that were not unanimously agreed to were reviewed and subsequently removed from the dictionary to establish a level of agreement of 100%. Pretests were conducted to evaluate the effectiveness of the familiarity word list. It was

unclear whether all Sharks consistently discussed their familiarity with businesses or industries in all episodes. Thus, a spreadsheet was constructed containing each Shark to identify all industries where they hold investments based on information provided by Shark Tank. The narrative of the entrepreneur's business pitch was the data source used for DICTION. Additionally, three trained coders evaluated the Shark Tank episodes to determine the industry of pitched opportunities. A proxy for familiarity was established comparing the two datasets represented as a binary measure indicating whether the Shark who presented an offer had investment experience in the same industry.

Perceived Realism (Mediator)

Perceived realism is positively correlated with narrative transportation (Green, 2004). Perceived realism is the audience's judgment of the degree to which a "narrative world" correlates to the "real world" (Busselle & Bilandzic, 2009; Cho et al., 2014; Gerbner & Gross, 1976; Green, 2004). Fictional stories perceived to be realistic can frame causal thinking similar to nonfictional accounts and transport an audience into the narrative (Green, 2004; Strange & Leung, 1999). DICTION utilizes built-in predefined dictionaries to search for the variable *realism*. An additional dictionary identifying words related to perceived realism, such as variants of the words *perception* and *realism*, was created for DICTION. The dictionary was reviewed by three trained coders. Any words that were not unanimously agreed to were reviewed and subsequently removed from the dictionary to establish a level of agreement of 100%. A quantity count of words was calculated and used to obtain a measure of whether the investors perceive the narrative describing pitched opportunity is realistic during their dialogue with the entrepreneurs. The narrative of the entrepreneur's business pitch was the data source used for DICTION.

Cognitive Elaboration (Mediator)

Cognitive elaborations and mental simulations are cognitive processes that occur when people construct scenarios resembling a narrative or simulation they are experiencing (Kahneman & Tversky, 1981). Cognitive elaboration refers to an individual's level of attention to major points of a persuasive argument and their connection to their own schemas, thoughts, opinions or experiences (Green & Brock, 2000). Cognitive elaboration can be activated when an individual senses persuasive arguments (Tormala & Petty, 2004). It can be additive or counterfactual to a narrative being experienced. Additive elaboration occurs when an individual accesses their own ideas, thoughts, or schemas to story they are receiving and add their elements into a revision of the narrative (Green & Brock, 2000). Elaborative counterfactual thinking allows individuals to mentally simulate and anticipate the future based on thoughtful construction and evaluation of alternative sequences of actions, events, and outcomes (Gaglio, 2004; Kahneman & Tversky, 1981). Counterfactual elaboration occurs when individuals, despite the fact actions and outcomes may have failed in the past, establish a future reality by constructing new alternatives (Kahneman & Tversky, 1981). Cognitive elaboration can be triggered when individuals sense a persuasive argument (Tormala & Petty, 2004). DICTION's built-in predefined word list, or dictionary, for *cognition* was initially reviewed as an option for this study (Digitext, 2013). After conducting a pretest and reviewing the list of words, it was concluded that it was lacking words relative to elaboration to adequately represent the construct cognitive elaboration. An additional dictionary identifying words related to cognitive elaboration, such as variants of the words *cognition* and *elaboration*, were created for DICTION. The dictionary was reviewed by three

trained coders. Any words that were not unanimously agreed to were reviewed and subsequently removed from the dictionary to establish a level of agreement of 100%.

I then calculated a quantity count of words and used it to obtain a measure of whether the investors perceive the narrative describing pitched opportunity is realistic during their dialogue with the entrepreneurs. The narrative of the entrepreneur's business pitch was the data source used for DICTION.

Thought Confidence (Mediator)

Thought confidence refers to an individual's conviction of their own thoughts. It suggests an increase in an individual's attitudinal level confidence and certainty, the more their attitude will influence their behavior, such as the acceptance of a persuasive message such as investment in a start-up business opportunity (Hedges, 1974; Petty et al., 2002). The goal of an entrepreneur's pitch to an angel investor is to persuade the investor to commit resource to the proposed new venture. Thus, the more confident and certain the investor is based on the pitch narrative they receive, as well as clarifications that are gained following dialogue, the more likely they are to invest. DICTION's built-in predefined word list, or dictionary, for *certainty* was initially reviewed as an option for this study. DICTION defines certainty as "language indicating resoluteness, inflexibility, and completeness and a tendency to speak ex cathedra" (Digitext, 2013). After conducting a pretest and reviewing the list of words, I concluded that it was lacking words to adequately represent thought confidence. I created a dictionary identifying words related to thought confidence, such as variants of the words *thought* and *confidence*, for DICTION. I calculated a quantity count of words and used them to obtain a measure of whether the investors perceive the narrative describing pitched opportunity is realistic during their dialogue with the entrepreneurs. The dictionary was

reviewed by three trained coders. Any words that were not unanimously agreed to were reviewed and subsequently removed from the dictionary to establish a level of agreement of 100%. The narrative of the entrepreneur's business pitch was the data source used for DICTION.

Entrepreneurial Opportunity Cogitation (Mediator)

Angel investors often choose to take part in start-up investments by consulting, leveraging their experiences, network, or other resources deemed necessary to manage risk and increase return on investment (Mason & Stark, 2004; Mason & Harrison, 2008). As angels evaluate entrepreneurs' business investment pitches, they will apply what they have learned from the narrative and may cognitively elaborate by applying their knowledge, adding to their mental picture or thinking counterfactually as they mentally simulate possible outcomes (Gaglio, 2004; Harrison et al., 2015; Roese, 1997). Angels evaluate not only business opportunities that are pitched but also the entrepreneurs that deliver the pitch and was running the new venture (Chen et al., 2009; Harrison et al., 2015; Mason & Rogers, 1997; Mason & Stark, 2004). As angels increase their consideration of pitched opportunities, it is likely they will amending the narrative of the idea or the underlying business plan, communicating, and applying their knowledge based on their experience and knowledge (Paul et al., 2007; Ramadani, 2009). Angels will likely choose not to invest unless they are able to cognitively and heuristically satisfy concerns, assess the entrepreneur's characteristics, and overcome their doubts Angels will likely not decide to invest until they are able to gain business insight, cognitively and heuristically satisfy their concerns, assess the entrepreneur's characteristics, gain necessary insight, and overcome their doubts. If an entrepreneur is deemed willing to change or modify a pitched opportunity to a point an investor perceives

their concerns are addressed, the investor may be able to render a decision to commit resources. DICTION has embedded functionality to search for text related to *action*, defined as “language featuring movement, change, the implementation of ideas and the avoidance of inertia” (Digitext, 2013). Additionally, I created a dictionary identifying words related to change, such as variants of the word *adapt* or *change*, for DICTION. I then calculated a frequency count of words to be used to obtain a measure of how familiar the investors indicate the pitched opportunity is during their dialogue with the entrepreneurs. The dictionary was reviewed by three trained coders. Any words that were not unanimously agreed to were reviewed and subsequently removed from the dictionary to establish a level of agreement of 100%. The narrative of the entrepreneur’s business pitch was the data source used for DICTION.

Decision to Commit Resources (Dependent Variable)

The goal of an entrepreneur who pitches to an angel investor is to persuade the investor to commit valuable resource to the proposed new venture (Harrison et al., 2015). An investor’s exchange with the entrepreneur during a pitch interaction, including the formulation and inclusion of additional ideas, alternatives, adaptations or changes to alter a business plan may allow investors become optimistic about the prospect an opportunity will result in a return on investment and raise their level confidence to a point that enables them to make a decision to commitment resources. DICTION has embedded functionality to search for text related to *optimism*, defined as “Language endorsing some person, group, concept or event or highlighting their positive entailments” (Digitext, 2013). I created an additional dictionary identifying words related to *commitment* or *decision*, such as variants of words related to decision to commit resources, such as *decision* or *commitment*, for DICTION. I calculated a

frequency count of words to be used to obtain a measure of how familiar the investors indicate the pitched opportunity is during their dialogue with the entrepreneurs. The dictionary was reviewed by three trained coders. Any words that were not unanimously agreed to were reviewed and subsequently removed from the dictionary to establish a level of agreement of 100%. The narrative of the entrepreneur's business pitch was the data source used for DICTION. Additionally, each episode that is aired reveals whether the entrepreneur receives an offer from the Shark's. Additionally, I built a spreadsheet to code whether an offer was made by a Shark. Decision to commit resources was also measured by coding yes (1) or no (0) for each pitch depending on whether the entrepreneur received at least one offer from the Sharks.

Analysis

After reviewing the Shark Tank videos, I created dictionaries comprised of word lists to operationalize the variables for the independent and mediating variables. Data capturing whether each pitch received an offer, as well as the sex of the parties and respective industries of the pitched opportunities were into a spreadsheet. I then executed the CATA analysis. I used structural equation modeling to analyze the data in order to confirm the hypotheses presented in Chapter II. If confirmed, entrepreneurs can potentially understand how to better construct a improve their narratives and pitch delivery through the use of familiar pitch elements in order to increase the probability an investor will commit resources to their proposed opportunity.

CHAPTER IV

RESULTS

Overview

In Chapter II, I argued, supported by theory, that narrative transportation occurs when an investor is familiar with a pitched opportunity, leading to investor cogitation and perceptual variation of the opportunity that can influence a decision to commit resources. In Chapter III, a theoretically based plan was put forth to empirically test the research questions: 1) When receiving business pitches from entrepreneurs, how do angels, despite their reluctance, make decisions to invest in opportunities even though key facts, market performance data, or other information is missing? and 2) when angels perceive an information gap, or deem the pitch narrative describing the potential success of the proposed opportunity to be unrealistic, how do subsequent microprocesses enable a decision to invest?

To address these objectives, I performed a thorough literature review on narrative transportation theory, sensemaking, sensegiving, and the cognitive processes of perceived realism, cognitive elaboration, and thought confidence. Additionally, I completed a review of literature on the entrepreneurial processes, entrepreneurial pitch microprocesses, and angel investors to better understand the process by which

entrepreneurs present narratives to investor audiences in order to obtain early stage funding. In this chapter, I present the results of the completed studies and discuss the implications on theory and practice.

I conducted two studies as part of this research. In the first study, investors viewed videos of entrepreneurs pitching early stage opportunities in pitch competitions and then responded to an instrument assessing cognitive processes in the theorized model (Figure 1). Respondents were randomly assigned one of three videos for viewing. When completed, an option was given for the respondents to voluntarily watch the other videos. On average, respondents viewed 1.9 videos, or a total of 109 videos. In the second study, pitches from the first six seasons of the television series Shark Tank were recorded and transcribed. Word list dictionaries were developed and reviewed by three trained coders to perform CATA analysis, text analysis data was collected to perform a quantitative analysis related to narrative transportation and variation of the opportunities business pitched. A spreadsheet was also compiled to code whether or not entrepreneurs received initial offers from Sharks. Table 13 provides a summary of the research results from each of the sections and subsections.

Table 13. Summary of Research Results

Section/Subsection	Content	Results
1. Study 1	University Pitch Competition Videos	Respondents watch up to three random videos
1.1 Sample	70 initial respondents; responses from 58 respondents retained	109 video pitch assessments are collected
1.2 Descriptive Statistics	Descriptive Statistics	N/A
1.3 Structural Equation Modeling	Theoretical model is tested	Model does not have a good fit
1.3.1 Hypothesis 1	Test of the relationship between familiarity and entrepreneurial opportunity adaptation	Not supported; the relationship is positive and not significant.
1.3.2 Hypothesis 2	Test of the Opportunity Cogitation Helix mediating the relationship between familiarity and entrepreneurial opportunity adaptation	Supported; the mediated path is significant

Section/Subsection	Content	Results
1.3.3 Hypothesis 3	Test of the curvilinear relationship between familiarity and the Entrepreneurial Cogitation Helix	Not supported; the relationship is slightly negative but not significant.
1.3.4 Hypothesis 4	Test of the relationship between the Opportunity Cogitation Helix and entrepreneurial opportunity adaptation	Supported; the relationship is positive and significant.
1.3.5 Hypothesis 5	Test of the relationship between the entrepreneurial opportunity adaptation and decision to commit resources	Supported; the relationship is positive and significant.
2. Study 2	Shark Tank	All episodes from the first six seasons
2.1 Sample	All episodes of the first six seasons of Shark Tank	Transcriptions of 294 pitches
2.2 Descriptive Statistics	Descriptive Statistics	N/A
2.3 Structural Equation Modeling	Theoretical model is tested	Model does not have a good fit
2.3.1 Hypothesis 1	Test of the relationship between familiarity and entrepreneurial opportunity adaptation	Not supported; Relationship is positive and not significant
2.3.2 Hypothesis 2	Test of the Opportunity Cogitation Helix mediating the relationship between familiarity and entrepreneurial opportunity adaptation	Not supported; the mediated path is not significant
2.3.3 Hypothesis 3	Test of the curvilinear relationship between familiarity and the Entrepreneurial Cogitation Helix	Not supported; relationship is negative but not significant
2.3.4 Hypothesis 4	Test of the relationship between the Opportunity Cogitation Helix and entrepreneurial opportunity adaptation	Not supported; relationship is positive but not significant
2.3.5 Hypothesis 5	Test of the relationship between the entrepreneurial opportunity adaptation and decision to commit resources	Not supported; the relationship is negative and not significant
3. Post-Hoc Analysis	Study 1 is alternatively modeled changing H3 to positive and linear	N/A
3.1 Path analysis results for Post-Hoc Study 1	Theoretical model is tested	Model has a good fit
3.1.1 Hypothesis 2	Test of the Opportunity Cogitation Helix mediating the relationship between familiarity and entrepreneurial opportunity adaptation	Supported; relationship is significant
3.1.2 Alternative Hypothesis 3	Test of the linear relationship between familiarity and the Entrepreneurial Cogitation Helix	Supported; relationship is positive and significant
3.1.3 Hypothesis 4	Test of the relationship between the Opportunity Cogitation Helix and entrepreneurial opportunity adaptation	Supported; relationship is positive and significant

Section/Subsection	Content	Results
3.1.4 Hypothesis 5	Test of the relationship between the entrepreneurial opportunity adaptation and decision to commit resources	Supported; relationship is positive and significant

To effectively present and explain the components of each study, this chapter is subdivided into three main sections. In the first main section, I present the results of Study 1. The first subsection details the sample collected for the study. In the second subsection, I present and discuss descriptive statistics for the data sample used in Study 1. The third subsection details the results of path analysis to test (H1) whether the relationship of an entrepreneur's pitch that is highly familiar to an investor will result in a minimal entrepreneurial opportunity adaptation, (H2) whether the Opportunity Cogitation Helix mediates the relationship between familiarity and entrepreneurial opportunity adaptation, and (H3) the curvilinear relationship between familiarity and the helix (hypothesized to be an inverted-U). Also, in this subsection the path analysis results are detailed to answer (H4) whether a high activity Opportunity Cogitation Helix has a positive relationship with entrepreneurial opportunity adaptation, and (H5) whether an entrepreneurial opportunity adaptation has a positive relationship with an angel investor's decision to commit resources.

In the second main section, I discuss the results of the second study. The first subsection details the sample collected for the study. In the second subsection, I present and discuss descriptive statistics for the data sample used in Study 2. The third subsection details the results of path analysis to test (H1) whether the relationship of an entrepreneur's pitch that is highly familiar to an investor will result in a minimal entrepreneurial opportunity adaptation, (H2) whether the Opportunity Cogitation Helix mediates the relationship between familiarity and entrepreneurial opportunity adaptation, and (H3) the curvilinear relationship between

familiarity and the helix (hypothesized to be an inverted-U). Also, in this subsection I detail the path analysis results to answer (H4) whether a high activity Opportunity Cogitation Helix has a positive relationship with entrepreneurial opportunity adaptation, and (H5) whether entrepreneurial opportunity adaptation has a positive relationship with an angel investor's decision to commit resources.

The third main section presents a summary of a post-hoc analysis that was conducted for Study 1. The first subsection contains the results of post-hoc Study 1. Table 13 provides a summary of the research results from each of the sections and subsections.

Section 1. Study 1 - Survey of Investors Using Prerecorded Videos from University Pitch Competitions

Subsection 1. Sample

For this study, I recruited business investors who were asked to watch at least one of three prerecorded pitches from a university pitch competition. Seventy individuals voluntarily responded to the survey. Twelve who responded either did not complete the survey or did not respond to a question designed as an attention check. The 58 investors completed the study and watched and responded to surveys for a total of 109 pitches. The average age of all responded was 34.5 ($SD = 14.5$). Eighty-four percent of the respondents were male. Seventy-nine percent of the respondents were Caucasian with self-reported income of no less than \$100,000. Sixty-four percent of the respondents reported an annual income of \$250,000 or more. All respondents reported having at least some college education, with 30% of the respondents reporting an education level of a four-year degree and 65% reported a professional degree or doctorate. Ninety-three percent of all respondents reported they were currently or formerly married, 3% indicated they were never married, and 4% chose not to

disclose their marital status. All 58 respondents indicated they were investors who were either current or former angels or self-identified as having experience investing their own money in start-up businesses. Sixty percent indicated they were current or former entrepreneurs. Table 14 summarizes the demographics of the respondents from Study 1.

I present the descriptive statistics and correlations for all the variables used in the study in Table 15. Large estimated coefficients are potential signs of multicollinearity problems (Hosmer et al., 2013). To address concerns of multicollinearity, I calculated variance inflation factors (VIFs) for each of the variables in the model. The VIFs for the variables were all within the range of 1.6 and 2.2. The results show that all variables, including the composite variable Opportunity Cogitation Helix and controls, had a positive linear relationship. Additionally, all relationships were found to be significant ($p < .01$, $p < .001$).

Table 14. Summary Demographics of Respondent Sample

	Years Investment		Sex		
	Age	Experience	M	F	Not Disclosed
Mean	34.5	12.8			
SD	14.5	9.2	84%	13%	3%

Ethnicity		Income	
Caucasian	79%	\$100K - \$149K	7%
African American	4%	\$150K - \$249K	29%
American Indian	4%	\$250K - \$499K	33%
Asian	6%	\$500K - \$1M	21%
Pacific Islander	1%	> \$1M	7%
Other	1%	Not Disclosed	3%
Not Disclosed	4%		

Education		Marriage Status	
Some College	1%	Married	86%
2-Year Degree	3%	Widowed	1%
4-Year Degree	30%	Divorced	6%
Professional Degree	46%	Never Married	3%
Doctorate	19%	Not Disclosed	4%
Not Disclosed	1%		

N = 58; total # videos viewed and scored = 109; average # pitches viewed per respondent = 1.9

Table 15. Descriptive Statistics

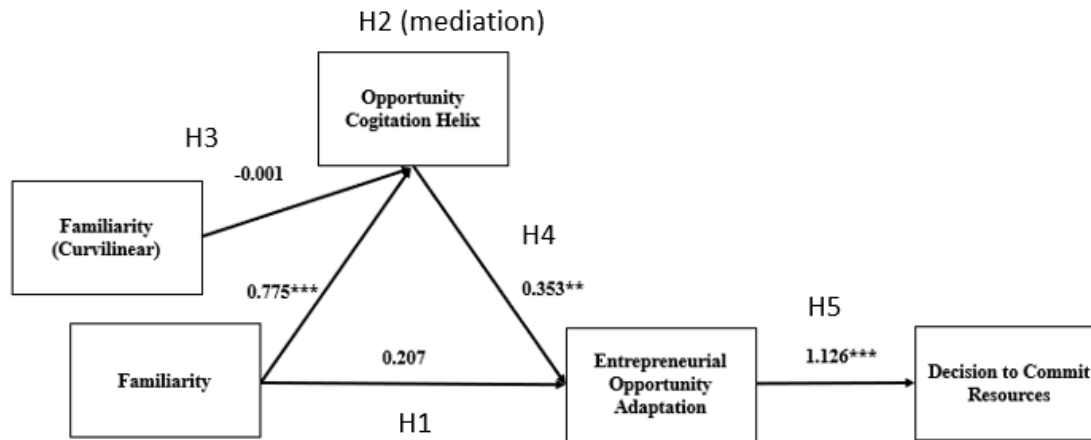
Variable	ID	MEAN	SD	1	2	3	4	5	6	7
1. Investor Experience	INV_E_1	12.68	8.48	1.00						
2. Investor Sex	GEND_I	1.24	0.88	0.00	1.00					
3. Entrepreneur Sex	GEND_E	1.00	0.00	0.01	0.17	1.00				
4. Familiarity	FAM	5.11	1.42	-0.22*	-0.13	-0.18	1.00			
5. Opportunity Cogitation Helix	HELIX	5.34	1.48	-0.09	0.03**	-0.17	0.68**	1.00		
6. Entrepreneurial Opportunity Adaptation	PO	4.91	1.37	-0.19	0.04**	-0.14	0.54**	0.58**	1.00	
7. Decision to Commit Resources	DC	4.45	2.13	-0.03	0.05**	-0.09	0.55**	0.75**	0.71**	1.00

** $p < .01$, * $p < .05$; $N = 109$ (videos)

Subsection 2. Path Analysis

Path analysis is the analytical method used to test the hypotheses in the first study. In the first stage, path analysis tests for direct effects of familiarity on decision to commit resources. Figure 4 shows the results of the path analysis for Study 1.

Figure 4. Modeling Results for Study 1



Due to the fact respondents may have rated different pitches and the same respondent may have rated multiple pitches, the path analysis controlled for between person differences (the nonindependence of the data). Because some participants rated multiple pitches, a subset of the data were nonindependent. Therefore, I completed multilevel modeling analysis to partition the variance within and between persons. However, I was not concerned with between-person results and interpreted only the within-person results. Therefore, a multilevel analysis was completed to interpret the relationships in the within variables. The model indicated good fit with data ($\chi^2 = 1508.579$, $DF = 19$, $p < .0001$, $SRMR$ Between = .0340, $SRMR$ (within) = 0.340, $CFI = 0.000$, $TLI = -3.160$). I performed modeling between-subjects and within-subjects. The between-subjects tests were modeled to examine the effect of

investor experience and investor gender. The within-subjects tests were modeled to examine the effect of the entrepreneur's gender and familiarity of the pitched opportunity.

The results showed that the relationship between familiarity and entrepreneurial opportunity adaptation was positive and not statistically significant ($\beta = 0.207$, n.s.). H1 was not supported. The curvilinear relationship between familiarity and the Opportunity Cogitation Helix was negative but not statistically significant ($\beta = -0.001$, n.s.). Based on the results, familiarity has a positive significant linear relationship with entrepreneurial opportunity adaptation ($\beta = 0.775$, $p < 0.001$), meaning higher levels of familiarity lead to a higher entrepreneurial opportunity adaptation. Thus, H3 is not supported. However, the mediated path between familiarity and entrepreneurial opportunity adaptation was significant ($\beta = 0.274$, $p < .0001$) in support of H2. The relationship of the Opportunity Cogitation Helix on entrepreneurial opportunity adaptation ($\beta = 0.353$, $p < 0.01$) is positive and significant. This provides strong support for H4. The results show that the effect of entrepreneurial opportunity adaptation on decision to commit resources is positive and significant ($\beta = 1.126$, $p < 0.001$). This provides strong support for H5. Finally, even though not hypothesized, the model showed the Opportunity Cogitation Helix and entrepreneurial opportunity adaptation fully mediate the relationship between familiarity and the decision to commit resources ($\beta = 0.308$, $p < .05$). The control for investor experience not significant ($\beta = 0.017$, n.s.). The controls for investor sex ($\beta = 0.017$, n.s.) and entrepreneur sex ($\beta = 0.182$, n.s.) were also not significant.

Section 2 – CATA Analysis of Shark Tank

Subsection 1. Sample

Study 2 sampled the first six seasons of the television series Shark Tank. The pitch dialogue was transcribed and the text was used as the sample data. I used computer-aided text analysis (CATA) to operationalize and validate the constructs. CATA is appropriate to use as it has been demonstrated to be an acceptable process to operationalize and validate constructs, as well as analyze naturally occurring dialogue (Ridolfo & Hart-Davidson, 2015; Short et al., 2010; Short & Palmer, 2008). I utilized the software tool DICTION to analyze the transcriptions. DICTION allows users to build dictionaries, comprised of lists of words, to search for variables and also use built-in predefined dictionaries for 31 terms such as familiarity (Digitext, 2013, 2020). Linguistic word-based dictionaries were established to operationalize each of the constructs (familiarity, perceived realism, cognitive elaboration, thought confidence, entrepreneurial opportunity adaptation) as part of the CATA process (Short et al., 2010). I operationalized the decision to commit resources by viewing each pitch and coding whether the entrepreneur received an offer from at least one Shark (no = 0, yes = 1)

The CATA process, including the creation of the dictionaries, involves a number of steps. The process began by obtaining transcripts of the *Shark Tank* videos that had been previously used business pitch research. These videos consist of segments of entrepreneur pitches that were truncated prior to the final *Shark Tank* panel investment decisions. Using these truncated segments versus the entire pitch transcript allows the dataset to be standardized since the entrepreneurs have certain control of the pitch presentation and dialogue with the Sharks, but may have less control over the negotiation. This dataset consists of 294 pitches

recorded and individually saved as videos. The videos were then sent to TranscriptionStar (iSource Solutions Inc.) to transcribe the discussions from the video episodes into text documents for use in research (Krukowski, 2019). Final transcriptions of all videos were returned in individual Microsoft Word format documents.

Subsection 2: Development of Word-Based Dictionaries and Data Preparation

Next, a project was established in DICTION whereby all documents could be loaded so that a single analysis could be performed. In order to build the user-specific dictionaries that were processed to analyze text content, it was necessary to follow a series of steps involving both deductive and inductive processes. As part of the deductive content validity process, working definitions were created for each of the cognitive process constructs in Table 16. based on directions provided by Short et al. (2008, 2010).

Table 16. Working Definitions of Constructs

ID	Construct	Description	Article Examples	Keywords Examples
FAM	Familiarity	Related experiences and pre-existing knowledge an individual has accumulated		familiar, recognize, related, experienced, routine, known, accepted, comprehend
PR	Perceived Realism	Judgment of the degree to which a “narrative world” correlates to the “real world”	Busselle & Bilandzic, 2009; Cho et al., 2014; Green, 2004	perception, reality, similar, existence, fact, factual, plausible, causal, typical, quality, consistency, believable
CE	Cognitive Elaboration	Thinking about and mentally expanding on information that is received in an additive or counterfactual manner	Petty et al., 1981; Tormala & Petty, 2004; Villanueva, 2012	cognition, thought, mental, simulated, expand, schema, elaborate, consider,
TC	Thought Confidence	Confidence in one's own thoughts		conviction, confidence, optimism, response, accept, determine
PO	Entrepreneurial Opportunity Adaptation	Modification and adaptation of a cogitated entrepreneurial opportunity to a form that is perceived to be more acceptable	McMullen & Dimov, 2013; McMullen & Kier, 2017	change, adapt, modify, morph, variation, alter, transition, different, align

I developed lists of keywords corresponding to these definitions, including synonyms or closely related words (McKenny, Short, & Payne, 2012). Established literature and previously validated measures provided suggestions for words (Short et al., 2010). Following the recommendation from Short et al. (2010), Rodale's (1978) *The Synonym Finder* was used to create a comprehensive list of related words (Short et al., 2010). The word lists compiled for the dictionary of each variable were reviewed by three trained coders and words that were not agreed to were codified (do not agree = 0, agree = 1). To ensure the maximum level of agreement was reached, any words that were not accepted by any individual judge were deleted from the dictionaries to establish an agreement level of 100%. This process was similarly completed for all five constructs noted in Table 17.

The six dictionaries were uploaded into DICTION to allow raw word quantity counts for each construct. I conducted a pretest to compare the word count results from the built-in predefined dictionaries to the constructed dictionaries built for: 1) familiarity (versus familiarity), 2) cognition (versus cognitive elaboration), 3) certainty (versus thought confidence), 4) action (versus change) were compared to the user defined dictionaries.

Table 17. Pretest Comparison of Dictionaries

ID	Variable/ Construct	Source	Mean Count of Words Per Pitch	Standard Deviation
FAM_0	Familiarity	DICTION	98.8466	11.8278
FAM_1	Familiarity	User	96.6945	12.4675
PR_0	Realism	DICTION	48.3516	2.2614
PR_1	Perceived Realism	User	54.4383	10.3410
CE_0	Cognition	DICTION	8.3840	3.9698
CE_1	Cognitive Elaboration	User	38.4924	7.6488
TC_0	Certainty	DICTION	46.7475	3.5838
TC_1	Thought Confidence	User	50.8143	10.3761
PO_0	Action	DICTION	50.5838	5.4570
PO_1	Change	User	9.8420	5.0933

Based on the results of the dictionary pretest, I selected DICTION's dictionary for familiarity as it had a higher average word count and lower standard deviation per pitch ($M = 98.8466$, $SD = 11.8278$) when compared to the user-built dictionary ($M = 96.6945$, $SD = 12.4675$). However, there was a significant disparity in the DICTION dictionary results compared to the user defined dictionaries for perceived realism, cognitive elaboration, and thought confidence, as can be seen in Table 17. Upon further comparison and review of the words in the DICTION dictionaries, it was determined that both lists did not capture the complexity of the constructs in this study.

When comparing the DICTION dictionary for action ($M = 50.5838$, $SD = 5.4570$) to the user-defined dictionary for change ($M = 9.8420$, $SD = 5.0933$), I determined that the DICTION dictionary contained words that were unrelated to entrepreneurial opportunity adaptation or change. For example, the DICTION dictionary contained words such as action, agility, commotion, and reaction, which are not associated with the variable entrepreneurial opportunity adaptation.

Shark Tank episodes reveal whether an offer is made to an entrepreneur by the Sharks. I developed a spreadsheet to code all offers made by Sharks. Additionally, I coded the industry each Shark had investments in, along with the Shark's sex.

Subsection 3. Descriptive Statistics

The descriptive statistics and correlations for all the variables used in the study are presented in Table 18. The results show that all variables, including the composite variable Opportunity Cogitation Helix and controls, had a positive linear relationship. Additionally, all relationships were statistically significant ($p < .01$. $p < .001$).

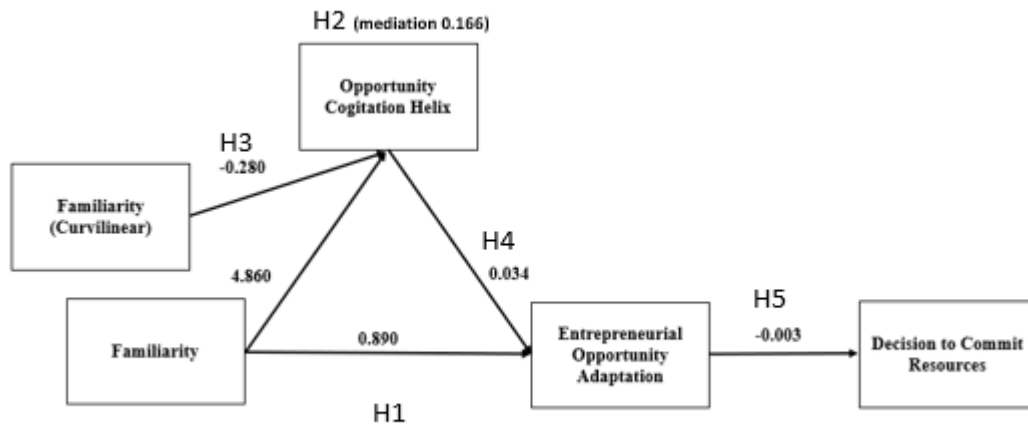
Table 18. Descriptive Statistics

Variable	ID	MEAN	SD	1	2	3	4	5	6	7	8	9	10	11
1. Entrepreneur Sex	GEND_E	1.356	0.762	1.0000										
2. Investor Sex	GEND_I	0.858	0.699	0.0535	1.0000									
3. Industry	INDUS	0.679	0.328	0.0824	-0.0318	1.0000								
4. Familiarity	FAM_O	98.416	11.915	-0.0964	-0.0414	0.1811	1.0000							
5. Familiarity (Quadratic)	FAMQUAD	39.463	8.611	-0.0933	-0.0494	0.1649	0.9910***	1.0000						
6. Perceived Realism	PR_1	53.376	10.049	-0.1769*	-0.0292	0.0041	0.5713***	0.5641***	1.0000					
7. Cognitive Elaboration	CE_1	51.570	10.079	-0.0434	0.0936	0.1969	0.3954***	0.3786***	0.2635***	1.0000				
8. Thought Confidence	TC_1	9.870	4.512	-0.2239	-0.0372	0.0102	0.4743***	0.4544***	0.7243***	0.1812*	1.0000			
9. Opportunity Cogitation Helix	HELIX	1.608	0.489	-0.1640	-0.0098	0.0960	0.8250***	0.8117***	0.8314***	0.5648***	0.7834	1.0000		
10. Entrepreneurial Opportunity Adaptation	PO_1	144.408	22.372	0.0404*	-0.0914	-0.1855	0.2629***	0.2832***	0.1805***	0.1501*	0.2425***	0.4011	1.0000	
11. Decision to Commit Resources	DC_1	0.609	0.489	0.0006	0.9150***	-0.0304	-0.0062	-0.0123	-0.0089	0.0548	-0.0032	0.0079	-0.1123	1.0000

*** $p < .0001$, ** $p < .01$, * $p < .05$; $N = 294$

Path analysis is the analytical method used to test the hypotheses in this study. Path analysis is an appropriate choice for this study because of its ability to analyze reflective latent constructs and trace multiple mediation paths simultaneously. Figure 5 shows the results for the path analysis.

Figure 5. Path Analysis Results of Study 2



Section 3. Post-Hoc Analysis

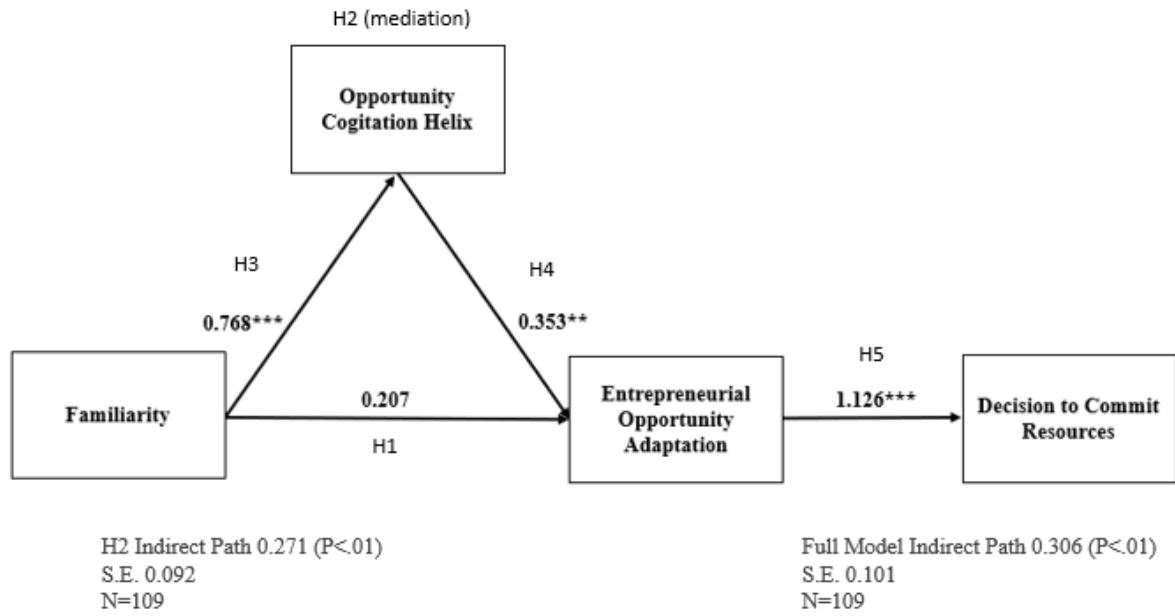
A post hoc analysis was conducted on the sample data in Study 1 to determine whether modeling the relationship between familiarity and Opportunity Cogitation Helix as linear and positive (Alternative H3), and the relationship between familiarity and entrepreneurial opportunity adaptation positive. No other changes were made to the remaining hypotheses. Interestingly, this produced significant results, as presented below.

Alternative Hypothesis 3: An entrepreneur’s pitch that is highly familiar to an investor will result in high Opportunity Cogitation Helix activity.

Subsection 1. Results of Alternative Study 1 – Modelling Familiarity and Entrepreneurial Cogitation Helix as Linear

Figure 6 shows the results of the post-hoc analysis. The post-hoc model indicated good fit with data ($\chi^2 = 151.376$, $DF = 8$, $p < .001$, SRMR Within = 0.137, SRMR Between = 0.1370.423, CFI = 0.283, TLI = -0.076). The results showed that when regressed into the model, the relationship was positive but not significant ($\beta = 0.207$, n.s.). This was consistent with Study 1. The results showed the linear relationship between familiarity and the Opportunity Cogitation Helix was positive and statistically significant ($\beta = 0.768$, $p < .0001$). Further, the Opportunity Cogitation Helix mediates the relationship between familiarity and entrepreneurial opportunity adaptation ($\beta = 0.271$, $p < 0.01$). This provides strong support for H2 and H3. The relationship of the Opportunity Cogitation Helix on entrepreneurial opportunity adaptation ($\beta = 0.353$, $p < 0.01$) was positive and significant. This provides strong support for H4. The results also show that the direct effect of entrepreneurial opportunity adaptation on decision to commit resources was significant ($\beta = 1.126$, $p < 0.001$) This provides strong support for H5. None of the controls were significant [investor experience ($\beta = 0.017$, n.s.), investor sex ($\beta = 0.364$, n.s.)], entrepreneur sex ($\beta = 0.183$, n.s.). Finally, even though not hypothesized the model showed the Opportunity Cogitation Helix and entrepreneurial opportunity adaptation fully mediate the relationship between familiarity and the decision to commit resources ($\beta = 0.306$, $p < .01$).

Figure 6. Path Analysis Results of the Post-Hoc Analysis



CHAPTER V

DISCUSSION AND CONCLUSION

Overview

This chapter first presents an elaboration of the results of both studies conducted for each hypothesis. An additional analysis of a post-hoc study performed on the sample data from Study 1 is discussed. Next, the chapter discusses the dissertation's implications for entrepreneurship theory and provides guidance for practitioners. To finalize, I present contributions, limitations, and directions for future research.

The broad objectives of this dissertation are to understand: 1) how angel investors, despite their initial reluctance, make decisions to invest in pitched opportunities though key facts, market performance data, or other information is missing; and 2) how subsequent microprocesses enable a decision to invest. To address these questions, I investigated transportation theory literature in the context of start-up pitches. I thoroughly reviewed sensegiving and sensemaking literature relating to the cognitive processes that can be activated by narrative transportation. I presented perceived realism, cognitive elaboration, and thought confidence as a combination of cognitive processes comprising the Opportunity Cogitation Helix.

More specifically, I reviewed prior literature pertaining to the impact that familiarity can have on story receivers during narrative transportation. I reviewed literature pertaining to the entrepreneurial process to understand microprocesses that occur as angel investors receive pitches entrepreneurs and interact to gain clarity or address concerns. I presented a discussion on stakeholder cogitation, pitch interactions, and entrepreneurial opportunity adaptation to posit stakeholders may perceive a need to modify or change an opportunity in order to make it a concept that qualifies for resource commitment. This phenomenon occurs as elements of the pitched opportunity are reconfigured and figuratively brought to life as a perceptively varied opportunity. I discussed the adapted opportunity established by the entrepreneur-investor-opportunity interaction as a measure of entrepreneurial opportunity adaptation. The amount of entrepreneurial opportunity adaptation can be measured in order to understand the level of change to stakeholders perceive necessary prior to rendering an investment decision. I then proposed a theoretical model to answer the research questions that were operationalized to provide empirical evidence for conclusions. I conducted two studies to empirically test and analyze the proposed model, along with a post-hoc analysis that tested an alternate model.

Results

I conducted two studies were conducted. The first study surveyed investors with experience investing in start-up businesses. Respondents were asked to watch a randomly assigned video from a collection of three. Each video was a prerecorded pitch of an entrepreneurship student pitching at a university pitch competition in the United States. Once the video viewing was complete, the respondents rated a list of items to measure each of the variables in Figure 1. Respondents were allowed the opportunity to watch additional videos,

up to the maximum of three. In Study 2, I utilized CATA to analyze transcriptions of pitch interactions between entrepreneurs and investors from every episode during the first six seasons of the television series Shark Tank. I created dictionaries using the accepted methodology outlined in prior entrepreneurship research and reviewed by three trained coders (Short et al., 2010). I also created a spreadsheet to capture which pitches received offers, the gender of the entrepreneurs and Sharks, and the industries of each of the opportunities pitched, and the industries Sharks have held investments in. Based on the results from Study 1, which indicated significant positive linear relationships between all variables, I completed a post-hoc analysis for Study 1. In this post-hoc study, I restated the curvilinear relationship between familiarity and entrepreneurial opportunity adaptation as a positive linear relationship:

Post-Hoc Hypothesis 3) The relationship with familiarity and the Opportunity Cogitation Helix is such that at high levels of familiarity there will be higher Opportunity Cogitation Helix activity.

I used path analysis as the method to test all studies. I discuss the results of all studies in the subsections below.

Independent Variable

Angels tend to invest in opportunities they are familiar with. An angel's familiarity with elements of the investment opportunity, the business plan, or the entrepreneur is highly correlated to their final investment decision (Ding et al., 2014). After analyzing the relationship between familiarity and entrepreneurial opportunity adaptation (H1), the path analysis results of both Study 1 and Study 2 revealed the opposite. These results indicate that high levels of familiarity lead to high levels of entrepreneurial opportunity adaptation. This

suggests that if investors are knowledgeable with elements of the opportunity, have a level of experience, or recognizes elements of the entrepreneurial opportunity pitch, they will increasingly adapt or modify the proposal.

A story receiver's familiarity with a narrative is an antecedent to narrative transportation and can play a role in the effects of narrative persuasion created (Busselle & Bilandzic, 2009; De Graaf et al., 2012; Escalas, 2004; Gerrig, 1993; Green, 2004; Van Laer et al., 2013). As such, familiarity is an antecedent to each of the cognitive narrative transportation microprocesses that comprise the Opportunity Cogitation Helix, including: 1) perceived realism, 2) cognitive elaboration, and 3) thought confidence (Green, 2004; Green & Brock, 2000, 2002; Green et al., 2004; Van Laer et al., 2013). However, the extent to which investors are familiar with a story, engaged, or transported into the narrative world plays a role in the effect of persuasive outcomes the narrative might generate (De Graaf et al., 2012). It is possible the investor isn't narratively transported. If entrepreneurs provide a complete account of required information and put forward reasonable expectations, it is possible angels might determine the investment is a "no brainer" or a "sure thing" from a risk/return perspective (Pollack et al., 2012; Ramadani, 2009; Rutherford et al., 2016). This would seem to imply that high familiarity would lead to less need for the investor to perceive the need to adapt the entrepreneurial opportunity.

Based on the results of Study 1, familiarity with an opportunity may lead to thoughts about other elements of the entrepreneur-investor-opportunity interaction (Casson, 2005; Eckhardt & Shane, 2010; Gianiodis et al., 2017; Shane, 2003). The design of Study 1 had investors watch prerecorded videos of entrepreneurs pitching and interacting with an audience. However, the respondents could only view interactions; they could not actually

interact themselves. This may have led to speculation as the respondents rated their level of agreement with the entrepreneur's willingness to change and aspects of the pitched opportunity that were perceived to possibly need change. The inability of the respondents to interact with the entrepreneurs may have affect cognitive processing, such as mental simulation and cognitive elaboration due to the inability to answer significant questions or addressed perceived gaps in information. Thus, in the context of this study, it appeared that familiarity had a linear relationship.

Study 2 used prerecorded transcripts of pitch interactions that occurred throughout the first six seasons of Shark Tank. This data set was not suitable for a study of investor's actual level of familiarity and cognitive processes. It was unclear whether the Sharks consistently discussed their level of familiarity with the entrepreneurial opportunities they were evaluating. Whereas in Study 1, respondents were able to self-report their level of familiarity, the research was not able to directly test the perceptions of the Sharks. The descriptive statistics of Study 2 also indicated a positive and significant linear relationship between familiarity and the Opportunity Cogitation Helix. Familiarity had a positive linear relationship as well as each of three subconstructs of the Opportunity Cogitation Helix. Thus, it would seem reasonable that Sharks who were familiar with the pitched opportunities would ask questions. Moreover, the CATA analysis did not delineate between individual Sharks; rather, it assessed all words that were spoken relative to familiarity by all parties. The combined spoken activity, as well as cooperation and competition between the Sharks, may not have been accurately measured the variables as intended. Based on this realization, it was not surprising the model was a good fit for data, nor that the results were not significant.

Mason and Rogers (1997) noted angel investors tend to initially be concerned the level of influence they will have in the investment, but also have a heightened awareness of agency risk associated with the respective entrepreneurs they may invest in. Given their concerns of agency risk, angels' will have a desire explore the entrepreneurs' receptiveness to feedback and influence, which could include suggestions or ideas (Mason & Rogers, 1997).

Investments in start-ups are a function of three primary factors that interact and influence one another: entrepreneurs, investors, and the nature of the venture (Eckhardt & Shane, 2010; Gianiodis et al., 2017; Shane, 2003). Despite the investors' familiarity, perhaps it is this desire to interact with the entrepreneur in order to mentally simulate various adaptations and assess risks not only with the opportunity, but also the agent who will be active in its operations that leads to increased levels of entrepreneurial opportunity adaptation.

Mediators

Study 1 showed the Opportunity Cogitation Helix results mediates the relationship between familiarity and entrepreneurial opportunity adaptation. Study 2 did not support Opportunity Cogitation Helix mediation. The path analysis results suggested that a relationship between familiarity and the Opportunity Cogitation Helix could be something other than curvilinear. This is discussed further in the next subsection.

Chapter II posited that a high-level Opportunity Cogitation Helix leads to high entrepreneurial opportunity adaptation. In Study 1, the descriptive statistics between the Opportunity Cogitation Helix indicated a significant positive linear relationship with entrepreneurial opportunity adaptation. However, when regressed in the model with a curvilinear relationship between familiarity and the Opportunity Cogitation Helix, the result

did not indicate a curvilinear relationship. Thus, the theoretical model does not produce the results posited.

As assessments are made, angels may make suggestions to adapt, or even submit required changes, necessary to construct mental images of a successful investment outcome (Ramadani, 2009). If the entrepreneur agrees to modify pitched opportunities to a point an investor perceives necessary criterion are met, the angel may perceptually develop a narrative adaptation that is either acceptable and motivates the investor to commit resources or not. The research results indicated that high levels of entrepreneurial opportunity adaptation lead to an increase in the likelihood of a decision to commit resources.

Despite the changes that can be perceptively made by individuals or collaboratively constructed between the parties interacting during a pitch, it may not be possible for the parties engaged the interaction to realize the initially pitched opportunity has changed. While it is possible for the parties to openly discuss adaptations or privately contemplate adaptations made to an opportunity, they might suggestively empathize with each other lead to a conclusion of no commitment or, alternatively a commitment that propels the relationship forward. Thus, a third party may need to observe the interaction, evaluate and subjectively measure the pre- and post-interaction opportunity, and assess the degree of change that occurs to the pitched opportunity. Observation from the third-party perspective may heuristically allow an observer to see the amount of variation applied to a pitched opportunity as it transforms throughout the pitch process. Perhaps if the observer is not a stakeholder in the process or is observing from an outsider's perspective the assessment of the change can be better visualized.

As previously discussed, the data sample from Shark Tank was not appropriate for measuring individual cognitive processes. The descriptive statistics of the sample data for Study 2 indicated a negative linear relationship between entrepreneurial opportunity adaptation and decision to commit resources that was not significant. Moreover, the average word count for the entrepreneurial opportunity adaptation measure was just under ten words, with a standard deviation of five words. As compared to the average word count of all other variables, it appears the word list measure for this variable may not have adequately capture the level of activity of adaptation and change.

Post-Hoc Analysis

Mediators

The descriptive statistics and path analysis showed the relationships between familiarity and the Opportunity Cogitation Helix is positive and significant. Thus, H3 was modified to the following.

Alternative Hypothesis 3: An entrepreneur's pitch that is highly familiar to an investor will result in high Opportunity Cogitation Helix activity.

As expected, the post-hoc analysis indicated a positive linear relationship and significant results between familiarity and the Opportunity Cogitation Helix. Further, the Opportunity Cogitation Helix mediated the relationship between familiarity and entrepreneurial opportunity adaptation. This finding is interesting as it suggests the relationship between familiarity and entrepreneurial opportunity cogitation is not curvilinear, but is linear and positive. If investors are familiar with a pitched opportunity, or the narrative reveals aspects of the entrepreneur's opportunity that is familiar, they are more likely to be transported into the pitch narrative and will begin to increase their cognitive responses within the Helix. This

increased cognitive activity will lead to an increased in perceptual entrepreneurial opportunity adaptation.

Another interesting finding of the model posited in this dissertation was the relationship between entrepreneurial opportunity adaptation and the decision to commit resources. The results of the regression analysis of Study 1 and the post-hoc analysis indicated the relationships between entrepreneurial opportunity adaptation and the decision to commit resources was also positive and significant. Thus, as stakeholders begin to perceptually adapt entrepreneurial opportunities in a way that is perceived favorable, their likelihood to invest will increase. Although not hypothesized, the post-hoc analysis also confirmed that both the Opportunity Cogitation Helix and entrepreneurial opportunity adaptation fully mediate the relationship between familiarity and the decision to commit resources.

Similar to the discussions of the use of Shark Tank as data for cognitive processes above, it is unclear whether the transcriptions of the pitch dialogue in Shark Tank or the dictionary compiled to measure the count of words relative to change captured the level adaptation made to entrepreneurs' pitched opportunities. In order to measure the cognition that occurs within investors' minds, as well as the mental simulations and thoughts of ways an opportunity might be changed, the investor would need to respond to appropriate instruments that capture their responses, such as in Study 1 and in the post-hoc study. However, in order to measure the level of variation that actually occurs to a pitched opportunity as the parties of Shark Tank interact, measures could be created so that trained coders could watch the pitch and determine the level of perceived change from a third-party perspective from 1) the configuration of the initially pitched opportunity from the entrepreneur to 2) the final configuration of the entrepreneurial opportunity at the point an offer is made.

Contributions of the Study

This dissertation makes several contributions to the field of entrepreneurship and entrepreneurial practice.

To the Field of Entrepreneurship

This dissertation offers two key contributions: 1) the theory posited and findings address a gap in literature, whereby microprocesses within the entrepreneurs' business pitch to angels are studied to help understand how funding decisions are made *even though* an angel does not immediately choose to make an investment decision by narrative transportation theory is introduced to entrepreneurship literature, contributing to prior work on cognitive and heuristic processes that occur during entrepreneurial opportunity discovery and creation (Gaglio, 2004; Gaglio & Katz, 2001).

To better understand these microprocesses, I studied familiarity as an antecedent and the mediating effects cognition resulting from interactions between entrepreneurs and investor audiences in order to better understand the microprocesses that occur when entrepreneurs successfully align their own subjective vision of a nascent opportunity with that of an investor, despite an investor's initial reluctance to invest. First, I found the relationship between familiarity and entrepreneurial opportunity adaptation to be positive, and I found the relationship between familiarity and the Opportunity Cogitation Helix to be positive and linear. Both of these results suggest investors who receive a pitch that is highly familiar will increase their cognitive processing and be more likely to want to make adaptations. This is counter to the notion that "no brainers" or "sure thing" deals are not necessarily mediated, reduce the need for perceptual variation and result in immediate decisions to invest. I introduced the Opportunity Cogitation Helix to measure the mediating effects of this

interaction as investors begin to assess pitched opportunities, altering their confidence to a threshold enabling them to make a decision to offer an investment, or not. This measure helps to understand the levels of cognitive processing relative to perceived realism, cognitive elaboration, and thought confidence. Further, this mediation suggests that even during pitches when investors are highly familiar with a pitched opportunity, they will have increased cognitive responses and will cogitate before making decisions to commit resources. This furthers psychology literature regarding the cognitive responses of narrative transportation in the context of an entrepreneur's pitch for startup resources.

I introduced a new measure, Entrepreneurial Opportunity Adaptation, to gauge the amount of variation that a stakeholder perceives must be made to a pitched opportunity before they can be persuaded to commit resources. Although it might seem that investors who are highly familiar with a pitched opportunity and who consider them “no brainers” might immediately move to a decision to commit resources, the results of this dissertation show that perceptions of variation will also be high and mediate the decision (Pollack et al., 2012; Ramadani, 2009; Rutherford et al., 2016). This is consistent with theory that angels are likely to contribute ideas, mitigate risk, and insert control when evaluating start-up opportunities (Eckhardt & Shane, 2010; Gianiodis et al., 2017; Mason & Rogers, 1997; Shane & Eckhardt, 2003).

Finally, this dissertation contributes to prior theory of entrepreneur, investor, and venture nexuses introduced in prior literature (Casson, 2005; Davidsson, 2015; Eckhardt & Shane, 2010; Eckhardt & Shane, 2013; Gioia & Chittipeddi, 1991; Gianiodis et al., 2017; Shane, 2003; Shane & Eckhardt, 2003). Gianiodis et al. (2017) recently consolidated the combination of the three elements into one nexus. The results of Study 1 and the post-hoc analysis suggest

that investors not only consider the opportunity that it pitched, but also the entrepreneur (Mason & Stark, 2004; Parhankangas & Ehrlich, 2014; Wiltbank et al., 2009). This dissertation suggests that as investors evaluate the pitches they are receiving, they cognitively elaborate and mentally simulate ways of not only adapting the opportunity, but also the entrepreneur behind the idea, and contemplate ways of making adaptations to reduce risks, improve chances of success, or insert control.

To Practitioners

This dissertation also makes a number of contributions to practitioners of the entrepreneurial process. One of the most challenging obstacles for entrepreneurs to overcome as they start new ventures is securing resources necessary to launch and sustain them (Aldrich & Fiol, 1994; Pollack et al., 2012; Rutherford et al., 2016). Early stage ventures often lack historical performance records, material evidence of value, or evidence of sustainability (Brealey et al., 1991; Pollack et al., 2012; Rutherford et al., 2016; Sudek, 2006). However, the findings in this research helps entrepreneurs to understand 1) the importance of including narratives in their pitches, 2) the importance of incorporating elements that are familiar to stakeholders, 3) how stakeholders process their perception a story's realism, and 4) how pitches are capable of stimulating cognitive responses that enable the audience to mentally simulate and cognitively elaborate on story interpretations and perceived outcomes. First, it is important to understand that the pitch narrative should contain elements familiar to the investor. Familiarity is an antecedent to cognitive evaluations and as familiarity increases, the cognitive processing and engagement of the investor increases. It also informs entrepreneurs and stakeholders about the effects of narrative transportation, narrative persuasion, and the adaptations that can be mentally and collaboratively constructed

as entrepreneurial opportunities are perceived to take a new form of life and decisions are made to commit resources. Familiar narratives can persuade investors, particularly if they are transported, are engaged, and begin migrating their perspective from a third-person outsider to a first person stakeholder of the opportunity (McMullen & Shepherd, 2006). The increase in cognition resulting from narrative transportation can cause investors to cognitively elaborate about the ideas and possibilities, including how they can become more involved. The entrepreneur should also be careful to be open to suggestions and ideas contributed by the investor. First, lack of openness or willingness to consider the investors suggestions can negatively affect the investors evaluation of the entrepreneurial opportunity, leading to a reduced chance of a resource commitment. Second, entrepreneurs who deceive investors by indicating they agree to ideas but have no intention of actually implementing may be able to obtain a resource commitment, but the parties' relationship will likely be negatively affected.

However, entrepreneurs and investors should both take care when cognitively processing and mentally simulating possible outcomes. Counterfactual thinking can cause individuals to self-deceive themselves if they become enamored with new ideas but suppress the facts of what has occurred in their historical experiences (Farquhar & Pratkanis, 1993; Pratkanis & Farquhar, 1992). Mentally simulated futures can be appealing, leading to optimism and thoughts of success that is more likely (Wasserman, 2012). However, it is important to remember that those mental images and scenarios may merely be illusory thoughts (Farquhar & Pratkanis, 1993). Just because parties in a pitch interaction play out a successful ending in their mind as entrepreneurial opportunity adaptations or reconfigurations are individually or collaboratively made, they are still likely illusory. The start-up opportunity at the end of a pitch is the same as it was at the beginning of the pitch, with the exception of new ideas and

intentions of the parties who have interacted, unless those changes, adaptation or variations are actually made to the original opportunity in the future.

Research Limitations and Future Research Opportunities

Despite the contributions from this study, limitations exist and should be considered. First, the generalizability of the results should be considered. Entrepreneurs secure resources through a number of different methods and mediums and solicit resources from various stakeholder other than investors. Although this research focuses on pitch interactions between entrepreneurs and angels, there are other stakeholders who can provide resources to entrepreneurs (Ramadani, 2009). Angels are inclined to become involved in their investments, mentor entrepreneurs and provide other resources such as access to personal networks (Politis, 2008; Ramadani, 2009; Sudek, 2006). The type of stakeholder and their expectations beyond financial investment and monetary returns affect narrative transportability (Green, 2004; Green & Brock, 2000, 2002) or perceived need to make adaptations to the targeted investment. For example, pitch narrative may affect passive investors differently than active investors. Future research could assess the level of narrative transportation, opportunity cogitation and desire to adapt a pitched opportunity may be varied by stakeholder.

The results of this study were based on sample data from quick pitch events such as university pitch competitions and Shark Tank, and the investors were predominately angel investors. Thus, these results should be interpreted in the context in which they were examined (i.e., Clark, 2008; Clarke et al., 2019; Clingingsmith & Shane, 2018; Short et al., 2017). Future researchers are encouraged to replicate and extend the current study to determine whether similar results replicate in other contexts, with various types of

stakeholders, and where other variables might influence pitches, interactions and resource commitment decision making. Experimental methods might allow for researchers to control for certain factors such as the maturity of the opportunities being pitched or the number and types of stakeholders in the audience.

The first study in this dissertation utilized self-reported data collected over the internet. There are a number of concerns about using internet surveys to collect data (Podsakoff & Organ, 1986). Even though respondents may be doing their best to be forthright and insightful, their self-reported data is subject to a number of biases and sources of inaccuracy (Gosling, Vazire et al., 2004). For example, people might have a self-report bias whereby they respond in a way that makes them look as good as possible (Donaldson & Grant-Vallone, 2002). Concerns also exist about common method variance if all data is collected through the same method (Donaldson & Grant-Vallone, 2002).

The second study employed CATA analysis to analyze transcripts from pitch interactions in Shark Tank. There are limitations to this type of analysis. CATA software may limit the amount of details and structure of the text that can be analyzed (Alexa & Zuell, 2000). For example, CATA relies on two important elements for data analysis: 1) the text that is provided as a source for word counts to be compiled; and 2) the dictionaries, comprised of word lists, that the software will use as a reference to analyze the text. An inadequate representation of composition and structure of either of these could lead to limitations in the results that are produced (Alexa & Zuell, 2000). Moreover, in the case of the research of Study 2 in this dissertation, only the words that were spoken during the episodes that is aired are studied. The analysis does not incorporate the thoughts of the parties. Convergent validity

could be assessed by comparing the results of the CATA analysis with surveys that collect self-report data from entrepreneurs and Sharks from each pitch.

Study 2 used the first six seasons from the television show Shark Tank as a data sample. Although there are a number of positive characteristics of the data that is provided from the pitch interactions that occurred during the show, certain imitations exist by using the televised shows as a data source. Previous research has confirmed Shark Tank is not (Pollack et al., 2012). Like other angel investors who invest in start-up ventures, Shark Tank investors risk their own money by making a decision of whether to commit resources. The negotiations are not experimental and the investment decisions have real implications. The data set utilized for this study allowed for a standardized comparison of the Shark Tank pitches as all were limited to the initial presentation from the entrepreneur (Krukowski, 2019). The transcribed content was limited to the entrepreneur's intended presentation and interactions that occurred during their pitch. Similar to university pitch competitions or angel network events, the Shark Tank episodes always had more than four angel investors, which provided consistency.

However, the show that is actually aired has been edited so that each pitch last approximately ten minutes so that it fits into the episode. The actual pitches and negotiation can range from thirty minutes to two and one-half hours, with a typical pitch lasting an hour. Thus, dialogue and interactions that occurred between the entrepreneurs and Sharks during the pitches have likely been excluded, which limits the amount of data available for the CATA analysis. The edited dialogue or pitch content could contain important conversations or elements of the narrative, which would preclude necessary word counts from occurring.

This study reviewed the dialogue between all participants participating in each Shark Tank pitch interaction. The analysis of the dialogue of all parties may have led to an error in detecting activity between individual Sharks and entrepreneurs. Certain Sharks may have more of a tendency to alter or adapt entrepreneurial opportunities, such as conforming pitched opportunities to similar businesses in their portfolio or modifying business strategies from operational manufacturing and selling structures to a licensing engagement. Future research should revisit the Shark Tank transcripts by isolating conversations between each Shark and pitching entrepreneur dyad in order to determine whether the Opportunity Cogitation Helix and entrepreneurial opportunity adaptation have mediating effects between familiarity and decisions to commit resources on a dyadic level.

Both studies conducted in this research analyze opportunities that are in early stage of the start-up cycle. Next, Study 1 did not test for contexts of extreme investor familiarity. It also did not test for contexts of first that are more mature.

Entrepreneurial finance can occur at many stages throughout the life of a new venture (Clingingsmith & Shane, 2018). Future studies should consider studying pitch interactions that occur in later stages of a venture or for extreme familiarity. For example, comparisons could be made to understand the affect elements of mature firms on narrative transportation and entrepreneurial opportunity, such as historical performance records or patents. Future research could also evaluate opportunities that are less illusory than start-up ventures, such as pitches that specifically seek resources for the expansion of an existing physical operation or acquisition of another venture. Revisiting the “no brainer” or “sure thing” types of investor evaluations may lead to a finding between familiar and the Opportunity Cogitation Helix that is a relationship not linear, but curvilinear.

This research focuses on the early stage of entrepreneur and investor interactions. Pitches are typically short and cannot provide a complete account of an entrepreneurial opportunity (Maxwell et al., 2011). It is possible investors delay their decision to commit resources until further discussions, business plan reviews, and assessments of the entrepreneurs funding terms (Clark, 2008; Clingingsmith & Shane, 2018). Thus, there is a temporal limitation in this research with respect to the amount of time it takes to reach a decision to commit resources. It does not include later interactions, nor the final determination of whether a deal is consummated between the parties. Future research incorporating longitudinal studies could include these later interactions to determine whether decisions to commit resources lead to a deal being struck between the entrepreneurs and investors, as well as variables that might affect when and whether the deal is executed, such as the amount of time per interaction, the purpose of the interaction, and the affect time has on mental simulations and cognitive elaborations as it relates to varying levels of entrepreneurial opportunity adaptation.

Future research can study and compare different types of stakeholders and contexts. For example, contexts involving sales of new products or services, employment interviews, and the roles involved in these types of interactions might lead to interesting studies to compare to entrepreneurial processes. Further, research on other antecedents and moderating that could influence narrative transportation, or entrepreneurial opportunity adaptation, such as competing priorities, fear of missing out, or socio-economic characteristics might create different affects.

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APPENDICES

SURVEY INSTRUMENT

When answering the questions below, refer to the pitched opportunity you just observed. All answers are for research purposes only, and your individual answers will not be shared. Please select the response in each question that represents your personal perspective.

1. I am familiar with the type of business being pitched.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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2. I am familiar with the industry of the pitched opportunity.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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3. I am familiar with the ideas that were pitched.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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4. I paid attention to the pitched opportunity that was presented.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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5. I felt personally involved with the pitched opportunity that was presented.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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6. I thought deeply about the issues in the pitched opportunity that was presented.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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7. The pitched opportunity is realistic and believable.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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8. While receiving the business pitch, I could easily picture the events taking place.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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9. The story in the pitched opportunity could actually happen in real life.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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10. Overall, this pitched opportunity seems to be a good investment.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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11. I feel that this pitched opportunity could become a good business

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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12. I have a positive gut feeling about this pitched opportunity

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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13. The entrepreneur seemed willing to modify the pitched opportunity when pitching to the investor.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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14. The groups discussed things that need to happen (dependencies) for the opportunity to be successful.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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15. The entrepreneur indicated he/she could do something new that was suggested by the investor.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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16. The entrepreneur seemed willing to change the pitched opportunity when receiving feedback from the investor.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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17. I would be willing to invest in this pitched opportunity.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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18. I would be willing to commit resources to this pitched opportunity.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Moderately Agree	Agree	Strongly Agree
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VITA

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