

TO EXIT OR REENTER?
ENTREPRENEURIAL INTENTION AFTER BUSINESS FAILURE

By

RONG FU

A dissertation submitted to the
Graduate School Newark,
Rutgers, The State University of New Jersey

In partial fulfillment of the requirements

For the degree of

Doctor of Philosophy

Organizational Management

Written under the direction of

Professor Brett Gilbert

And approved by

New Brunswick, New Jersey

May, 2018

Copyright page:

[2018]

Rong Fu

ALL RIGHTS RESERVE

ABSTRACT OF THE DISSERTATION

To exit or reenter? Entrepreneurial intention after business failure

By RONG FU

Dissertation Director:

Professor Brett Gilbert

This study develops and tests a model linking business failure with entrepreneurial intention. The first essay develops a construct called failure intensity, which is used to measure the severity of business failure. The second essay investigates how failure intensity influences entrepreneurial intention through the attitude toward venturing and entrepreneurial self-efficacy. The third essay expands the second paper's model by exploring the individual and situational moderators that may influence the link between failure intensity and entrepreneurial intentions.

ACKNOWLEDGEMENT

I would like to express my deepest appreciation to my committee chair Professor Brett Gilbert, who guides my way on this long journey: she continually offered valuable and thoughtful comments and feedback in my dissertation. And her encouragement helped me went through the difficulty. Without her guidance and persistent help, this dissertation would not be possible.

I would like to thank my committee members, Professor Jeffrey Robinson, Professor Oliver Sheldon and outside committee member, Professor Jason Chen. Their feedbacks from various disciplines helped me to better develop my dissertation.

In addition, a thank you to Professor Chao Chen, who inspired me to come up with the idea of my dissertation. This dissertation was developed from a course work which was taught by Professor Chao Chen. I would also like to thank to RAISED Foundation for their financial support.

Table of Contents

I. Introduction	- 1 -
II. Essay 1—Failure Intensity	- 5 -
Introduction	- 5 -
Failure Research	- 7 -
Business failure research	- 7 -
Research on other failures	- 11 -
Research on Intensity	- 12 -
Failure Intensity: A New Construct	- 15 -
Failure novelty	- 16 -
Failure disruption.....	- 17 -
Failure criticality.....	- 18 -
Measures of Failure Intensity	- 19 -
Item generation	- 21 -
Exploratory factor analysis	- 25 -
Discussion	- 30 -
Implications	- 31 -
Limitations	- 31 -
Future directions	- 32 -
Conclusion	- 33 -
III. Essay 2—Failure Intensity and Entrepreneurial Intention	- 34 -
Introduction	- 34 -
Model Framework	- 35 -
Ajzen’s theory of planned behavior.....	- 36 -
Shapero’s entrepreneurial event model	- 37 -
A comparison of the two models	- 38 -
Proposed model	- 39 -

Theory and Hypothesis.....	- 41 -
Failure intensity and the attitude toward venturing (H1)	- 41 -
Failure intensity and entrepreneurial self-efficacy (H2).....	- 44 -
Attitude toward venturing and entrepreneurial intention (H3).....	- 51 -
Entrepreneurial self-efficacy and entrepreneurial intention (H4).....	- 52 -
The mediating role of the attitude toward venturing and entrepreneurial self-efficacy (H5 and H6)	- 52 -
Methods	- 53 -
Sampling and procedures.....	- 53 -
Variables	- 56 -
Results	- 57 -
Discussion	- 61 -
Implications	- 61 -
Limitations.....	- 64 -
Future directions	- 65 -
Conclusion	- 66 -
IV. Essay 3—Moderators of the Effects of Business Failure	- 67 -
Introduction	- 67 -
Theory and Hypothesis.....	- 69 -
Individual factor - life stage (H1)	- 71 -
Individual factor - resilience (H2)	- 73 -
Situational factor - previewed environmental support (H3).....	- 74 -
Methods	- 76 -
Sampling.....	- 76 -
Variables	- 76 -
Results	- 78 -
Discussion	- 81 -
Limitations.....	- 81 -
Future directions	- 82 -

Conclusion	- 83 -
V. Discussion	- 84 -
Theoretical Implications.....	- 85 -
Practical Implications	- 87 -
Limitations	- 88 -
Future Research Directions	- 89 -
Conclusions	- 91 -
References	- 93 -
Appendix A.....	- 115 -
Appendix B	- 116 -
Appendix C	- 121 -
Appendix D.....	- 122 -
Table 1.1	- 123 -
Table 2.1	- 129 -
Table 2.2	- 133 -
Table 2.3	- 142 -
Table 2.4	- 145 -
Table 2.5	- 146 -
Table 3.1	- 148 -
Table 3.2	- 149 -
Table 3.3	- 150 -
Table 3.4	- 151 -
Table 3.5	- 152 -
Table 4.1	- 153 -
Table 4.2	- 154 -
Table 4.3	- 155 -
Table 4.4	- 156 -
Table 4.5	- 157 -

Figure 3.1	- 158 -
Figure 3.2	- 159 -
Figure 3.3	- 160 -
Figure 3.4	- 161 -
Figure 3.5	- 162 -
Figure 3.6	- 163 -
Figure 4.1	- 164 -

I. Introduction

According to Ferber and Waldfogel's (1998) estimation, approximately 25% of young men and 20% of young women in the United States have started their own businesses by their mid-thirties. However, not all entrepreneurs succeed in their first attempt, and new ventures have significantly high failure rates (Phillips & Kirchhoff, 1989; Headd, 2003; Ucbasaran et al., 2013). Further, Phillips and Kirchhoff (1989) used information from the United States Establishment Longitudinal Microdata (USELM) and analyzed new ventures' survival rates to discover that they will vary according to industry. Moreover, the survival rates were the greatest in the manufacturing industry (46.9%), and the smallest in construction (35.3%). Movements between paid employment and entrepreneurship are extremely common (Burton et al., 2016). When their entrepreneurial ventures fail, some entrepreneurs will return to paid employment and exit an entrepreneurial career, while some move on from the previous failure to create new businesses. The latter are considered "serial" entrepreneurs.

Some empirical evidence suggests that the serial entrepreneur phenomenon is prevalent. Hyytinen and Ilmakunnas (2007) compared data in Europe to demonstrate the extent to which serial entrepreneurship is widespread: in Scotland, approximately 19% of businesses are run by serial entrepreneurs; in Britain, the rate is as high as 25%; and in Germany, the corresponding percentage is 18%. The phenomenon of serial entrepreneur

in China is also popular: Anokhin et al. (2008) did a comparison between entrepreneurs in China and German, and their data showed that 12.5% percent of Chinese entrepreneurs reported as serial entrepreneurs compared to 10% of German entrepreneurs.

Lent et al. (1994) suggested a link between one's career experience and one's subsequent career choices. Despite the fact that many entrepreneurs become serial entrepreneurs, it is likely that experiencing previous business failure will determine whether an individual reconsiders entrepreneurship. Little is known about how entrepreneurs decide whether to exit or to reenter an entrepreneurial career and what factors may influence this decision.

Entrepreneurial failure has complex effects on entrepreneurs (Byrne & Shepherd, 2015; Ucbasaran et al., 2013). On the one hand, the experience of entrepreneurial failure may lead to a valuable learning opportunity (Cope, 2011; Minniti & Bygrave, 2001; Mueller & Shepherd, 2016; Politis & Gabrielsson, 2009; Rerup, 2005; Yamakawa & Cardon, 2015); on the other hand, such an experience may also lead to entrepreneurs' financial loss (Shepherd et al., 2009; Ucbasaran et al., 2013), social costs (Rider & Negro, 2015; Simmons et al., 2014; Wiesenfeld et al., 2008), and psychological costs (Jalan et al., 2014; Jenkins et al., 2014; Mantere et al., 2013; Shepherd et al., 2009; Shepherd, 2003; Singh et al., 2015). The negative experience of business failure could include anything, substantial or otherwise. If the negative effects of entrepreneurial failure are too high compared with its benefits, entrepreneurs are likely to exit the

entrepreneurial career (Ucbasaran et al., 2013).

This dissertation aims to introduce and test a new construct: failure intensity. This is an important factor in understanding why people exit entrepreneurship after an entrepreneurial failure. The first essay develops a scale to measure failure intensity; the second essay focuses on the framework's socio-cognitive core to explain how failure intensity will influence entrepreneurs' career decisions regarding whether to exit or reenter entrepreneurship through the entrepreneur's attitudes toward venturing and self-efficacy. The third essay further explains the theoretical model developed in the second essay by adding two personal variables (life stage and resilience) and one situational variable (environmental support). Ultimately, this essay suggests and tests how these variables relate with the cognitive framework introduced in the second essay.

Business failures have attracted increasing interest in the entrepreneurial domain (Walsh & Cunningham, 2016). I will use this introductory chapter to review the recent articles related to this study's topic. A search of "entrepreneurial failure" or "business failure" from Business Source Premier for the time period since 2010 resulted in thousands of articles. Therefore, I have established criteria to narrow this review; an article is included if it contains at least one of the following criteria, including a discussion of: (1) the concept of business failure; (2) the characteristics of business failure; (3) a business failure's consequences for the entrepreneur. Of the articles in the search, 34 contained such criteria. Khanna et al. (2015) and Shepherd and Wolfe (2011)

discuss how a project failure's characteristics influence individuals, which is highly relevant to our topic. Therefore, these articles were also included in this literature review, for a total of 36 articles.

Table 1.1 illustrates a brief summary of the reviewed articles, including their related themes and findings. These articles provide a basis for this dissertation. Articles related to the concept and characteristics of entrepreneurial failure will be further discussed in the first essay, and the articles related to the consequences of entrepreneurial failure will be explored in the second and third essays.

[Insert Table 1.1]

II. Essay 1—Failure Intensity

Introduction

A failed entrepreneur (Robin, 2008) expresses the situation after a business failure in *Entrepreneurship*: “I went from almost \$1 million in net worth to nothing. I lost most of my retirement money. I can’t pay my mortgage, and I no longer have a car. Aside from the financial problems, my self-esteem is non-existent, and I’ve become extremely withdrawn from friends and family. My obsession with my business and my financial collapse has left me unmarried at 40 and I feel as if I have no personal or professional future”

Mark Essel (2011), entrepreneur, shared his experience with Quora: “We were unfunded and did all design and development on our own dollar, so there were no financial partners that we had to work with on shutting down the company, or employees that we had to let go. It was an incredible learning experience, and I’ve never felt that surge of motivation before while working for other companies.”

Recently, research on business failures has increasingly attracted entrepreneurship researchers’ attention (Ucbasaran et al., 2013; Walsh & Cunningham, 2016). This interest stems from the fact that a considerable portion of new businesses fail (Headd, 2003; Ucbasaran et al, 2013). With the data from the Bureau of Labor Statistics, the Small Business Administration (2012) in the United States reveals the following about new businesses’ survival rates: “About half of all new establishments survive 5 years or more,

and about one-third survive 10 years or more”. Moreover, the growing research of business failures worldwide—such as studies by Harada (2007) in Japan, Obos and Szewczyk (2012) in Poland, and Wennberg and Detienne (2014) in Sweden—indicates that business failures are also prevalent outside of the United States.

Most studies focus on the causes and the consequences of business failure (Khelil, 2016), although a few researchers (DeTienne & Cardon, 2012; Khelil, 2016; Rooij, 2015; Wennberg et al., 2010) recognize the many facets of business failures, and they classify business failures into various types. However, few studies have explored the differences between such failures according to their influence on entrepreneurs. For example, a comparison of the two business failures mentioned at the beginning of this essay reveals that the first entrepreneur experienced a financial loss as high as \$1 million, while the second entrepreneur seemingly had less financial loss. The first entrepreneur also experienced negative emotions from the business failure (the loss of self-esteem and no hope for the future, and the business failure influenced a marriage and friendships), while the second entrepreneur felt a surge of motivation. These examples clearly reveal the different levels of business failure; thus, it is important to understand how these differences in failure intensity influence entrepreneurs.

This essay aims to fill this gap and introduce a new concept intended to capture the differences between failures. Failure intensity is defined as the degree of strength or force that a failed entrepreneur suffers during a business failure. Based on Morgeson et al.’s

(2015) event system theory, I propose three dimensions of failure intensity: failure novelty, failure disruption, and failure criticality.

This essay considers interviews with 18 failed entrepreneurs and a survey of 169 failed entrepreneurs in China to propose measures of failure intensity and offer a better empirical understanding of this concept.

The essay is organized as follows: the next section provides a literature review of failure (business failure and failure research in other fields) and its intensity. Subsequently, I propose failure intensity as a new concept. Empirical data follows related to the measurement of failure intensity. Finally, I discuss the key implications, limitations, and future directions for the essay.

Failure Research

Business failure research

Walsh and Cunningham (2016) reviewed contemporary entrepreneurial literature to provide a comprehensive review of business failure literature. Most current research on business failures can be grouped into three domains: (1) definitions; (2) antecedents; and (3) consequences of business failure. For the purpose of this essay, I focus on the first domain to discuss the concept of business failure and the characteristics of business failure itself.

(1) Definitions of business failure

There are numerous ways to define and operationalize business failure, although no

consensus exists regarding its definition (Walsh & Cunningham, 2016). Many researchers view entrepreneurial failure as a result (Coad, 2014; Headd, 2003; Justo et al., 2015; Ucbasaran et al., 2013; Wennberg & DeTienne, 2014). The most popular definition view business failure as a result is from Ucbasaran et al. (2013, p.175): “the cessation of involvement in a venture because it has not met a minimum threshold for economic viability as stipulated by the entrepreneur”. A major discussion among these researchers involves both entrepreneurial failure and exit (Coad, 2014; Headd, 2003; Justo et al., 2015; Walsh & Cunningham, 2016; Wennberg & DeTienne, 2014). Although most business exits are due to business failure (Coad, 2014), not all should be viewed as such (Headd, 2003), as some entrepreneurs voluntarily exit the entrepreneurial field due to retirement or family reasons (Justo et al., 2015).

Another important perception of business failure involves failure as a process, instead of an outcome (Argenti, 1976). Research exists within this domain to understand this failure process. For example, organizational decline models (Adler & Chaston, 2002; Cahill, 1997) indicate that organizations go through five stages, namely birth, growth, maturity, decline/revival, and death. The later two stages are the failure process. Ooghe & DePrijcker (2008) explored the failure processes and proposed four types of failure processes: failure process of an unsuccessful start-up; failure process of an ambitious growth company, failure process of a dazzled growth company and failure process of an apathetic established company.

In contrast to the heated discussion of entrepreneurial failure, research has scarcely focused on entrepreneurial failure to explore its many facets and characteristics (Khelil, 2016). Further, Rooij (2015) identified three types of failure by studying three famous failure cases, and this typology is based on the causes of business failure (fallibility, error, and flaw). Wennberg et al. (2010) identified four types of failure based on performance and the exit route: harvest sale, distress sale, liquidation, and distress liquidation. Khelil (2016) used both typological and taxonomic approaches to explore the many facets of entrepreneurial failure. Other than entrepreneurial failure research, Khanna et al. (2015) discussed how the number, criticality, and duration of R&D failures influence subsequent R&D performance.

(2) Antecedents of business failure

The antecedents of business failure can be divided into internal and external factors (Walsh & Cunningham, 2016). Some researchers believe that business failure is primarily caused by the external environment. The theory origins of this perspective mainly come from organization ecology. The external factors could include technology, regulations, economic changes, changes in consumer tastes, and increased competition (Mellahi & Wilkinson, 2004; Walsh & Cunningham, 2016). Aldrich (1979) reasoned that firms are operated in the environment, and management has limited or even no control over external environment which may cause business failure.

In contrast, other researchers argue that business failure is caused by internal factors

within the firm, such as managers decisions (Mellahi & Wilkinson, 2004; Walsh & Cunningham, 2016). The theory origins of this perspective stem from organization psychology. The internal factors that may cause business failure could include the manager's perception of the external environment and their experience and motivation (Hambrick & Mason, 1984; Ooghe & DePrieker, 2008; Hambrick, 2007). Mellahi & Wilkinson (2004) believed that managers are the decision makers of the firm, therefore, their perceptions of the environment and their following reactions to the changing environment is the major causes of business failure.

(3) Consequences of business failure

The costs of business failure. Failure results in different costs for failed entrepreneurs. For example, Ucbasaran et al. (2013) grouped such costs into three categories—financial, social, and psychological—which will be later discussed in further detail. A growing body of literature about business failures explores the relationship between failure and various emotions, such as grief (Cope, 2011; Shepherd, 2003), the fear of failure (Morgan & Sisak, 2016), and stigma (Simmons et al., 2014).

Learning from failure. Although business failure is a negative outcome for a firm, it provides a valuable lesson to learn how to succeed; Cope (2011) suggests that failed entrepreneurs can learn more about themselves, the venture, networks and relationships, and venture management through the failure experience. Moreover, some researchers are interested in learning the outcomes from failure (Yamakawa & Cardon, 2015).

Recovery from failure. Understanding the recovery from failure is important, as some entrepreneurs recovering from business failures will re-enter entrepreneurship (Nielsen & Sarasvathy, 2011).

Research on other failures

A literature search was also performed in other research fields other than entrepreneurship—such as education, sports, and psychology—to better understand the general concept of failure. Table 2.1 presents an overview of the main works of literature reviewed.

[Insert Table 2.1]

This review reveals that most of the research conducted in these fields involves the aftermath of failure. Iver (2010) and Rumberger and Lim (2008) found that in the educational field, poor grades and course failure will lead to drop outs, while Williams et al. (2014) and Wright et al. (2016) emphasized how to promote resilience among students when they face failure. Failed performance in sports relates to negative effects (Ball, 1976; Hammond et al., 2013). Moreover, Ellis et al. (2006) explored learning after failure in the psychology field. Riggs and Knight (1994) demonstrated that members' attitudes, such as satisfaction and commitment, were associated with failure.

None of the above literature focuses on the characteristics of failure. For example, Martha & Mac (2010) measured course failure as a dichotomous variable, which is failure or not failure. And they didn't measure how far away the students are from the

passing grade. Similar to Martha & Mac (2010), Williams et al. (2014) and Wright et al., (2016) all view school failure as a yes or no phenomenon and didn't pay attention to the differences between school failures. In sports field, Hammond et al. (2013) measure swimmers' performance failure based on whether they perform better than their previous personal best; Foll et al. (2006) and Rasclé et al. (2015) measure athletes' perception of failure based on a binary rating scale how they consider their performance: "rather like a success" vs "rather like a failure". In psychological field, researchers also view failure as a yes or no question regardless of the difference between failures. For example, Taylor et al. (2016) measure goal failure as whether participants achieved their goals or not. Bragger et al. (2003) used a failing investment scenario to test how it will influence participants following investment decisions. They only offer one failing scenario and didn't differentiate the failures.

In sum, few literatures in these fields has focused on the characteristics of failure itself. Thus, this essay intends to explore this topic in depth.

Research on Intensity

Merriam-Webster's dictionary defines intensity as "the degree or amount of strength or force that something has." Further, literature widely uses the word "intensity" to capture a characteristic of something. For example, Jones (1991, p. 372) defines moral intensity as "the extent of issue-related moral imperative in a situation"; Attri et al. (2014,

p. 3039) define the intensity of total productive maintenance (TPM) barriers as “the deterring strength of all the considered barriers in the TPM implementation process”; and Weingart et al. (2015, p. 240) define the oppositional intensity of conflict expression as “the degree of strength, force, or energy with which the sender conveys opposition during a given conflict event.”

The aforementioned research on entrepreneurial failure has indicated that failure varies in its intensity of its effects on entrepreneurs. Before introducing the failure intensity construct, it is important to review the construct central to its development: event strength.

Morgeson et al. (2015) propose that “events are external, bound in time and space, and involve the intersection of different entities.” Thus, entrepreneurial failure, which occurs at a specific point in time and involves various factors, can be observed as an event according to this definition for the following reasons: First, entrepreneurial failure is an external event because it transpires outside of the entrepreneurship. Second, entrepreneurial failure is bound in space and time because it has a beginning and end and evolves in a specific setting. Third, entrepreneurial failure involves the intersection of different entities.

Numerous events occur every day, but not all events attract equal attention from entities; therefore, Morgeson et al. (2015) focus on novelty, disruption, and criticality as indicators of an event’s strength.

“Novelty reflects the extent to which an event is different or varies from current and past behaviors, features, and events and is therefore a new or unexpected phenomenon” (Morgeson et al., 2015, p. 520). Novelty requires an in-depth interpretation which need more information search and analysis. Since no existing routines to guide the action, questions such as “what is this”, “how did this happen”, and “how should I react to this event” should be addressed. Therefore, if events are novel, entities have to create new behaviors to react to the novel event since they are not prepared to these novel events. As such, novel events require more attention from entities.

“Disruption reflects a discontinuity in the environment, where the external situation has somehow changed” (Morgeson et al., 2015, p. 521). Disruption makes an event stand out and requires more in-depth analysis. Disruptive events changed the external situation which requires a change in the ongoing routine. Therefore, if events are disruptive, entities’ conventional thinking was broken and they have to change their behaviors and routines to adjust to the new situation. As such, disruptive events attract more attention from entities.

“Criticality reflects the degree to which an event is important, essential, or a priority to an entity” (Morgeson et al., 2015, p. 521). Not all events are important for entities. And entities will pay less attention and invest few efforts to handle trivial events. For the critical events, entities will pay more attention, invest more valuable resources, and take more actions to deal with them. As such, critical events stand out from various trivial

events.

Inspired by these three dimensions, I suggest that failure intensity is a function of the failure's novelty, disruption, and criticality.

Failure Intensity: A New Construct

Business failure must first be defined before introducing business intensity. As Ucbasaran et al. (2013) and Walsh and Cunningham (2016) suggested, researchers should choose a definition based on their research question. Thus, business failure is defined in this essay as the cessation of involvement in a venture; no difference exists between business failure and entrepreneurial failure in this essay, and these terms will be used interchangeably. Accordingly, this essay interprets a “failed” entrepreneur as one who has closed a business at least one time, a definition based on their failure to continuously operate the business. Some researchers may argue that some entrepreneurs close their businesses with successful results (Headd, 2003; Wennberg et al., 2010). While this is true, this can be viewed as a type of business failure with incredibly low failure intensity; therefore, although they failed to continuously operate their business, they did not suffer from a business failure.

Failure intensity is being developed to acknowledge that previous entrepreneurial research has largely ignored the characteristics of business failure. Prior research has focused on a variety of studies about business failure, and most have explored its causes

and/or consequences. However, scarce research has identified the characteristics of the entrepreneurial failure itself, with the few aforementioned exceptions (e.g., DeTienne & Cardon, 2012; Khelil, 2016; Rooij, 2015; Wennberg et al., 2010). The failure intensity concept is offered as a new lens in understanding how business failure influences entrepreneurs.

Failure intensity represents business failure's broad constellation of influence on entrepreneurs; this essay defines failure intensity as the degree of strength or force that an entrepreneur suffers during a business failure. It is a multidimensional construct, with critical dimensions that include the failure's (1) novelty, (2) disruption, and (3) criticality, which will be explained and described in the below sections.

Failure novelty

The *failure novelty* in business failure is defined as the extent to which the business failure is a new or unexpected phenomenon for the failed entrepreneur. Note these two examples:

1. A failed entrepreneur who has never failed in business may feel greater failure novelty than an entrepreneur who has previously failed.
2. A failed entrepreneur who has never experienced a business failure in their previous work experience may feel greater failure novelty than an entrepreneur who has experienced business failure in a previous work experience.

On the one hand, and according to the event system theory as proposed by

Morgeson et al. (2015), if business failure is novel for an entrepreneur, there will be no established routines to guide the entrepreneur regarding how to handle the business. The entrepreneur must create new routines to respond to such failure. On the other hand, if an entrepreneur has previously experienced business failure, he or she may know the most important way to react to the event and remain calm. Politis and Gabrielsson (2009) empirically discovered that the extent of previous start-up experience positively relates with attitude toward business failure.

Failure disruption

Failure disruption in business failure is defined as the extent to which the failed entrepreneur's situation changes. For example,

1. A business failure that causes \$1 million in losses may have a greater failure disruption than a business failure that causes \$10,000 losses.
2. A business failure that causes a divorce may have greater failure disruption than a business failure that does not.
3. A business failure that causes severe depression may have greater failure disruption than a business failure that does not.

Ucbasaran et al. (2013) reviewed the literature related to the consequences of business failure to conclude that business failure's primary influences can be classified into three groups: financial, social, and psychological costs.

Financially, it is likely that a business failure will impose a financial cost, but

financial costs may differ in their degree; severe financial costs may take years to clear for some failed entrepreneurs (Cope, 2011). In contrast, small financial costs are easier for some failed entrepreneurs to absorb. It is assumed that entrepreneurs will act differently in facing various degrees of financial costs.

Socially, business failures may influence entrepreneurs' personal and professional relationships (Ucbasaran et al., 2013). Empirically, Cope (2011) notes that failure can lead to the breakdown of marriages, while Harris and Sutton (1986) find that a business failure can result in the loss of a professional network. Entrepreneurs suffer differently according to their different levels of social losses.

Psychologically, business failure will create negative emotions. Business failures can cause depression with varying degrees of severity (Singh et al., 2007), which will affect the entrepreneurs' motivation and behaviors (Ucbasaran et al., 2013).

Failure criticality

The business failure's *failure criticality* is defined as the extent to which the failed business is important or essential to the failed entrepreneur. For example, with other situations being equal, a business failure will be more critical for the following:

1. A full-time entrepreneur, versus a hybrid entrepreneur, or those who start businesses while retaining a "day job" in an existing organization (Raffiee & Feng, 2014).
2. An entrepreneur who only has one firm, versus a portfolio entrepreneur with multiple firms.

3. An entrepreneur with substantial family burdens, such as children to raise or parents to support, versus an entrepreneur with few family burdens.

The inclusion of failure criticality in the failure intensity construct is inspired by the event system theory as proposed by Morgeson et al. (2015). Further, failure criticality has primarily been included in the failure intensity construct for intuitive reasons, as entrepreneurs intuitively care more about failed businesses that are important and essential for them than for those that are not as important. Some entrepreneurs' failed businesses are their entire family's sole income source, while other entrepreneurs' failed businesses are a small part of their portfolios of wealth or ventures. The failed business' importance differs for these entrepreneurs. Jenkins et al. (2014) empirically demonstrated that both portfolio and hybrid entrepreneurs are less likely to negatively appraise the failure compared to full-time entrepreneurs with only one firm.

Measures of Failure Intensity

With the theoretical basis established, it is also important to consider the measurement of failure intensity, which is viewed as one multidimensional construct for the purposes of this research, with three dimensions of measurement: failure novelty, the magnitude of consequences, and failure criticality. The above discussion reveals the conclusion that the more novel or critical the failure and the greater its magnitude, the more intense the entrepreneurial failure.

In this study, failure intensity was a new construct and there was no existing scale I can use to measure failure intensity. Therefore, the qualitative research (interview) is conducted to develop scale items for failure intensity, which was then used in the following quantitative research. I followed Hinkin's (1998) scale development process to create a reliable, valid measurement of failure intensity. The study is presented in five steps: First, semi-structured interviews were conducted to generate statements that may be used to measure failure intensity; second, data was collected from failed entrepreneurs to evaluate the measures of failure intensity as noted in the first step; and third, an exploratory factor analysis was used to further refine the measurements of failure intensity. In the second essay, the confirmatory factor analysis was performed to test the new measurement's construct validity. The new failure intensity measurement's convergent and discriminant validities are then discussed in the second essay, too.

I used a mixed method (qualitative and quantitative) design to develop the scale of failure intensity. Using a mixed method is challenging and should only be conducted when necessary (Creswell & Clark, 2007). Greene et al. (1989) and Bryman (2006) offered two frameworks to discuss the reasons for mixing methods in the literature. Among the five broad reasons (triangulation, complementarity, development, initiation, and expansion) identified by Greene et al. (1989), the reason to use a mixed method in this study is development, which "seeks to use the results from one method to help develop or inform the other method" (Greene et al., 1989: p.259). In specific, the reason

is instrument development, which refers to “contexts in which qualitative research is employed to develop questionnaire and scale items” (Bryman, 2006: p.106).

I used the exploratory sequential design (Creswell & Clark, 2007): in the first phase, I conduct the qualitative method (interview), analyzed the interview results and get the initial items for failure intensity. Based on the results from the interview, I did a second phase quantitative method (survey) to test and generalize the initial items generated from the first phase.

Item generation

Method

Two popular approaches are used to create items: deductive and inductive (Hinkin, 1998). The deductive approach, or “classification from above,” will be used when the theory foundation offers enough information to generate items; the inductive approach, or “classification from below,” will be used when it is difficult to identify items from theory, and if researchers can only create items by asking respondents about their feelings (Hinkin, 1998).

This study used both deductive and inductive methods, and items were generated from previous theories, such as Morgeson’s (2005) event novelty and Morgeson and DeRue’s (2006) event criticality theories. However, these general items are not specialized to failure situations. Therefore, in-depth interviews were also conducted with 18 entrepreneurs to ensure the items fit the construct failure intensity.

The interviews were conducted in Changsha, China, in March and April 2017, with 18 entrepreneurs who closed a business during the past 2 years. The two-year window was used to ensure the entrepreneurial failure was still relatively fresh in the entrepreneur's memory. The sample included 10 male entrepreneurs and 8 female entrepreneurs, and I conducted all interviews to maintain consistency. See Table 2.2 for a brief summary for the interviews.

[Insert Table 2.2]

Each entrepreneur in these face-to-face, semi-structured interviews was asked the same open-ended questions, and I recorded all responses from the entrepreneur in writing. I asked them to express their experience with business failure, how and why they were influenced by the business failure, and what aspects of their lives were impacted by the failure. The entrepreneurs were not informed of the three dimensions (failure novelty, disruption, and criticality). Each entrepreneur was asked to draw on his or her failure experience and to provide examples of how the business failure influenced their lives. This interview method is consistent with Farh, Earley, and Lin's (1997) interview approach.

The failed entrepreneurs I interviewed share some similarities. First of all, it was obvious that business failure was not a desirable outcome for each of them. Regardless of the intensity, all of them felt depressed and went through a difficult time after business failure. Another similarity for the interviewees was that they seldom talked about their

psychological status, especially for the male entrepreneurs. They felt free to talk about their financial loss, their social relationships after failure, but they seemed don't want to admit their weaknesses after failure.

The differences between the interviewed entrepreneurs are as follows. Even though all of them suffered business failure, the intensity differs. From a failure novelty perspective, some entrepreneurs experienced business failures before, or they knew someone who failed before. For some other failed entrepreneurs, this was their first time encountered business failure and had no idea how to deal with it. From a failure disruption perspective, the interviewees experienced different level of financial, relationship, and psychological costs: some of them have already recovered from their previous business failure, while some of them still suffered and in the process of paying off the debts, fixing relationships with others, and rebuilding confidence in themselves. From a failure criticality perspective, the failed business have different meaning for the entrepreneurs. For some entrepreneurs, the failed businesses were their only income sources, while for others the failed businesses were their avocations. Some entrepreneurs view the failed firms as their children while some of them view starting firms as a way to earn money.

From the interviews, it was reasonable to infer that business failure differs, and it was valuable to explore the characteristics of business failure.

Results

The interviews with 18 entrepreneurs collected 87 statements describing examples of failure intensity. The three-stage sorting process was used as discussed by Farh, Earley, and Lin (1997). In the first stage, statements were sorted into categories; in the second stage, the categories were combined into 13 general categories; in the third stage, the most representative statements for each of the general categories were selected. Thus, 13 representative statements comprised the original scale for the failure intensity construct. Table 2.3 lists the 13 items and a sample of quotes from the interviewees.

[Insert Table 2.3]

Additionally, I also adapted some items from existing scales, such as Morgeson's (2005) the event novelty scale. Further, Table 2.3 lists the four items generated from the event novelty characteristic.

Content Validity Assessment

A content validity assessment was conducted to ensure the generated items adequately represent the facets of failure intensity. This process would exclude conceptually inconsistent statements.

As Hinkin (1998) suggested, it is acceptable to use a sample of students in a content validity assessment, as "this is a cognitive task not requiring an understanding of the phenomena under examination."

Following the example of MacKenzie, Podsakoff, and Fetter (1991), the content validity assessment was conducted among 20 students majoring in business. The 20

students were provided with the definition of failure intensity and the proposed three dimensions (failure novelty, disruption, and criticality), and were then asked to classify the randomly ordered items into one of four categories (failure novelty, disruption, and criticality, as well as a fourth “unclassified” category for items that they believed did not fit any of the previous categories). An item would be retained if it was correctly classified by 75% of the students.

All other items in this process passed the test except for three: items 6, 15, and 16. As the results were slightly below the cutoff point 65% or 70% of the students correctly classified them, these were included in the next process. Therefore, all items remained after the content validity assessment, and 16 items (see Table 2.3 for details) were tested in the following process.

Exploratory factor analysis

Method

The sample used in the exploratory factor analysis (EFA) came from the website zhihu.com, which is a questionnaire website similar to Quora.com in the United States. According to Yuan Zhou, a founder of Zhihu.com, the website had more than 17 million registered users by May 2015, and more than 80% of these are active users.

Approximately 2,000 users answered the question, “What are you doing right now after your business failure?” However, not all users were failed entrepreneurs; 1,495 failed entrepreneurs were recognized based on their answers. I distributed the survey to

these failed entrepreneurs by sending them a link through Zhihu.com's private messaging system. The failed entrepreneurs were asked to mark a seven-point Likert scale to indicate how strongly they agreed or disagreed with each statement.

Each participant was promised a 20-yuan payment through their WeChat wallet to increase the response rate, and 10 participants would receive a 188-yuan bonus by lottery after the data was collected.

I received 169 valid responses, representing an 11.3% response rate. Regarding the sample size, Schwab (1980) recommended an item-to-response ratio of 1:10. This study required 160 entrepreneurs for the data analysis, as it included 16 items in this study; therefore, 169 valid responses met this standard.

Table 2.4 offers the survey sample description, which indicates that of the 169 respondents, 45.6% were female, and the respondents' average age was 30.9. Almost all of the respondents had a bachelor degree or greater. After their business failure, 18.9% of respondents started a new firm.

[Insert Table 2.4]

I reviewed the recent literature of Chinese entrepreneurship researchers to determine the extent to which these entrepreneurs are representative of other entrepreneurs in China (He, 2009; Warnecke, 2013). After analyzing the Global Entrepreneurship Monitor database of 2012, Warnecke (2013) found that the total entrepreneurial activity rate of male is 25.7% while the rate of female is 22.4%, which indicated that women are nearly

equally active in entrepreneurial activity as are males. In Eggers & Song's (2015) survey sample in China, the female founder rate was 40.2%. The female rate in my sample was 45.6%, which may over-represent female entrepreneurs to some extent.

Regarding the education level, He (2009) did a longitudinal study in China to show the development of private enterprise in China. According to the data he presented, the education level of entrepreneurs increased with time. The percentage of entrepreneurs with degrees higher than high school increased from 50% in 1980 to nearly 90% in 2002, and the percentage still has an increasing trend. The failed entrepreneurs of the sample in this study has 99.4% entrepreneurs with degrees higher than high school, which may over-represent higher educated entrepreneurs. The reason for this over-represent may due to the platform of Zhihu.dom, which attracts higher educated people.

For the age, the average age for the sample in Anokhin et al (2008) was 37 in 2008. Zhejiang Industry and Commerce Bureau reported that the average age of entrepreneurs in Zhejiang province was 36 in 2016. The average age for my sample was 30.9 which was below the average age for the entrepreneurs in China. There are two possible reasons for the difference. First, the sample in this study was failed entrepreneurs. Young entrepreneurs may account more percentage in failed entrepreneurs than in entrepreneurs in general. Second, the survey was distributed online, which may have a higher response rate in younger entrepreneurs.

Even though the sample of this study may over represent female entrepreneurs,

higher educated entrepreneurs and younger entrepreneurs, the difference was acceptable.

In sum, the individuals surveyed in this essay can be reasonable representatives of Chinese entrepreneurs.

Result

An exploratory factor analysis (EFA) was conducting using SPSS software (Version 22), items 1 to 4 were reverse-coded before conducting the analysis. Factors remained if the eigenvalues were greater than one (Hinkin, 1998). The rotated component matrix revealed that the item would be retained if the factor loading was greater than 0.5 and the cross-loading was less than 0.3. Five items were removed after the exploratory factor analysis.

Item 5 and 6 was removed because these two items reduced the reliability of the scale. The inclusion of these two items would lead to a five-factor model. With two more items in the five-factor model, the reliability of the scale instead reduced to slightly below 0.7 and the cumulative percentage of variance reduced to around 70%. Therefore, statistically, deleting these two items lead to a better scale. The possible reason for this result was that these two items were intended to measure how unexpected the business failure was, while the ultimate manifestation of these items can be reflected on the novel items of business failure. For example, when an entrepreneur faced the unexpected event that lead to the business failure (item 5), he/she may have no rules to respond to it (item 1) since he/she didn't prepare for this before.

Item 9 was omitted from the analysis, as no factor loading was greater than 0.5 for this item. Item 9 had similar loading values on financial disruption, relationship disruption, and failure criticality, each loading value was about 0.4. This item didn't meet the requirement. The possible reason of this discrepancy was that this item tested the psychological status of failed entrepreneurs, and entrepreneurs' psychological status would be highly related with their financial status, relationship status, and how important the failed businesses were for them. Therefore, this item has high cross loadings with three factors.

Items 15 and 16 with cross-loadings were also removed. These two items were intended to measure failure criticality, while they also had high cross-loadings with financial disruption. The possible reason for this is that these two items have words such as "income", which may confuse with items in financial disruption. Therefore, I deleted these two confusing items.

A subsequent factor analysis was done with the remaining 11 items, which were reordered from Q1 to Q11. The EFA revealed a four-factor structure among the 11 items (see Table 2.5); the four factors explained 77% of the total variance. The four-factor structure was consistent with the proposed structure of failure intensity, with one difference, in that the proposed one-factor failure disruption had divided into two factors (Factors 2 and 3).

[Insert Table 2.5]

The first factor included four items, which includes Q1 to Q4. This dimension is the failure novelty. The second factor included three items, which includes Q7 to Q9, and is termed as the relationship disruption. The third factor included two items, or Q5 and Q6, which is termed as the financial disruption. The fourth factor included two items—Q10 and Q11—or the failure criticality.

I then tested the scale's reliability by checking whether the Cronbach's alpha is greater than 0.7, ultimately to determine whether the items under each factor measure as the same dimension. The Cronbach's alpha for Factors 1 through 4 were 0.84, 0.86, 0.86, and 0.68, respectively. Overall, all measurements demonstrated good reliability, except Factor 4. The Cronbach's alpha for Factor 4 was slightly less than 0.7, but still acceptable. The overall Cronbach's alpha for failure intensity was 0.71.

Discussion

A review of current literature about entrepreneurial failure revealed that most of the studies focused on the causes and consequences of business failure. However, it is also important to consider the characteristics of entrepreneurial failure and to consider this as a multiform phenomenon with many different facets (Khelil, 2016). This essay provides several important contributions to current literature. First, this essay indicates that business failures vary in their intensity, as some business failures have higher failure intensities than others. Second, this essay is the first to apply event system theory

(Morgeson et al., 2015) to the entrepreneurship field, and provides preliminary evidence that failure intensity can be measured by failure novelty, disruption, and criticality.

Implications

This essay has some important implications for researchers of business failure. Previous studies (Khelil, 2016; Rooij, 2015; Wennberg et al., 2010) that have observed the differences among such failures have grouped business failure into several groups based on various dimensions. However, this essay quantifies the difference between failures based on how strongly entrepreneurs suffer from the business failure. Therefore, this essay offers a different angle to observe the characteristics of business failure.

This essay also provides implications for entrepreneurs, in that failed entrepreneurs suffer differently in their business failures. This essay offers them an opportunity to better know their sources of pain and why they suffered from business failures. Regarding investors, many researchers found that investors value entrepreneurs' failure experiences. However, they should focus more on a clearer, deeper investigation of the failure experience, as they do not view business failures consistently. For example, some failed entrepreneurs likely have substantial debts and broken relationships with business partners from their previous businesses; it would be unwise to invest in such failed entrepreneurs.

Limitations

Although our data supports the scale of failure intensity, the proposed measurement

of failure intensity may serve as a basis to develop failure intensity. The items generated from the interview used in this essay come from only one country, but Jenkins et al. (2014) prove that countries differ in their tolerance for failure. Therefore, it is possible to question whether other important items could be obtained if interviews were conducted in other countries.

Future directions

First, it would be highly valuable to replicate this research in other countries. As the business failure phenomenon is country-sensitive (Jenkins et al., 2014), the data resource coming from one country might limit a generalization of the results. Therefore, this research would be valuable if conducted in other countries. If future results in other countries lead to similar results, this would further generalize this essay. In contrast, if future studies lead to different results, it would be interesting to compare these differences and discover their origins.

Moreover, it would be noteworthy to observe the application of failure intensity in some other field, such as project organization, education, or sports. As with research on business failure, scarce research in these fields note the differences among failures, which I believe is noteworthy. For example, athletes would experience different impacts of failure in small versus larger competitions, such as the Olympic Games. Failure in a small competition may lead the athlete to think it is disappointing to lose a game, while failure in a big game could cause the athlete to feel ashamed for his or her supporters or even the

country he or she represents. Therefore, it would be also valuable to apply failure intensity in other fields that may involve failure.

Finally, failure intensity as a new construct can be more deeply understood by investigating its antecedents and consequences. It is valuable to explore the antecedents of failure intensity to possibly decrease failure intensity and business failure's negative impact on entrepreneurs. Given the mixed arguments regarding whether failure is good or bad for entrepreneurs, the introduction of failure intensity when exploring business failure's influence on entrepreneurs might offer a reconciling result.

Conclusion

In summary, this essay demonstrates that business failures vary in their intensity, and failure intensity can be measured using four dimensions: the failure's novelty, financial disruption, relationship disruption, and failure criticality. The essay expands the understanding of business failure itself, instead of its causes and consequences.

This study answers the call to focus more on the many facets of business failure itself, to better understand the phenomenon (Khelil, 2016). I ultimately hope this essay has made some progress on this front and can stimulate more research on the topic.

III. Essay 2—Failure Intensity and Entrepreneurial Intention

Introduction

Business failure's influence on entrepreneurs is complex (Ucbasaran et al., 2013), as some failed entrepreneurs will reenter entrepreneurship with a subsequent new venture, making them serial entrepreneurs (Plehn-Dujowich, 2010). Other entrepreneurs may choose to exit their entrepreneurship career. Serial entrepreneurship is a common phenomenon (Hyytinen & Ilmakunnas, 2007), and serial entrepreneurs play an important role in economic growth (Gompers et al., 2006). However, literature has revealed little about how the prior business failure influences entrepreneurs' decisions regarding whether to reenter or exit the entrepreneurship career (Hsu et al., 2017). This essay aims to fill this gap in entrepreneurial literature.

This essay intends to explore how business failure influences entrepreneurs' subsequent career decisions. In entrepreneurial literature, situational or individual variables alone are insufficient predictors of entrepreneurial intention; however, intention models developed from social cognitive theory increase our understanding of entrepreneurial intention (Krueger et al., 2000). Two intention models stand out in entrepreneurial literature: Azjen's (1991) theory of planned behavior (TPB) and Shapero's (1982) entrepreneurial event model (EEM). After comparing the two models, I proposed a model that posits failure intensity influences entrepreneurial intention through the attitudes toward venturing and entrepreneurial self-efficacy.

The hypotheses were tested by surveying 239 entrepreneurs that had experienced business failure within the past two years in China. The results support my hypotheses that failure intensity influences entrepreneurial intention through the attitudes toward venturing and entrepreneurial self-efficacy.

This essay offers two contributions to entrepreneurial literature. First, in drawing on entrepreneurial intention models, the essay explores how entrepreneurs' prior business failure experience influences their subsequent decisions regarding whether to exit or reenter the entrepreneurial career, which previous literature has seldom discussed. Second, the essay views business failures differently according to their intensity, and states that entrepreneurs suffer differently during their business failures, which is also unique in the literature.

The remainder of this essay is organized as follows: Section 2 compares the two intention models popular in entrepreneurial literature and lays out the general model proposed in this essay. Section 3 further discusses the relationships proposed in Section 2. I then report on the essay's methodology and results. Finally, the essay concludes with a discussion of the results, and their implications, limitations, and opportunities for future research.

Model Framework

To develop an understanding of how failure intensity affects entrepreneurial

intention, it is important to first understand the antecedents of entrepreneurial intention, then explore how failure intensity influences these antecedents.

As a predictor of entrepreneurial behavior, entrepreneurial intention has attracted much attention in the entrepreneurship field (Armitage & Conner, 2001; Douglas & Shepherd, 2002; Krueger et al., 2000). Some researchers predict entrepreneurial intention by modeling personal factors. For example, Zhao et al. (2010) conducted a meta-analysis review to explore the relationship between Big Five personality traits (openness to experience, conscientiousness, extroversion, agreeableness, and neuroticism) and entrepreneurial intention. Other researchers have attempted to use situational factors to predict entrepreneurial intentions. For example, entrepreneurial education programs (Linan et al., 2011) and satisfaction with one's current job (Wong et al., 2011) are proved to relate to one's entrepreneurial intention. However, individual or situational variables alone are insufficient predictors for entrepreneurial intention. Intention models indicate a better understanding of entrepreneurial intention (Krueger et al., 2000).

Two intention models exist in entrepreneurial literature: Azjen's (1991) theory of planned behavior (TPB) and Shapero's (1982) entrepreneurial event model (EEM).

Ajzen's theory of planned behavior

Ajzen's theory of planned behavior (TPB) is the most widely used intention model in entrepreneurial literature (Armitage & Conner, 2001; Dinc & Bulic, 2016; Kolvereid & Isaksen, 2006). Before Ajzen proposed this theory, most of researchers had predicted

behavior using general attitudes or personality traits. Further, Ajzen (1991) believed that these broad variables indirectly influence one's specific behaviors through other factors that are more closely linked to the specific behavior. Therefore, Ajzen's (1988, 1991) TPB proposed three behavior-specific factors what are specific to the behavior.

[Insert Figure 3.1]

Figure 3.1 illustrates the TPB's valid form; intentions in this model are influenced by three antecedents: the attitude toward the behavior, subjective norms, and perceived behavioral controls. The attitude toward the behavior, as influenced by the expected values of the act, refers to "the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question"; subjective norms, which depend on beliefs about social support, capture one's "perceived social pressure to perform or not perform the behavior"; perceived behavior control, which highly relates to perceived self-efficacy, reflects "the perceived ease or difficulty of performing the behavior" (Ajzen, 1991; p.188).

Shapero's entrepreneurial event model

In 1982, Shapero proposed an intention model specific to the entrepreneurship domain: the entrepreneurial event model (EEM). Although this model is not as popular as the TPB model, EEM is empirically illustrated by Krueger (1993, 2000), who discovered in 1993 that perceived desirability, the propensity to act, and perceived feasibility account for half of the variance in entrepreneurial intentions.

[Insert Figure 3.2]

Shapero (1982) posited that people will not change their behavior due to inertia, until something interrupts that inertia, which could be a job loss, divorce, or business failure, as noted in this essay. Further, this interruption may cause a change in one's behavior, and the actor will seek the best choice among alternative behaviors (Katz, 1992). This choice is influenced by the alternatives' relative desirability and feasibility as well as the propensity to act (Krueger et al., 2000).

Shapero (1982) created the EEM to propose that the intention behind entrepreneurial behaviors depends on the perceptions of desirability and feasibility, and the propensity to act. Perceived desirability refers to "the personal attractiveness of starting a business," perceived feasibility is defined as "the degree to which one feels personally capable of starting a business," and the propensity to act is "the personal disposition to act on one's decisions" (Krueger et al., 2000; p. 419).

A comparison of the two models

The two models perceive entrepreneurial behavior differently. For example, Ajzen viewed entrepreneurial behavior as a more proactive behavior. People who have positive attitudes toward venturing and the ability to do it well may have the intention to start a business. In contrast, Shapero viewed entrepreneurial behavior as a more passive behavior, in that an event may occur in people's lives that may require them to change. They would then make decisions about entrepreneurship based on various factors.

Other than the two models' different assumptions about entrepreneurial behavior, they have many similarities regarding the factors influencing entrepreneurial intention. Each contains elements associated with perceived desirability and feasibility. Regarding the former, the attitude toward the behavior and subjective norms in Ajzen's TPB model can be grouped as perceived desirability. Attitude represents people's own attitudes toward the act, while subjective norms demonstrate people's importance on others' attitudes toward the act. Shapero's (1982) EEM also states that perceived desirability is impacted by both intrapersonal and extrapersonal factors. Regarding perceived feasibility, both models propose that perceived feasibility closely relates with entrepreneurial self-efficacy. Shapero (1982) adds another factor to perceived desirability and feasibility: the propensity to act. This factor captures one's willingness to turn thoughts into actions. By definition, the propensity to act will influence the turning of intentions into actions instead of the entrepreneurial intention itself.

The above comparison of these two models reveals entrepreneurial intention as influenced by perceived desirability and perceived feasibility, which inspired the model proposed in the following section.

Proposed model

I illustrate how failure intensity influences entrepreneurial intention by including the attitude toward venturing (representing perceived desirability) and entrepreneurial self-efficacy (representing perceived feasibility) as the antecedents of entrepreneurial

intention (see Figure 3.3). Business failure, an important experience for failed entrepreneurs, will influence entrepreneurial intention through the attitudes toward venturing and ESE. Specifically, failure intensity is used to measure the degree of business failure. When entrepreneurs experience different levels of failure, it is reasonable to expect that some business failures are more likely to influence entrepreneurs' cognition than others (Hoffman, 2016). Thus, the proposed model and hypothesis is introduced in detail. As entrepreneurial scholars have largely discussed the model's latter paths (how the attitude toward venturing and ESE influence entrepreneurial intention), I focus more on explaining how failure intensity influences the attitude toward venturing and ESE.

[Insert Figure 3.3]

Failure intensity encompasses the business failure's various influences on entrepreneurs. Drawing on the discussion in the first paper, failure intensity is described as "the degree of strength or force that a failed entrepreneur suffered during a business failure." It is a multidimensional construct, and the critical elements of failure intensity are (1) failure novelty, (2) failure disruption, and (3) failure criticality.

The attitude toward venturing refers to "the degree to which a person has a favorable or unfavorable evaluation or appraisal," or the "I like to do it" aspect of starting a business (Ajzen, 1991, p.188). Perceived desirability includes both intrapersonal and extrapersonal impacts (Shapero, 1982; Krueger et al., 2000). The intrapersonal impact is

the attitude toward the act, and the extrapersonal impact is the subjective norms, as noted in Ajzen's theory of planned behavior. This study uses the attitude toward venturing to represent perceived desirability, as the influence of subjective norms will be internalized in one's attitude toward venturing if it influences one's decision.

Entrepreneurial self-efficacy (ESE) refers to the "strength of a person's belief that he or she is capable of successfully performing the various roles and tasks of entrepreneurship," or the "I can do it" aspect (Chen et al., 1998, p. 301). Four dimensions were identified by Kickul et al. (2009): (1) searching, (2) planning, (3) marshaling, and (4) implementing.

Entrepreneurial intention is defined as one's desire to start a business, or the "I want to do it" aspect (Krueger et al., 2000). This essay focuses on whether entrepreneurs will exit or reenter the entrepreneurial career.

Theory and Hypothesis

Failure intensity and the attitude toward venturing (H1)

The attitude toward venturing represents one's interest in starting a business. People's attitudes toward a career are influenced by their environments and experiences. Before they reach employment age, children and adolescents observe others performing important, different jobs, or hear others talking about various jobs. Through their engagement in activities, modeling, and feedback from others, people develop general attitudes toward their careers (Lent et al., 1994), which stabilizes later in adolescence or

early adulthood (Hansen, 1994; Lent et al., 1994).

The formation of interest and attitudes toward a career can reoccur over the individual's lifetime (Lent et al., 1994). Attitudes can also change over time when people interact with situations where he or she works (Douglas & Shepherd, 2000). Therefore, a fundamental change in career attitude may occur once people experience compelling situations (Lent et al., 1994). Business failure can be viewed as one such compelling experience. And failure intensity will influence entrepreneurs' attitude toward venturing through two paths.

Path 1: Outcome expectation

First, one's attitude toward venturing will be influenced by failure intensity through outcome expectation.

Outcome expectation of an event is based on one's previous experience of similar event (Douglas & Shepherd, 2000; Lent et al., 1994). Recall the old saying, "Once bitten, twice shy"; entrepreneurs may expect unfavorable outcomes in starting a new business if he or she has previously experienced a severe business failure. The more severe the entrepreneurial failure, the more likely he or she will have a negative outcome expectation of venturing again.

As Lent et al. (1994) mentioned, one's attitude or interest reflects his or her outcome expectations to some degree. The more negative and unfavorable an entrepreneur expect for venturing again, the more negative attitude toward venturing again he/she will have.

Therefore, the greater the failure intensity, the more negative the outcome expectation, and the more likely the entrepreneur will have a negative attitude toward venturing.

Path 2: Emotion

Second, one's attitude toward venturing will be influenced by failure intensity through emotion.

Business failure will lead to negative emotion response such as grief (Shepherd, 2003). Shepherd (2003) notes that individuals suffer different levels of grief from their business failures. Jenkins et al. (2014) also proposes that the greater the loss experienced from the business failure, the more grief the entrepreneur feels. Therefore, the greater the failure intensity, the more likely entrepreneurs will suffer negative emotions such as grief.

Further, negative emotions are proven to influence the individual's processing of information (Wells & Matthews, 1996). Therefore, negative emotion may make him or her feel hopeless, or even depressed, and may develop a negative attitude toward venturing.

Therefore, the greater the failure intensity, the greater the feeling of grief, and the more likely the entrepreneur will have a negative attitude toward venturing.

Some researchers also argue that experiencing a failed business may relate to a more positive attitude toward venturing (Politis & Gabrielsson, 2009), as failed entrepreneurs can learn from business failure (Minniti & Bygrave, 2001; Mueller & Shepherd, 2016;

Politis & Gabrielsson, 2009; Rerup, 2005). However, the grief caused by the business failure will interfere with entrepreneurs' ability to learn from this failure (Shepherd, 2003). The greater the failure intensity, the more likely they will be mired in the negative consequences of business failure instead of learning from this experience.

In summary, I propose that the higher the levels of failure intensity, the more likely the failed entrepreneur will have a negative attitude toward venturing:

H1: Failure intensity will negatively relate with the attitude toward venturing.

Failure intensity and entrepreneurial self-efficacy (H2)

I use a model that draws from Gist and Mitchell's (1992) work to explain the relationship between failure intensity and ESE. The Gist and Mitchell (1992) model, which addresses the determinants of self-efficacy, is first introduced below; the theory based on the model is then explained.

Determinants of self-efficacy

Gist and Mitchell (1992) followed Wood and Bandura's (1989) definition of self-efficacy: the "beliefs in one's capabilities to mobilize the motivation, cognitive resources, and courses of action needed to exercise control over events in their lives." Bandura (1982) claimed that experience plays an important role in the development of self-efficacy, but the individual's cognition ultimately determines self-efficacy. Consequently, Gist and Mitchell (1992) described the process by which self-efficacy is formed. Figure 3.4 presents a simplified model of this process:

[Insert Figure 3.4]

Gist and Mitchell's (1992) model reveals three paths in the process of forming self-efficacy: an analysis of the task's requirements, an attributional analysis of experience, and the assessment of personal and situational resources and constraints. The first form of assessment is the analysis of task requirements, which involves an assessment of what is required to perform the task at various levels. The second form, an attributional analysis of experience, refers to an individual's "judgments or attributions about why a particular performance level occurred" (Gist & Mitchell, 1992). The third form of assessment is the assessment of personal and situational resources and constraints, which includes an examination of the "self and setting, by which the individual assesses the availability of specific resources and constraints for performing the task at various levels" (Gist & Mitchell, 1992). These three assessments collectively form one's self-efficacy (Gist & Mitchell, 1992).

Overview of the explanatory model

This essay develops a model to understand how failure intensity will influence entrepreneurs' entrepreneurial self-efficacy (ESE). The proposed model is based on three main phases or learning timeframes as proposed by Cope (2011) and Ucbasaran et al. (2013). Cope (2011) proposed that learning from failure is a dynamic process, and failure should be regarded as a continuum. The three phases proposed by Cope (2011) and Ucbasaran et al. (2013) are: (1) the "aftermath" of failure, which include the failure's

various costs; (2) “learning” from failure, which includes learning about oneself, venture management, and networks and relationships; and (3) the “outcomes” of learning from failure.

Specifically, I examine the determinants of entrepreneurial self-efficacy after entrepreneurial failure by assessing the failure intensity (including failure novelty, failure disruption, and failure criticality), as displayed in Figure 3.5.

[Insert Figure 3.5]

The hypothesized model is similar to the model proposed by Gist and Mitchell (1992), and the hypothesized model can be viewed as a special instance of Gist and Mitchell’s model in an entrepreneurial context.

An analysis of entrepreneurial requirements refers to the assessment of what is required to successfully operate the business (Cope, 2011).

The failure attribution refers to the mechanisms entrepreneurs use to explain their failure. Cardon et al. (2011) propose two categorical causes of business failure: misfortunes and mistakes. Misfortunes include “failure attributed to things outside of the control of the entrepreneur but critical to the venture’s outcome—unavoidable difficulties, such as a poor economy or a natural disaster,” while mistakes include “failure events attributed to individual error, such as inadequate ability or effort, improper strategies, or poor business models” (Cardon et al., 2011: p.82).

An assessment of available resources refers to the availability of specific resources

to successfully operate a business.

Failure intensity and entrepreneurial self-efficacy

The business failure experience will have numerous influences on failed entrepreneurs, but not all business failures have the same impact, and business failures differ in their intensity. Failure intensity is a construct used to measure the degree of business failure, and represents the business failure's broad constellation of influence on entrepreneurs. Drawing on the previous essay's discussion, I describe failure intensity as "the degree of failure-related imperatives." Next, I discuss how failure intensity influences the entrepreneur's ESE through the three paths in the ESE model (Figure 3.5).

Path 1: Analysis of entrepreneurial requirements

Many negative emotions are associated with business failure, such as pain, shame, anger, guilt, and a fear of the unknown (Ucbasaran et al., 2013). A business failure will also negatively impact the entrepreneur's confidence in many situations (Cope, 2011). Business failures may generate a feeling of helplessness, which will diminish one's beliefs in his or her ability to successfully conduct tasks in the future (Bandura, 1991).

Much research conveys the message of learning from failure (e.g. Shepherd, 2003; Rerup, 2005; Coelho & McClure, 2005), but not all failures equally facilitate such learning. Sitkin (1992) first introduces "intelligent failures," or those that are small and harmless, and posited that these failures are effective in fostering learning. The author also points out that some severe failures may even challenge one's core beliefs and

assumptions; this type of failure will lead to ineffective learning. Therefore, different levels of failures will lead to different severities in consequences, ranging from those as harmless as a short-term low mood to as severe as challenging one's basic beliefs.

Therefore, entrepreneurs experiencing high failure intensity may fear reentering entrepreneurship, and may regard the entrepreneurial task as beyond their ability, which will diminish the entrepreneurs' ESE.

Path 2: The failure attribution

Failure intensity may also impact the entrepreneurs' failure attribution. In the cases where failures are painful and costly, business failure will have a negative impact on entrepreneurs' confidence (Cope, 2011), self-efficacy (Shepherd, 2003), or even undermining entrepreneurs' self-esteem (Whyley, 1998). These negative influences will influence entrepreneurs' information process. Entrepreneurs who experience high failure intensity are more likely to doubt and blame themselves and attribute the business failure to their own mistakes, while entrepreneurs who experience low failure intensity may still have confidence and attribute the business failure to external misfortunes.

Dweck and Leggett (1988) suggest that the attributions made for such events will influence the cognitive, affective, and behavioral responses to these events. If entrepreneurs attribute their business failure to misfortunes out of their control, they may regard this entrepreneurial failure as a matter of fortune and still believe that they have the ability to succeed if another favorable opportunity arises. If entrepreneurs attribute

their business failure to mistakes, they may doubt their ability and whether they are capable of starting a business.

Entrepreneurs experiencing high failure intensity are more likely to attribute a business failure to mistakes, which would lead to a relatively low ESE, while entrepreneurs experiencing low failure intensity are more likely to attribute a business failure to misfortune, which would lead to a relatively high ESE.

Path 3: Assessment of available resources

Business failures can cause different levels of financial costs for entrepreneurs. On the one hand, entrepreneurs experiencing low failure intensity primarily lose their previously earned personal income. On the other hand, entrepreneurs experiencing high failure intensity can wait years to clear the debt assumed due to the entrepreneurial failure (Cope, 2011).

A critical issue for entrepreneurs involves the generating of sufficient financing to start an organization (Carter et al., 2003). Further, Brush et al. (2001) suggested that entrepreneurs starting an organization must first assemble resources, including financial resources, then combine such resources to build a competitive advantage. Numerous financial sources exist, including personal income, banks, government support, and “angel” capital.

If an entrepreneur suffers a high financial cost from a previous business failure, he or she may lose his or her income or incur bank debts. If he or she had previously applied

for government support, a business failure could reduce the probability of receiving government support again. He or she may perceive him- or herself as lacking financial resources, and therefore, the ability to start a new business, which will result in a low ESE.

Business failure can also bring different levels of social costs to entrepreneurs. The social cost of failure refers to the effects on personal and professional relationships (Ucbasaran et al., 2013). The cost to personal relationships can be observed from the breakdown of marriages after business failures (Cope, 2011; Singh et al., 2007). Their professional social networks may also diminish due to failed businesses (Harris & Sutton, 1986).

In addition to financial capital, both human and social capital are also critical resources for entrepreneurs to start a business. The social cost of high failure would influence the attraction of human versus social capital. This may be especially true for entrepreneurs who need a team to found a business. Further, if their professional relationships diminish following an entrepreneurial failure, they will experience difficulty in starting a new team. Social networks supplement entrepreneurs by helping them access otherwise impossible opportunities, resources, and support (Carter et al., 2003; Davidsson & Honig, 2003).

Therefore, if entrepreneurs experience high failure intensity, they may lose valuable social networks and will lack the sufficient resources to start a business again, which will

result in a low ESE.

In summary, the above analysis reveals that failure intensity will influence a person's entrepreneurial self-efficacy by influencing his or her (1) analysis of entrepreneurial requirements; (2) failure attribution; and (3) assessment of available resources:

H2: Failure intensity will negatively relate with entrepreneurial self-efficacy (ESE).

Attitude toward venturing and entrepreneurial intention (H3)

Dyer (1994) and Robinson et al. (1991) argue that attitude measurements may be valuable in predicting intentions. According to Ajzen's theory of planned behavior and the Shapero-Krueger model, the attitude toward venturing is a central antecedent of entrepreneurial intention. The more interested and favorable people are toward venturing, the more likely they will want to start a business. Further, previous research has proven that the more favorable the attitude toward self-employment, the stronger the person's intentions to start a business (Armitage & Conner, 2001; Kolvereid & Isaksen, 2006; Dinc & Budic, 2016). Therefore, with other things equal, I hypothesize that entrepreneurs with unfavorable attitudes toward venturing after an entrepreneurial failure will have low entrepreneurial intention, and will exit the entrepreneurial career after this failure:

H3: The attitude toward venturing will positively relate with entrepreneurial intention.

Entrepreneurial self-efficacy and entrepreneurial intention (H4)

It is widely accepted that entrepreneurial self-efficacy is an important antecedent of entrepreneurial intentions (McGee et al., 2009). High entrepreneurial self-efficacy will lead to a higher belief that they have the abilities to succeed, and they will also have a higher degree of belief that their business idea is brilliant (Wilson et al., 2007). Previous research has indicated that individuals with high ESE are more likely to be entrepreneurs than those with low ESE (Chen et al., 1998; Zhao et al., 2005; Wilson et al., 2007). Therefore, with other things equal, I expect that entrepreneurs with low ESE after an entrepreneurial failure will have lower entrepreneurial intentions, and will exit the entrepreneurial career:

H4: Entrepreneurial self-efficacy (ESE) will positively relate with entrepreneurial intention.

The mediating role of the attitude toward venturing and entrepreneurial self-efficacy (H5 and H6)

Hypothesis 1 predicts a negative relationship between failure intensity and the attitude toward venturing, and Hypothesis 3 predicts a positive relationship between the attitude toward venturing and entrepreneurial intention. Collectively, these two hypotheses indicate that failure intensity indirectly diminishes entrepreneurial intention through the attitude toward venturing. Accordingly, I anticipate the attitude toward venturing will mediate the relationship between failure intensity and entrepreneurial intention.

Similarly, Hypothesis 2 predicts a negative relationship between failure intensity and ESE, and Hypothesis 4 predicts a positive relationship between ESE and entrepreneurial intention. Therefore, I expect ESE to mediate the relationship between failure intensity and entrepreneurial intention:

H5: The attitude toward venturing will mediate the relationship between failure intensity and entrepreneurial intention.

H6: Entrepreneurial self-efficacy will mediate the relationship between failure intensity and entrepreneurial intention.

Methods

Failed entrepreneurs in China were surveyed to test the hypotheses.

Sampling and procedures

The data used to test the hypotheses come from an original survey conducted online; the data was collected between July and August 2017.

The contact information for entrepreneurs who closed businesses came from the State Taxation Bureau in China. When a legal enterprise is terminated in China, the entrepreneur must cancel its registration in the State Taxation Bureau, where I obtained a list of closed enterprises, the company's legal representative (in most cases, the entrepreneur is the company's legal representative), and the representative's telephone number.

The State Taxation Bureau in various cities (Changsha, Chengdu, Loudi, and

Shenzhen) provided a list of 1,893 enterprises. Ten university students were then hired to collect the data, and they completed a detailed training session before they performed their work. As the questionnaire was long and some questions were sensitive to answer, a telephone interview was not considered. The students received instructions to use in contacting the entrepreneurs: after the students introduced themselves, they first confirmed if he or she was the entrepreneur who started that company, then asked if they were willing to participate in the questionnaire. If he or she was not the entrepreneur, or if the founder did not want to participate, the student terminated the call and contacted the next number. If the entrepreneur was willing to participate, the student asked for his or her e-mail address and sent them a link to the online questionnaire. The response rate was increased by sending an online payment once the entrepreneur completed the questionnaire.

Of the 1,893 telephone numbers called, approximately 31% (595) were invalid numbers, in that they were no longer in use or the wrong person answered. Of the remaining 1,298 failed entrepreneurs contacted, approximately 29% (376) were willing to take the survey. After sending the online survey to the 376 failed entrepreneurs, 237 valid surveys were ultimately received.

Table 3.1 describes the survey sample, which indicates that of the 237 respondents, 44.7% were female, and the respondents' average age was 33.3. Most of the respondents (78.5%) have a bachelor's degree. After their business failure, 23.2% started a new firm

and ventured again.

[Insert Table 3.1]

I reviewed the recent literature of Chinese entrepreneurship researchers to determine the extent to which these entrepreneurs are representative of other entrepreneurs in China (He, 2009; Warnecke, 2013). After analyzing the Global Entrepreneurship Monitor database of 2012, Warnecke (2013) found that the total entrepreneurial activity rate of male is 25.7% while the rate of female is 22.4%, which indicated that women are nearly equally active in entrepreneurial activity as are males. In Eggers & Song's (2015) survey sample in China, the female founder rate was 40.2%. The female rate in my sample was 44.7%, which may over-represent female entrepreneurs to some extent.

Regarding the education level, He (2009) did a longitudinal study in China to show the development of private enterprise in China. According to the data he presented, the education level of entrepreneurs increased with time. The percentage of entrepreneurs with degrees higher than high school increased from 50% in 1980 to nearly 90% in 2002, and the percentage still has an increasing trend. The education level of my sample is also a good represent of this trending, which has 95.8% entrepreneurs with degrees higher than high school.

For the age, the average age for the sample in Anokhin et al (2008) was 37 in 2008. Zhejiang Industry and Commerce Bureau reported that the average age of entrepreneurs in Zhejiang province was 36 in 2016. The average age for my sample was 30.9 which

was below the average age for the entrepreneurs in China. There are two possible reasons for the difference. First, the sample in this study was failed entrepreneurs. Young entrepreneurs may account more percentage in failed entrepreneurs than in entrepreneurs in general. Second, the survey was distributed online, which may have a higher response rate in younger entrepreneurs.

Even though the sample of this study may over represent female entrepreneurs and younger entrepreneurs, the difference was acceptable. In sum, the failed entrepreneurs surveyed in this essay can be reasonable representatives of Chinese entrepreneurs.

Variables

Failure Intensity: The measurement of failure intensity depended on the interview results from the first essay (e.g. “I knew a clear way to respond to the business failure”). Each measurement was assessed using a seven-point Likert scale (1= “total disagreement”; 7 = “total agreement”).

Attitude toward Venturing: Ajzen’s (1991) scale items (e.g. “Generally, starting a business again is unpleasant/pleasant.”), which were used in a study by Fini et al. (2012), were used to measure the attitude toward venturing. These measurements were assessed using seven-point Likert scales (1 = “total disagreement”; 7 = “total agreement”).

Entrepreneurial Self-Efficacy (ESE): A scale used by both Cox et al. (2002) and Kickul et al. (2009) measured the participants’ entrepreneurial self-efficacy. The scale included 10 items (see Appendix C, e.g. “I’m confident that I can conceive a unique idea

for a business”), and each statement were rated based on a 7-point Likert scale (1 = “not confident at all”; 7 = “extremely confident”).

Entrepreneurial Intention: Linan and Chen’s (2009) scale (e.g. “I’m ready to do anything to be an entrepreneur again.”), which was also used by Bullough et al. (2014), was used to measure participants’ entrepreneurial intentions after a business failure. The scale included six items based on a seven-point Likert scale (1 = “total disagreement”; 7 = “total agreement”).

Results

A Confirmatory Factor Analysis for Failure Intensity

Before analyzing the relationships hypothesized in this essay, a confirmatory factor analysis (CFA) was conducted to test the failure intensity’s goodness of fit. A series of indexes were tested, and the CFA was analyzed using AMOS 21.0 software.

The proposed measurement of failure intensity fit the data well: $\chi^2 = 69.21$, $df = 37$, GFI = 0.95, CFI = 0.97, NFI = 0.94, RFI = 0.90, IFI = 0.97, and RMSEA = 0.06. Additionally, the items’ factor loading values ranged from 0.63 to 0.90 (see Figure 3.6), which were greater than the minimum threshold of 0.5 (Zhu et al., 2015).

[Insert Figure 3.6]

Convergent/Discriminant Validity

I expect failure intensity to be negatively related to attitude toward venturing, entrepreneurial self-efficacy and entrepreneurial intention. I then conducted CFA to

compare the measurement models and test the discriminant validity of the four variables, see Table 3.2. Model 1 is the baseline model which has four factors. In Model 2, I combine failure intensity with attitude toward venturing; in Model 3, I combine failure intensity with entrepreneurial self-efficacy; and in Model 4, I combine failure intensity with entrepreneurial intention. As shown in the Table, the four-factor baseline model fit the data well and was significantly better than the alternatives. Therefore, the baseline model better fit the data, which means the discriminant validity of failure intensity was confirmed.

The correlation Table (Table 3.3) showed that failure intensity was significantly negative with entrepreneurial self-efficacy, attitude toward venturing, and entrepreneurial intention. And was uncorrelated with gender.

Taken together, failure intensity has good convergent and discriminant validity.

[Insert Table 3.2]

Hypotheses' Results

Table 3.3 presents the means, standard deviations, and correlations between the studied variables.

[Insert Table 3.3]

Regarding the nonresponse issue, the respondents and non-respondents could not be compared in this study, as the non-respondents' background information could not be obtained. Miller and Smith (1983) solved this issue by stating that research considers late

respondents as similar to non-respondents. Therefore, early and late respondents were compared. According to Lindner et al.'s (2001) suggestion, the earlier 50% of respondents were considered as "early," and the later 50% of the respondents were considered as "late."

ANOVA test was conducted and the variables were compared between the early and late respondents (see Table 3.4), and no significant differences were found between them. As group effect was small, it was concluded that no significant differences exist between the respondents and non-respondents.

[Insert Table 3.4]

The most popular approach in testing the mediation hypothesis is the multistep approach, as proposed by Baron and Kenny (1986). However, researchers have increasingly begun to realize the shortcomings of this approach (MacKinnon et al., 2002; Shrout & Bolger, 2002). Currently, the most recent and recommended mediation test method is bootstrapping; therefore, the mediation hypotheses in this essay were analyzed using Hayes' (2012) PROCESS program. Briefly, this program offers an estimation of the indirect effect with a bootstrap approach to obtain a 95% confidence interval. If the confidence interval excludes zero, the effect is significant, and vice versa. This program also offers a stepwise procedure by Baron and Kenny (1986), which can test Hypotheses 1-4 in this essay.

Table 3.5 illustrates the results of the mediation analysis from the PROCESS

program. The results support Hypothesis 1 and indicate that failure intensity is negatively associated with the attitude toward venturing with a significant regression coefficient ($B = -0.18$, $t = -2.13$, $p < 0.05$). Further, Hypothesis 2 is supported, in that the negative relationship between failure intensity and ESE was significant ($B = -0.33$, $t = -4.73$, $p < 0.05$). Regarding Hypotheses 3 and 4, it was predicted that the attitude toward venturing and ESE would positively relate with entrepreneurial intention; the results supported that both the attitude toward venturing ($B = 0.61$, $t = 9.78$, $p < 0.05$) and ESE ($B = 0.37$, $t = 4.84$, $p < 0.05$) were significant in predicting entrepreneurial intentions.

[Insert Table 3.5]

Regarding the mediation hypotheses H5 and H6, model 4 in the PROCESS program allows for the simultaneous assessment of multiple indirect effects. The results revealed that the total indirect effects for the two simultaneously assessed mediators was significant ($B = -0.23$, boot SE = 0.08, $p < 0.05$), which is consistent with the hypothesis that failure intensity indirectly influenced entrepreneurial intention through the attitude toward venturing and ESE. The mediators were then individually examined; the confidence interval for the indirect path through the attitude toward venturing was (-0.23 to -0.01), and did not include zero, indicating that the attitude toward venturing was a significant mediator ($p < 0.05$). Similarly, the confidence interval for the indirect path through ESE was (-0.26 to -0.04) and did not include zero, indicating that ESE was also a significant mediator ($p < 0.05$).

Discussion

This essay provides important contributions to literature, in that this research is the first to investigate the relationship between failure intensity and subsequent career decisions about whether to reenter the entrepreneurial career. Hsu et al. (2015) noted the importance of understanding how entrepreneurs' prior experience influences their reentry decisions and the omission of this critical question in current entrepreneurial literature. As a response to Hsu et al. (2015), this essay's results suggest that the entrepreneur's career decision after his or her business failure is indirectly influenced by the intensity of the business failure he or she experienced, as indicated through his or her attitude toward venturing and entrepreneurial self-efficacy.

Implications

This essay provides implications for researchers, in that it is important to learn the differences among failures. Further, entrepreneurial researchers have failed to reach a consensus regarding the business failure's influence on entrepreneurs. Some researchers perceive business failure as favorable, as it can add experience and entrepreneurs can learn from such failures (Eggers & Song, 2010). However, other researchers also mention that the depression stemming from an entrepreneurial failure might negatively influence entrepreneurs' motivation, and thus, influence their abilities to learn from failure (Cope, 2011; Shepherd, 2003). This essay offers a possible reconciliation between these two contradictory arguments: failure intensity might influence the entrepreneurial failure's

effect on entrepreneurs. For example, when failure intensity is low, it is easier for entrepreneurs to recover from an entrepreneurial failure and learn from it, and they will be more likely to start a new venture. However, if failure intensity is high, it is more difficult for entrepreneurs to recover, which might influence their confidence, and they will be less likely to venture again.

This essay also has implications for entrepreneurs, in that they can better understand their thought processes, both during and after a business failure. The model presented in this essay offers an explanation about how entrepreneurs make subsequent career decisions after a business failure, and why some failed entrepreneurs venture again while others do not. This essay also reminds entrepreneurs who want to continue an entrepreneurial career not to lose too much in a business and focus on controlling failure intensity.

This essay provides implications for policy-makers, in that serial entrepreneurs play an important role in entrepreneurial activity. Further, serial entrepreneurs learn from their failures, and their previous entrepreneurial experience may increase their firm's performance and probability of survival. Therefore, policy-makers may want to encourage failed entrepreneurs to use their valuable experience to venture again. It is also useful to know that business failure influences their subsequent intentions through entrepreneurs' perceptions of desirability and feasibility. On the one hand, policy-makers can increase entrepreneurs' perceived desirability (attitude toward venturing) by building

a better atmosphere of failure acceptance to decrease the depression and stigma surrounding failure. On the other hand, policy-makers can increase entrepreneurs' perceived desirability (entrepreneurial self-efficacy) by supporting them through funding, offering free lessons about entrepreneurship at regular intervals, and helping them quickly recover and learn from failure.

In addition to influencing failed entrepreneurs, it is also important to increase the quality and quantity of the entrepreneurial community, including government officials, bankers, and investors, among others (Krueger et al., 2000). Entrepreneurship is not a personal activity, but a social activity that requires entrepreneurs to communicate with various communities; the support from these communities will help failed entrepreneurs better recover from previous failures and venture again.

This essay also provides implications for entrepreneurial academia, in that the current entrepreneurial education system is highly focused on how to successfully operate a business, and seldom mentions how to handle this business when it faces difficult situations. This essay might offer a different angle, in that it is also important to avoid highly intense failures. Entrepreneurship, in any case, is not a gamble, but a rational behavior. Entrepreneurs should consider the consequences before any decision. An old saying notes that “as long as the green hills are there, one need not worry about firewood (留得青山在，不怕没柴烧),” or do not gamble on something you cannot risk. Sometimes exiting and terminating a business is a better strategy (DeTienne & Cardon,

2012; Wennberg et al., 2010); thus, entrepreneurs can control failure intensity within the scope of what they can tolerate to quickly recover and restart their business.

Limitations

Although the data in this essay supports the relationship between failure intensity and entrepreneurial intention through the attitude toward venturing and entrepreneurial self-efficacy, this essay also has several limitations. First, its data collection was limited to failed entrepreneurs in China; therefore, additional data from countries outside China will more strongly support the findings' generalizability.

Another limitation of this essay is that it focuses on entrepreneurial intention instead of actual behavior. Although intention is a substantial predictor of actual action, it will be more noteworthy if we can trace failed entrepreneurs' actual behaviors after their business failure.

Finally, this study offers a basic social cognitive model as the first to explore the relationship between failure intensity and entrepreneurial intention after failure. However, in addition to the general framework, some other factors are likely to affect the relationship between failure intensity and entrepreneurial intention. For example, an entrepreneur's personality, such as resilience, might influence this relationship. Resilience represents one's ability to "easily and quickly overcome setbacks related to their life and career aspirations" (Ayala & Manzano, 2014). Entrepreneurs with high resilience are more likely to recover from failure and venture again, but it remains to be

explored how this interacts with the framework in this essay.

Therefore, the need exists for more varied samples in the research of entrepreneurial failure. The following offers several recommended directions for future research.

Future directions

First, future research can examine the relationships among failure intensity, actual entrepreneurial behaviors, and subsequent job performance, regardless of whether they restart a firm or find a new job. Although entrepreneurial intention has been proven as a predictor of entrepreneurial behavior, future research should also explore the relationship between entrepreneurial intention and the resulting entrepreneurial action. Moreover, the propensity to act as proposed by Shapero (1982) might be a good moderating variable in the relationship between intention and behavior.

Second, this essay's model can be expanded by exploring mediating or moderating factors. As mentioned in its previous limitations, the model in this essay only offers a basic framework, and more work should be done to create a more comprehensive understanding of the relationship between failure intensity and entrepreneurial intention. Further, it is also worthwhile to conduct cross-cultural research to note whether and how culture plays a role in this model by considering culture's influence on perceptions of failure.

Finally, a longitudinal study could also be conducted. On the one hand, we could follow up with subjects after their failure and examine the relationship between intention

and behavior, as aforementioned. On the other hand, we could also explore how failure intensity changes with time: whether it will decrease as time passes, or if any factors influence a change in failure intensity, and how. It would be both valuable and noteworthy to observe if research could enable such a longitudinal study.

Conclusion

In conclusion, this essay provides evidence that the failure intensity of entrepreneurs' previous business failures impacts their subsequent entrepreneurial intentions through their attitudes toward venturing and entrepreneurial self-efficacy. Simultaneously, this essay offers many opportunities for a deeper, more comprehensive understanding of the influence from entrepreneurs' previous experience.

IV. Essay 3—Moderators of the Effects of Business Failure

Introduction

The prior essay highlights the role of certain cognitive factors in how failure intensity influences entrepreneurial intention, but the influence of other types of individual and situational variables must be acknowledged. Ultimately, some entrepreneurs engage in serial entrepreneurship, although they may suffer highly intense business failures. Therefore, certain factors other than failure intensity may either encourage or inhibit entrepreneurs' entrepreneurial intentions after a business failure.

Chatman (1989) proposed a model of person-organization fit, which suggests that researchers must consider both individual factors and situational factors and their interactions in order to understand behavior. According to Bird (1988) and Chatman (1989), the variables that influence entrepreneurial intention can be categorized as both individual and situational in nature. Entrepreneurial intention is affected by individual factors, such as gender (Diaz-Garcia & Jimenez-Moreno, 2010; Hessels et al., 2011), openness to experience, conscientiousness, extroversion, or neuroticism (Zhao et al., 2010), among others. Situational factors that may impact entrepreneurial intentions include perceived environmental support, perceived environmental dynamism (Fini et al., 2012), or the country's acceptance of failure (Cardon et al., 2011).

I systematically investigate the effects of both individual and situational variables influencing the model presented in the second essay to gain a better understanding of how

failure intensity influences entrepreneurial intention. Specifically, the essay explores two different individual variables (life stage and resilience) and one situational variable (perceived environmental support).

The hypotheses were tested by surveying 223 entrepreneurs that had experienced a business failure within the past two years in China. The results support not only the life stage's moderating effect on the relationship between failure intensity and the attitude toward venturing, but also resilience's moderating effect on the relationship between failure intensity and ESE. However, this essay does not support the conditional effect of perceived environmental support on the relationship between failure intensity and ESE.

This essay's contribution is to offer a comprehensive picture based on a socio-cognitive framework, and include some individual and situational variables to reveal how entrepreneurs' prior business failure experiences influence their subsequent decisions about whether to exit the entrepreneurial career, which previous literature has seldom discussed. Second, the essay views business failures differently according to their intensity, and states that entrepreneurs suffer differently during their business failures. This is also a topic unique in current literature.

The remainder of this essay is organized as follows: Section 2 reviews literature related to the individual and situational factors of influence, then expands the model proposed in the second essay by proposing three hypotheses. I then report on the empirical methodology. This essay ultimately concludes with a discussion of the results

and its implication, limitations, and opportunities for future research.

Theory and Hypothesis

Researchers who study entrepreneurial intentions have focused on both individual and situational factors over the years.

Many researchers use individual characteristics to explain entrepreneurial intentions, such as personality traits, values, motives, abilities, and affects (Chatman, 1989, p. 33). For example, many researchers agree that gender directly impacts entrepreneurial intention (Diaz-Garcia & Jimenez-Moreno, 2010; Hessels et al., 2011), and Wilson et al. (2007) found that gender has a moderating effect on the relationship between entrepreneurial self-efficacy and entrepreneurial intention. Zhao et al.'s (2010) meta-analytic review explored the relationship between Big Five personality traits (openness to experience, conscientiousness, extroversion, agreeableness, and neuroticism) and entrepreneurial intentions. Hayward et al. (2010) stated that more confident entrepreneurs can better recover from business failures and venture again. Other than personality, Hessels et al. (2011) proposed that those who know an entrepreneur and who have a low fear of failure are more likely to venture again after a business failure.

Situational factors, such as the characteristics of his or her situation (Chatman, 1989, p. 333) are also of great interest in the entrepreneurial intention field. Cardon et al. (2011) stated that the cultural views of business failure relate to the making interpretation of

business failure. Simmons et al. (2014) compared data from global entrepreneurs to discover that entrepreneurs in countries with high stigma as promoted by their regulatory bodies are less likely to start a business again after their business failure.

Although the above orientations contribute to our understanding of entrepreneurial intention after business failure, none provide a complete picture. The combination of both individual and situational factors of entrepreneurial intention in a model leads to the person-situation model popular in organizational research. Some researchers have proposed various models that combine both individual and situational factors. For example, Fini et al. (2012) note that individual factors, such as situationally specific motivations and individual skills, will influence attitudes toward entrepreneurial behavior. Further, situational factors, such as perceived environmental support and perceived environmental dynamism, will influence perceived entrepreneurial behavioral control. Entrepreneurial intention is then determined by attitude, perceived control, and subjective norms.

However, no study to date has examined the combined effects of the individual and situational variables that affect entrepreneurial intentions after business failure; this essay aims to fill this gap. Specifically, the present essay will include two individual variables and one situational factor (see Figure 4.1) with sound conceptual relationships with the model in the second essay. Next, these variables will be identified, and their relationship with the model in essay two will be hypothesized.

[Insert Figure 4.1]

Individual Factors

The individual-level variables examined in this essay are life stage and resilience. These two variables are closely linked with entrepreneurs' attitudes toward venturing after business failure. Life stage has been strongly linked to individuals' needs and behaviors (Alderfer & Guzzo, 1979), and more specifically, job attitude. Further, resilience is an important characteristic for entrepreneurs that start businesses during a challenging time (Bullough et al., 2014). More resilient entrepreneurs are also found to be more likely to venture again (Hayward et al., 2010).

Individual factor - life stage (H1)

Numerous studies have examined the relationship between age and the individual's job attitude (Alderfer & Guzzo, 1979; Hill & Miller, 1981; Lewis & Ryan, 2014; Ornstein et al., 1989; Ralston et al., 2009) based on the model of life development as proposed by Levinson et al. (1978).

Levinson et al. (1978) believed that a life cycle experiences a sequence of eras: childhood and adolescence (birth to age 22), early adulthood (ages 17 to 45), middle adulthood (ages 40 to 65), and late adulthood (age 60 and older). These eras overlap, with the end of a previous era marking the start of the next era. Levinson et al. (1978) posited that biological age closely relates with one's psychological and social characteristics. As this study's subjects are failed entrepreneurs, we will focus on the two middle stages:

early and middle adulthood. Lewis and Ryan (2014) and Ornstein et al. (1989) summarized the tasks to be accomplished during these two eras as well as their subcategories (see Table 4.1).

[Insert Table 4.1]

It is anticipated that life stage will moderate the relationship between failure intensity and the attitude toward venturing, in that entrepreneurs in early adulthood are less affected by failure intensity and are more likely to restart a business. Levinson et al. (1978) proposed that although no standard life path exists for everyone, there is an average age for each era, which has its own characteristics in its values and needs. Therefore, the life stage could be a significant predictor of psychology and behavior (Ralston et al., 2009).

Entrepreneurs in early adulthood are in the process of life exploration (Ornstein et al., 1989). Their major tasks during that life era include forming dreams and an occupation (Levinson et al., 1978; Lewis & Ryan, 2014). Individuals in early adulthood are also found to be more ambitious and more focused on reaching a high status in their career (Ralston et al., 2009). Hill and Miller's (1981) research, which explored the job-changing criteria in different life stages, revealed that decision-making power and responsibility are the most important criteria for individuals in their thirties. Therefore, it is posited that entrepreneurs in early adulthood are less afraid of failure, and are more willing to keep trying after failure.

In contrast, entrepreneurs in middle adulthood would prefer a more stable life and are more mobility-reluctant (Ornstein et al., 1989). This reluctance may derive from family, as it was suggested that individuals in middle adulthood would question the importance of work in their lives (Levinson et al., 1978; Ornstein et al., 1989), and would shift their focus from work to family (Lewis & Ryan, 2014). Compared with daily work, starting a company is relatively unstable and risky. People in middle adulthood may prefer routine work to maintain a stable family life. Lewis and Ryan (2014) also noted that an ambitious desire for success in early adulthood will cool down during middle adulthood. Therefore, business failure may have a more negative influence on entrepreneurs in their middle adulthood, and this may restrain them from starting a business again:

***H1:** The life stage of the failed entrepreneur will moderate the relationship between failure intensity and the attitude toward venturing, such that failed entrepreneurs in early adulthood (aged 20 to 40) are less affected by failure intensity and are more likely to have a positive attitude toward venturing than failed entrepreneurs in middle adulthood (aged 41 to 60).*

Individual factor - resilience (H2)

This essay considers Zautra, Hall, and Murray's (2010) definition of resilience, or an ability to "easily and quickly overcome setbacks related to their life and career aspirations" (Ayala & Manzano, 2014).

As Bullough et al. (2014) mentioned in their study, entrepreneurship researchers have not sufficiently focused on resilience. Among the limited literature on resilience, two streams of research exist regarding its definition. Some researchers perceive resilience as a personal trait of entrepreneurs (Ayala & Manzano, 2014; Bullough & Renko, 2013; Bullough et al., 2014), while others note resilience as a process, and the result of interactions between a person and their environment (Hayward et al., 2010; Sinclair & Wallston, 2004; Yang & Danes, 2015). In spite of these contrasting definitions, most researchers agree that resilience can be perceived as both a personal trait and a process. This essay conceptualizes this as an individual trait and explores it relative to how it interacts with business failure and other individual variables. Resilient individuals are more optimistic when facing hardship and adversity, while less resilient individuals are more likely to take a pessimistic view and become discouraged by adversity (Bullough et al., 2014).

Therefore, I propose:

***H2:** Resilience will moderate the relationship between failure intensity and ESE, such that failed entrepreneurs with high resilience are less affected by failure intensity and are more likely to have a higher ESE than failed entrepreneurs with low resilience.*

Situational factor - previewed environmental support (H3)

Other than the two individual factors introduced above, the situational variable included in this essay is perceived environmental support. Perceived environmental

support is a reasonable choice, as this variable has been strongly linked to entrepreneurial self-efficacy and venture start-ups (Edelman & Yli-Renko, 2010; Fini et al., 2012; Wang et al., 2008). According to Fini et al. (2009; 2012), perceived environmental support comes from three domains: government support, such as government regulations or tax policies; local context support, such as local financial support or entrepreneurial support services; and university support, such as technology transfers or university incubators, among others.

Failure in a supportive and tolerant environment would be viewed as a normal phenomenon instead of a stigmatizing behavior (Simmons et al., 2014). The government, local support services, and universities would support the failed entrepreneurs to recover and learn from the failure, and rebuild the entrepreneurs' confidence in their ability to venture again. A supportive environment will reduce failure intensity's negative influence on entrepreneurial self-efficacy. Zahra (1993) suggested that perceived rather than actual environmental characteristics influence entrepreneurial activities. Fini et al. (2012) also proposed that an actual supportive environment and the perceptions coming from the actual environment can influence entrepreneurial behaviors. Therefore, the following is anticipated:

H3: Perceived environmental support moderates the relationship between failure intensity and entrepreneurial self-efficacy (ESE), such that failed entrepreneurs who perceive high environmental support are less affected by failure intensity, and are more

likely to have a high ESE than those who perceive low environmental support.

Methods

Sampling

The sample used in this essay is the same as in the second essay; the data used to test the hypotheses comes from an original survey conducted online. The data was collected between July and August 2017, and used contact information for entrepreneurs with closed businesses derived from China's State Taxation Bureau. The State Taxation Bureaus in various cities (Changsha, Chengdu, Loudi, and Shenzhen) provided a list of 1,893 enterprises.

Of the 1,893 telephone numbers contacted, approximately 31% (595) were invalid numbers (no longer in use, or the wrong person was contacted). Of the remaining 1,298 failed entrepreneurs contacted, approximately 29% (376) were willing to take the survey. The online survey was sent to these failed entrepreneurs, resulting in 223 valid surveys.

Table 4.2 describes the survey sample, and reveals that of the 223 respondents, 43.0% were female, and the respondents' average age was 33.2. Almost all of the respondents (96.4%) have a bachelor's degree, and 23.8% of the respondents started a new venture after their business failure.

[Insert Table 4.2]

Variables

Failure intensity: This was measured dependent on the interview results as noted in

the first essay. An example item is “I knew how to clearly respond to the business failure”. Each measurement was assessed using a seven-point Likert scale (1= “total disagreement”; 7= “total agreement”).

Attitude toward venturing: Ajzen’s (1991) scale items (e.g. “Generally, starting a business again is unpleasant/pleasant.”), which Fini et al. (2012) also used, were used to measure the attitude toward venturing. This measurement was also assessed using seven-point Likert scales (1= “total disagreement”; 7= “total agreement”).

Entrepreneurial self-efficacy (ESE): Cox et al.’s (2002) scale (e.g. “I’m confident that I can conceive a unique idea for a business.”), which Kickul et al. (2009) also used, measured the participants’ entrepreneurial self-efficacy. The scale included 10 items (see Appendix A), and each statement was rated based on a seven-point Likert scale (1 = “not confident at all”; 7 = “extremely confident”).

Entrepreneurial intention: Linan & Chen’s (2009) scale (e.g. “I’m ready to do anything to become an entrepreneur again.”) which was used in Bullough et al. (2014) were used to measure participants’ entrepreneurial intention after business failure. The scale included 6 items based on a 7-point Likert scale (1= “total disagreement”; 7= “total agreement”).

Life stage: The life stage will be measured by age. Entrepreneurs age 40 and younger will be measured as early adulthood, while entrepreneurs older than 40 will be measured as middle adulthood.

Resilience: This will use the measurement developed by Sinclair and Wallston (2004), a measurement also used by Bullough et al. (2014). This measurement includes four items based on a seven-point Likert scale (1= “total disagreement”; 7= “total agreement”). An example item is “I look for creative ways to alter difficult situations”.

Perceived environmental support: This will incorporate the measurement used by Fini et al. (2009; 2012), which includes two items to denote government support, four items for contextual support, and four items for university support (see Appendix D). Each statement is rated based on a seven-point Likert scale (1= “total disagreement”; 7= “total agreement”). An example item is “I can get support from national public funding if I start a new venture again”.

Results

First, the reliability was tested for all the scales used in this essay by evaluating the Cronbach’s alpha, as scales with a Cronbach’s alpha greater than 0.7 are generally considered acceptable. All the scales used in this essay had a Cronbach’s alpha greater than 0.7 (see Table 4.3); therefore, the scales are statistically reliable.

[Insert Table 4.3]

Regarding the nonresponse issue, the respondents and non-respondents could not be compared in this study, as the non-respondents’ background information could not be obtained. Miller and Smith (1983) solved this issue by stating that research considers late respondents as similar to non-respondents. Therefore, early and late respondents were

compared. According to Lindner et al.'s (2001) suggestion, the earlier 50% of respondents were considered as "early," and the later 50% of the respondents were considered as "late."

ANOVA test was conducted and the variables were compared between the early and late respondents (see Table 4.4), and no significant differences were found between them. As group effect was small, it was concluded that no significant differences exist between the respondents and non-respondents.

[Insert Table 4.4]

This essay's moderated mediation hypotheses were analyzed using Hayes' (2012) PROCESS program in SPSS, with model 7 used to test the hypotheses. It is suitable for testing models involving both a mediator and moderator, and it allows for the estimation of coefficients for models in which the moderator is dichotomous. This model is widely used to test moderated mediation (Hannah et al., 2013), and I will follow Hannah et al.'s (2013) steps when using PROCESS program in SPSS.

Table 4.5 presents the test results for the moderated mediation hypotheses. When the 95% confidence interval (CI) of the moderated mediation index excludes zero, the indirect effect is statistically significant, and vice versa. The table also indicates the values (effect, boot SE, bootLLCI, and bootULCI) for the quantitative moderators at the mean, plus or minus one standard deviation from the mean, and the values for dichotomous moderators at the two moderator values.

[Insert Table 4.5]

Regarding Hypothesis 1, the CI for moderated mediation was (-0.00 to 0.62), which included zero at the lower limit. Therefore, life stage marginally moderated the relationship between failure intensity and attitude toward venturing. Hypothesis 1 was better supported by confirming failure intensity's conditional, indirect effect on entrepreneurial intention through the attitude toward venturing when the entrepreneur's life stage was early and middle adulthood. The indirect effect was significant when the entrepreneur's life stage was middle adulthood (-0.67 to -0.05) while nonsignificant when the entrepreneur's life stage was early adulthood (-0.17 to 0.06), which means that the negative relationship between failure intensity and attitude toward venturing weakens or even disappears for failed entrepreneurs in early adulthood. Thus, these results provided additional support that the life stage moderates the failure intensity's indirect effect on entrepreneurial intention through the attitude toward venturing.

Hypothesis 2 was also supported, in that the CI for moderated mediation excluded zero (0.01 to 0.22). Thus, resilience was a significant moderator. When resilience was low (4.36), failure intensity's indirect effect on entrepreneurial intention through ESE was -0.17 (with a CI from -0.36 to -0.05); when resilience was medium (5.13), the indirect effect decreased to -0.11 (with a CI from -0.22 to -0.03); and when resilience was high (5.91), the indirect effect became nonsignificant (with a CI from -0.17 to 0.01). The results indicate that the negative influence of failure intensity on attitude toward

venturing weakened or even became nonsignificant with the increasing of resilience.

Therefore, Hypothesis 2 was supported, in that failed entrepreneurs with high resilience are less affected by failure intensity and are more likely to have a higher ESE than failed entrepreneurs with low resilience.

The results revealed that Hypothesis 3 was not supported, as the CI for moderated mediation included zero (-0.02 to 0.09). Therefore, perceived environmental support was not a significant moderator in this model.

Discussion

This second essay offers a cognitive framework to determine how failure intensity influences entrepreneurial intention through the attitude toward venturing and entrepreneurial self-efficacy. This essay expands the model by introducing both individual and situational moderators. Specifically, this essay supported the life stage's moderating effect on the relationship between failure intensity and the attitude toward venturing, and resilience's moderating effect on the relationship between failure intensity and entrepreneurial self-efficacy. However, the moderating effect of perceived environmental support was not supported.

Limitations

As we attempted to decipher how individual and situational variables influence the cognitive framework noted in the second essay, this essay revealed several limitations. Although the data indicates support for several moderating effects on the relationship

between failure intensity and the attitude toward venturing/entrepreneurial self-efficacy, one of the hypotheses is not supported. Considering the limited sample size in this essay, it is possible that using a larger sample of failed entrepreneurs may further support these hypotheses. Another possible explanation of the unsupported hypothesis is the measurement of perceived environmental support. As this measurement is closely linked with the circumstances of the country, the measurement of perceived environmental support as developed in western countries might not be suitable for a Chinese context.

Another limitation of the essay is that it focuses on the moderating effects of life stage, resilience, and perceived environmental support. As this essay cannot include all the factors that affect entrepreneurs' intentions to reenter entrepreneurship, this essay did not provide a complete picture of the relationship between failure intensity and entrepreneurial intention. Other variables may moderate or mediate the relationship between failure intensity and the attitude toward venturing/entrepreneurial self-efficacy.

Future directions

First, to better understand the relationship between failure intensity and entrepreneurial intention, the need exists to explore other important variables that could influence this relationship. For example, Reitan's (1997) work argues that social norms might be a mediating or moderating variable influencing entrepreneurial intention. Some researchers also suggest that personality influences the attitude toward venturing (Zhao et al., 2010). These variables influence the attitude toward venturing, entrepreneurial self-

efficacy, or entrepreneurial intention, and deserve more research regarding how they interact with failure intensity in influencing entrepreneurial intentions after a business failure.

Second, I would like to address perceived environmental support's apparent non-impact on the relationship between failure intensity and entrepreneurial self-efficacy. One possible explanation of this essay's failure to prove the impact of perceived environmental support is that this essay's measurement of such does not fit well with a Chinese context. Therefore, conducting similar research in the other countries where these scales originated might offer further insight into the results. It would also be valuable to adjust the measurement of perceived environmental support to further adapt this to a Chinese context.

Conclusion

Despite this essay's limitations, it provides evidence of how the life stage and resilience can indirectly influence the relationship between failure intensity and entrepreneurial intention. It also offers many opportunities for a more comprehensive understanding of failure intensity and entrepreneurial intention.

V. Discussion

Although business failure has attracted increasing attention from researchers (Walsh & Cunningham, 2016), most studies focus on the causes and consequences of business failure, and scarce research focuses on the business failure itself.

My first essay fills this theoretical gap by conducting a literature review on both failure and intensity, and proposed failure intensity as a new construct. I then used both qualitative and quantitative methods to develop an 11-item scale to measure failure intensity.

The second essay then examined how failure intensity negatively influences entrepreneurial intentions through the attitude toward venturing and entrepreneurial self-efficacy. Failure intensity was found to negatively relate with the attitude toward venturing and entrepreneurial self-efficacy, which positively related with entrepreneurial intention. Therefore, the attitude toward venturing and entrepreneurial self-efficacy mediate the relationship between failure intensity and entrepreneurial intention.

My third essay tested the moderating roles of life stage, resilience, and perceived environmental support based on the model noted in the second essay. While failure intensity negatively related with the attitude toward venturing, bootstrap tests indicated that this relationship held only among entrepreneurs in middle adulthood. In contrast, failure intensity among entrepreneurs in early adulthood no longer had a significant or negative influence on the attitude toward venturing. This essay also supported resilience's

moderating role in the relationship between failure intensity and entrepreneurial self-efficacy. The results revealed that failure intensity further influenced entrepreneurial self-efficacy among entrepreneurs with high resilience. Further, entrepreneurial self-efficacy not influenced by failure intensity at all when resilience was high. Unfortunately, this essay did not support the moderating role of perceived environmental support, possibly because most of the entrepreneurs approached in this study had founded small to medium-sized firms, and it was difficult or rare for them to access the support factors listed in the environmental support scale. Therefore, the perceived environmental support scale might not be a suitable choice for the sample in this essay.

The following section discusses this dissertation's theoretical implications.

Theoretical Implications

This dissertation provides several theoretical contributions to the literature in entrepreneurship, event system theory, and social cognitive theory.

First, this dissertation enriches the entrepreneurship literature by developing a new scale of failure intensity. Most prior studies focused on the antecedents and the consequences of business failure, but few have realized differences in the business failures themselves (Khelil, 2016). An increasing number of researchers (e.g., Rooij, 2015; Wennberg et al., 2010) have started to realize the different facets of business failure and divide business failures into different categories. In addition to classifying business

failure into groups, I employ both qualitative and quantitative methods to develop a new construct of failure intensity.. The results demonstrate that failure intensity has four dimensions: failure novelty, financial disruption, relationship disruption, and failure criticality.

Second, I extend the event system theory (Morgeson et al., 2015) by applying event strength in the entrepreneurship field. As a new theory, event system theory has limited application and empirical support. The only empirical application of event system theory is found in Morgeson & DeRue (2006). This dissertation offers empirical support for the event system theory in the entrepreneurship field.

Third, this dissertation's findings align with those from the social cognitive theory, which describes how an individual's experiences influence his or her intentions through self-efficacy, outcome expectations, and interest (Bandura, 1986). Applications of social cognitive theory to entrepreneurship are abundant. The theory of planned behavior by Ajzen (1991) and the Shepero-Krueger model by Krueger (1993), two popular intention models, were developed from the social cognitive theory. A vast number of empirical works (Armitage & Conner, 2001; Chen et al., 1998; Kolvereid & Isaksen, 2006; Dinc & Budic, 2016) show that people's attitudes toward venturing and entrepreneurial self-efficacy are positively related with entrepreneurial intention. The findings in this dissertation contribute to the current literature by indicating how the experience of a business failure influences these two antecedents (attitudes toward venturing and

entrepreneurial self-efficacy) of entrepreneurial intention.

Practical Implications

This dissertation provides several practical implications to the entrepreneurs, investors, and policy makers.

For entrepreneurs, the scale of failure intensity can offer entrepreneurs a tool to monitor and manage their businesses and avoid severe business failures with high failure intensity. The findings indicate that people have different levels of failure tolerance. For example, Bill Gates and I may have different views on the same business failure.

Therefore, entrepreneurs should take their tolerance for business failure into consideration before beginning a venture; they should consider the possible consequences of failure; and they should manage the costs of failure. For example, Sarasvathy (2008) found that experienced entrepreneurs use the “affordable loss principle” to minimize the costs of failure and manage the loss of failures.

For investors, Cope, Cave, and Eccles (2004) found that venture capitalists view business differently, because they distinguish acceptable failures from less acceptable failures based on failure attribution. Business failures caused by misfortune are acceptable failures, and business failures caused by mistakes are less acceptable failures. The results of this dissertation offer yet another angle from which to view the differences between types of business failures. When entrepreneurs suffer intense business failures,

they face negative influences that make it difficult to overcome the failure. This difficulty increases with degree of intensity of the failure. Therefore, high-intensity business failures may be less appealing for venture capitalists.

For policy makers, my findings indicate that failure intensity negatively influences entrepreneurial intentions through the attitude toward venturing and entrepreneurial self-efficacy. Thus, rebuilding a positive attitude toward venturing and entrepreneurial self-efficacy would be an effective way for an entrepreneur to overcome the negative influence of business failure. In an environment with more tolerant attitudes toward failure (e.g., Silicon Valley), entrepreneurs may have a more positive attitude toward venturing again after a failure. And venture capitalists in these environments are more likely to invest in failed entrepreneurs than are those in environments with a low tolerance for failure (Cardon et al., 2011).

Limitations

As with all studies, this dissertation has several limitations. First, as all the data in this dissertation came from failed entrepreneurs, common method bias might be a potential problem. Therefore, it would be a beneficial direction for future research if any better scale or data source could be developed to test the model in this dissertation.

Second, the data set of the dissertation is limited. The sample of this dissertation are failed entrepreneurs. And this sample is rather difficult to reach, which lead to the limited

data set. It would be great to sample a different population so that I can both replicate and extend the findings.

Third, the moderating effects of perceived environment support was not supported in the essay. The possible reason was that the scales of perceived environment support used in this essay were developed in Western countries, which may not apply well in China. Therefore, looking for another scale which may better fit the environment in China would be better. A possible scale could be use is the community norm scale used in the Panel Study of Entrepreneurial Dynamics (PSED) research program. PSED is based on nationally samples including China, therefore, the scale used in this program may have good reliability in China.

Future Research Directions

The introduction of failure intensity can offer valuable directions in many fields.

First, it would be valuable to replicate this study in Western countries. Institutional and cultural differences can lead to different attitudes to failure (Ucbasaran et al., 2013). These differences may also influence entrepreneurs' perceptions of business failures. Therefore, it would be valuable to replicate the scale development process in Western countries to see whether the intensity scales would change.

Other possible differences may come from differences in bankruptcy laws.

Bankruptcy laws differ around the world by their "entrepreneur friendliness" (Peng et al.,

2010). In general, developing countries (e.g., the United States) are more entrepreneur friendly than are emerging economies (e.g., China). Therefore, failed entrepreneurs in developing economies will recover faster from failed entrepreneurs than those in emerging countries.

The social norms of business failure may also differ. Kirkwood (2007) found that New Zealand culture (which is similar to that in China) discourages failed entrepreneurs to venture again because of the strong negative, public reaction to business failure. On the other hand, people in Western countries seem to be more accepting of business failure.

Second, because the data were collected at a single time, it would be compelling to conduct longitudinal research to test not only how failure intensity influences entrepreneurs' business intentions across time but also whether time decreases the negative influence of failure intensity. As time goes by, entrepreneurs may, for example, pay off their debts and rebuild their business relationships. Because of this, it is possible that the failure intensity decreases with time.

Third, the only outcome variable I used was entrepreneurial intentions, and the moderators selected in this dissertation were also limited. I encourage future studies to explore other outcome variables, such as learning from failure, actual entrepreneurial behaviors during reentry, or entrepreneurs' performance in a subsequent business or vocation, and their moderators. Shepherd (2003) noted that the grief caused by the business failure will interfere with entrepreneurs' ability to learn from the failure. One

possibility could be that low-intensity failures would facilitate the ability to learn from the failure, whereas high-intensity failures may diminish the ability to learn from the failure.

Finally, the construct of failure intensity can also be applied in some other fields which has failures, such as education, support, and project management. As mentioned before, most of the researchers in these fields view failure as a binary variable (e.g. Foll et al., 2006; Martha & Mac, 2010; Rasclé et al., 2015). However, rather than measure students score as fail or pass, it may also important to measure how far away they are from the passing grade.

Conclusions

This dissertation explored why some entrepreneurs reenter entrepreneurship after a business failure while others do not, as research on this topic is still in its infancy (Hsu et al., 2017). I also propose that failure intensity plays an important role in entrepreneurs' career decisions. Though influencing attitude toward venturing and entrepreneurial self-efficacy, failure intensity negatively impacts entrepreneurial intention after business failure.

Despite the aforementioned limitations, this dissertation developed a new construct—failure intensity—and demonstrated how it influences entrepreneurial intention. I believe this dissertation's results will broaden scholars' and practitioners'

perspectives about business failure.

References

- Adler, R., & Chasten, K. (2002). Stakeholders' perceptions of organizational decline. *In Accounting Forum*, 26, 31-44.
- Ajzen, I. (1988). Attitudes, personality, and behavior. Chicago: Dorsey Press.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Alderfer, C. P., & Guzzo, R. A. (1979). Life experiences and adults' enduring strength of desires in organizations. *Administrative Science Quarterly*, 347-361.
- Anokhin, S., Grichnik, D., & Hisrich, R. D. (2008). The Journey from Novice to Serial Entrepreneurship in China and Germany: Are the drivers the same? *Managing Global Transitions*, 6(2), 117.
- Argenti, J. (1976). *Corporate collapse*. Wiley.
- Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology*, 40(4), 471-499.
- Attri, R., Grover, S., & Dev, N. (2014). A graph theoretic approach to evaluate the intensity of barriers in the implementation of total productive maintenance (TPM). *International Journal of Production Research*, 52(10), 3032-3051.
- Ayala, J. C., & Manzano, G. (2014). The resilience of the entrepreneur. Influence on the success of the business. A longitudinal analysis. *Journal of Economic Psychology*, 42, 126-135.

- Ball, D. W. (1976). *Failure in sport*. American Sociological Review, 726-739.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American psychologist*, 37(2), 122.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall, Inc.
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational behavior and human decision processes*, 50(2), 248-287.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality & Social Psychology*, 51, 1173-1182
- Bird, B. (1988). Implementing entrepreneurial ideas: The case for intention. *Academy of Management Review*, 13(3), 442-453.
- Boese, G. D., Stewart, T. L., Perry, R. P., & Hamm, J. M. (2013). Assisting failure-prone individuals to navigate achievement transitions using a cognitive motivation treatment (attributional retraining). *Journal of Applied Social Psychology*, 43(9), 1946-1955.
- Bolinger, A. R., & Brown, K. D. (2015). Entrepreneurial failure as a threshold concept: the effects of student experiences. *Journal of Management Education*, 39(4), 452-475.

- Bragger, J. D., Hantula, D. A., Bragger, D., Kirnan, J., & Kutcher, E. (2003). When success breeds failure: history, hysteresis, and delayed exit decisions. *Journal of Applied Psychology*, 88(1), 6.
- Brush, C. G., Greene, P. G., & Hart, M. M. (2001). From initial idea to unique advantage: The entrepreneurial challenge of constructing a resource base. *The Academy of Management Executive*, 15(1), 64-78.
- Bryman, A. (2006). Integrating quantitative and qualitative research: how is it done? *Qualitative Research*, 6(1), 97-113.
- Bullough, A., & Renko, M. (2013). Entrepreneurial resilience during challenging times. *Business Horizons*, 56(3), 343-350.
- Bullough, A., Renko, M., & Myatt, T. (2014). Danger zone entrepreneurs: The importance of resilience and self-efficacy for entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 38(3), 473-499.
- Burton, M. D., Sørensen, J. B., & Dobrev, S. D. (2016). A Careers Perspective on Entrepreneurship. *Entrepreneurship Theory and Practice*, 40(2), 237-247.
- Byrne, O., & Shepherd, D. A. (2015). Different strokes for different folks: entrepreneurial narratives of emotion, cognition, and making sense of business failure. *Entrepreneurship Theory and Practice*, 39(2), 375-405.
- Cahill, E. (1997). *Corporate financial crisis in Ireland*. Gill & Macmillan.

- Cardon, M. S., Stevens, C. E., & Potter, D. R. (2011). Misfortunes or mistakes? Cultural sensemaking of entrepreneurial failure. *Journal of Business Venturing*, 26(1), 79-92.
- Carter, N., Brush, C., Greene, P., Gatewood, E., & Hart, M. (2003). Women entrepreneurs who break through to equity financing: the influence of human, social and financial capital. *Venture Capital: an international journal of entrepreneurial finance*, 5(1), 1-28.
- Casillas, A., Robbins, S., Allen, J., Kuo, Y. L., Hanson, M. A., & Schmeiser, C. (2012). Predicting early academic failure in high school from prior academic achievement, psychosocial characteristics, and behavior. *Journal of Educational Psychology*, 104(2), 407-420.
- Chatman, J. A. (1989). Improving interactional organizational research: A model of person-organization fit. *Academy of Management Review*, 14(3), 333-349.
- Chen, C. C., Greene, P. G., & Crick, A. (1998). Does entrepreneurial self-efficacy distinguish entrepreneurs from managers? *Journal of Business venturing*, 13(4), 295-316.
- Coad, A. (2014). Death is not a success: reflections on business exit. *International Small Business Journal*, 32(7), 721-732.
- Coelho, P. R., & McClure, J. E. (2005). Learning from failure. *American Journal of Business*, 20(1), 1-1.

- Coffee, P., Rees, T., & Haslam, S. A. (2009). Bouncing back from failure: The interactive impact of perceived controllability and stability on self-efficacy beliefs and future task performance. *Journal of Sports Sciences*, 27(11), 1117-1124.
- Conroy, D. E., & Elliot, A. J. (2004). Fear of failure and achievement goals in sport: Addressing the issue of the chicken and the egg. *Anxiety, Stress & Coping*, 17(3), 271-285.
- Cope, J. (2011). Entrepreneurial learning from failure: An interpretative phenomenological analysis. *Journal of Business Venturing*, 26(6), 604-623.
- Cope, J., Cave, J., & Eccles, S. (2004). Attitudes of venture capital investors towards entrepreneurs with previous business failure. *Venture Capital*, 6(6), 147-172.
- Cox, L.W., Mueller, S.L., & Moss, S.E. (2002). The impact of entrepreneurship education on entrepreneurial self-efficacy. *International Journal of Entrepreneurship Education*, 1(2), 229–245.
- Creswell, J. W., & Clark, V. L. P. (2007). Designing and conducting mixed methods research.
- Davidsson, P., & Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of business venturing*, 18(3), 301-331.
- Detienne, D. R., & Cardon, M. S. (2012). Impact of founder experience on exit intentions. *Small Business Economics*, 38(4), 351-374.

- Detienne, D., & Wennberg, K. (2016). Studying exit from entrepreneurship: new directions and insights. *International Small Business Journal*, 34(2), 151-156.
- Dias, A., & Teixeira, A. A. C. (2014). The anatomy of business failure: a qualitative account of its implications for future business success. *Fep Working Papers*, 26(1), 2-20.
- Díazgarcía, M. C., & Jiménezmoreno, J. (2010). Entrepreneurial intention: the role of gender. *International Entrepreneurship & Management Journal*, 6(3), 261-283.
- Dinc, M. S., & Budic, S. (2016). The Impact of Personal Attitude, Subjective Norm, and Perceived Behavioural Control on Entrepreneurial Intentions of Women. *Eurasian Journal of Business and Economics*, 9 (17), 23-35
- Douglas, E. J., & Shepherd, D. A. (2000). Entrepreneurship as a utility maximizing response. *Journal of Business Venturing*, 15(3), 231-251.
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, 95(2), 256-273.
- Dyer Jr, W. G. (1994). Toward a theory of entrepreneurial careers. *Entrepreneurship: Theory and Practice*, 19(2), 7-22.
- Edelman, L., & Yli-Renko, H. (2010). The impact of environment and entrepreneurial perceptions on venture-creation efforts: bridging the discovery and creation views of entrepreneurship. *Entrepreneurship Theory and Practice*, 34(5), 833-856.

- Eggers, J. P. (2014). Dealing with failure: serial entrepreneurs and the costs of changing industries between ventures. *Academy of Management Journal*, 58(6), 1785-1803.
- Eggers, J. P., & Song, L. (2015). Dealing with failure: Serial entrepreneurs and the costs of changing industries between ventures. *Academy of Management Journal*, 58(6), 1785-1803.
- Ellis, S., Mendel, R., & Nir, M. (2006). Learning from successful and failed experience: the moderating role of kind of after-event review. *Journal of Applied Psychology*, 91(3), 669-680.
- Essel, M. (2011). What do people usually do after they run a failed startup? *Quora*. Retrieved from <https://www.quora.com/What-do-people-usually-do-after-they-run-a-failed-startup>
- Farh, J. L., Earley, P. C., & Lin, S. C. (1997). Impetus for action: A cultural analysis of justice and organizational citizenship behavior in Chinese society. *Administrative Science Quarterly*, 421-444.
- Ferber, M. A., & Waldfogel, J. (1998). The long-term consequences of nontraditional employment. *Monthly Labor Review*, 121(5), 3-12.
- Fini, R., Grimaldi, R., Marzocchi, G. L., & Sobrero, M. (2012). The determinants of corporate entrepreneurial intention within small and newly established firms. *Entrepreneurship Theory and Practice*, 36(2), 387-414.

- Fini, R., Grimaldi, R., & Sobrero, M. (2009). Factors fostering academics to start up new ventures: an assessment of Italian founders' incentives. *The Journal of Technology Transfer*, 34(4), 380-402.
- Foll, D. L., Rasclé, O., & Higgins, N. C. (2006). Persistence in a Putting Task During Perceived Failure: Influence of State-attributions and Attributional Style. *Applied Psychology*, 55(4), 586-605.
- Gist, M. E., & Mitchell, T. R. (1992). Self-efficacy: A theoretical analysis of its determinants and malleability. *Academy of Management Review*, 17(2), 183-211.
- Gompers, P. A., Kovner, A., Lerner, J., & Scharfstein, D. S. (2006). Skill vs. luck in entrepreneurship and venture capital: evidence from serial entrepreneurs. *Nber Working Papers*.
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational evaluation and policy analysis*, 11(3), 255-274.
- Hambrick, D. C. (2007). Upper echelons theory: An update. *Academy of Management Review*, 32(2), 334-343.
- Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9(2), 193-206.

- Hammond, T., Gialloredo, C., Kubas, H., & Davis IV, H. H. (2013). The prevalence of failure-based depression among elite athletes. *Clinical Journal of Sport Medicine*, 23(4), 273-277.
- Hannah, S. T., Schaubroeck, J. M., Peng, A. C., Lord, R. G., Trevino, L. K., & Kozlowski, S. W., et al. (2013). Joint influences of individual and work unit abusive supervision on ethical intentions and behaviors: a moderated mediation model. *Journal of Applied Psychology*, 98(4), 579-592.
- Hansen, J. C. (1994). The measurement of vocational interests. *Personnel Selection and Classification*, 293-316.
- Harada, N. (2007). Which firms exit and why? an analysis of small firm exits in japan. *Small Business Economics*, 29(4), 401-414.
- Harris, S. G., & Sutton, R. I. (1986). Functions of parting ceremonies in dying organizations. *Academy of Management Journal*, 29(1), 5-30.
- Hayes, A. F. (2013). *An introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press
- Hayward, M. L., Forster, W. R., Sarasvathy, S. D., & Fredrickson, B. L. (2010). Beyond hubris: How highly confident entrepreneurs rebound to venture again. *Journal of Business Venturing*, 25(6), 569-578.

- He, X. (2009). The Development of Entrepreneurship and private enterprise in the people's republic of china and its relevance to transitional economies. *Journal of Developmental Entrepreneurship*, 14(01), 39-58.
- Headd, B. (2003). Redefining business success: Distinguishing between closure and failure. *Small Business Economics*, 21(1), 51-61.
- Hessels, J., Grilo, I., Thurik, R., & van der Zwan, P. (2011). Entrepreneurial exit and entrepreneurial engagement. *Journal of Evolutionary Economics*, 21(3), 447-471.
- Hill, R. E., & Miller, E. L. (1981). Job change and the middle seasons of a man's life. *Academy of Management Journal*, 24(1), 114-127.
- Hinkin, T. R. 1998. A brief tutorial on the development of measures for use in survey questionnaires. *Organizational Research Methods*, 1(1), 104-121.
- Hoffman, E. L. (2016). Antecedents and Consequences of Variability in Leadership Identity and Regulation: A Study of Event-Level Leadership Self-Concept (Doctoral dissertation, University of Akron).
- Hsu, D. K., Wiklund, J., & Cotton, R. D. (2017). Success, failure, and entrepreneurial reentry: an experimental assessment of the veracity of self-efficacy and prospect theory. *Entrepreneurship Theory & Practice*, 41(1), 19-47.
- Hyytinen, A., & Ilmakunnas, P. (2007). What distinguishes a serial entrepreneur? *Industrial and Corporate Change*, 16(5), 793-821.

- Iver, M. M. (2010). Gradual disengagement: a portrait of the 2008-09 dropouts in the Baltimore city schools. *Education Digest*.
- Jalan, I., Sinha, S., & Ulus, E. (2014). Narratives of fate and misfortune in organizational life: stories of success and failure. *Culture and Organization*, 20(5), 410-429.
- Jenkins, A., & Mckelvie, A. (2016). What is entrepreneurial failure? implications for future research. *International Small Business Journal*, 34(2), 176-188.
- Jenkins, A. S., Wiklund, J., & Brundin, E. (2014). Individual responses to firm failure: Appraisals, grief, and the influence of prior failure experience. *Journal of Business Venturing*, 29(1), 17-33.
- Jones, T. M. (1991). Ethical decision making by individuals in organizations: An issue-contingent model. *Academy of Management Review*, 16(2), 366-395.
- Justo, R., Detienne, D. R., & Sieger, P. (2015). Failure or voluntary exit? reassessing the female underperformance hypothesis. *Journal of Business Venturing*, 30(6), 775-792.
- Katz, J. A. (1994). Modeling entrepreneurial career progressions: concepts and considerations. *Entrepreneurship Theory & Practice*, 19(2), 23-39.
- Khanna, R., Guler, I., & Nerkar, A. (2015). Fail often, fail big, and fail fast? learning from small failures and R&D performance in the pharmaceutical industry. *Academy of Management Journal*, 59(2), 436-459.

- Khelil, N. (2016). The many faces of entrepreneurial failure: Insights from an empirical taxonomy. *Journal of Business Venturing*, 31(1), 72-94.
- Kickul, J., Gundry, L. K., Barbosa, S. D., & Whitcanack, L. (2009). Intuition versus analysis? Testing differential models of cognitive style on entrepreneurial self-efficacy and the new venture creation process. *Entrepreneurship Theory and Practice*, 33(2), 439-453.
- Kolvereid, L., & Isaksen, E. (2006). New business start-up and subsequent entry into self-employment. *Journal of Business Venturing*, 21(6), 866-885.
- Krueger, N. (1993). The impact of prior entrepreneurial exposure on perceptions of new venture feasibility and desirability. *Entrepreneurship: Theory and Practice*, 18(1), 5-22.
- Krueger Jr, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15(5), 411-432.
- Lee, L., Wong, P. K., Foo, M. D., & Leung, A. (2011). Entrepreneurial intentions: the influence of organizational and individual factors. *Journal of Business Venturing*, 26(1), 124-136.
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45(1), 79-122.
- Levinson, D. J. (1978). *The seasons of a man's life*. Random House Digital, Inc..

- Lewis, C. C., & Ryan, J. (2014). Age and influence tactics: a life-stage development theory perspective. *The International Journal of Human Resource Management*, 25(15), 2146-2158.
- Liñán, F., & Chen, Y. W. (2009). Development and Cross-Cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship theory and practice*, 33(3), 593-617.
- Liñán, F., Rodríguezcohard, J. C., & Ruedacantuche, J. M. (2011). Factors affecting entrepreneurial intention levels: a role for education. *International Entrepreneurship & Management Journal*, 7(2), 195-218.
- Lindner, J. R., Murphy, T. H., & Briers, G. E. (2001). Handling nonresponse in social science research. *Journal of Agricultural Education*, 42(4), 43-53.
- Łobos, K., & Szewczyk, M. (2013). Survival analysis: a case study of micro and small enterprises in dolnośląskie and opolskie voivodship (poland). *Vysoká škola báňská - Technická univerzita Ostrava*, 15(4), 207-216.
- MacKenzie, S. B., Podsakoff, P. M., & Fetter, R. (1991). Organizational citizenship behavior and objective productivity as determinants of managerial evaluations of salespersons' performance. *Organizational Behavior and Human Decision Processes*, 50(1), 123-150.

Mackinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002).

A comparison of methods to test mediation and other intervening variable effects.

Psychological Methods, 7(1), 83-104.

Mantere, S., Aula, P., Schildt, H., & Vaara, E. (2013). Narrative attributions of

entrepreneurial failure. *Journal of Business Venturing*, 28(28), 459–473.

McGee, J. E., Peterson, M., Mueller, S. L., & Sequeira, J. M. (2009). Entrepreneurial

Self-Efficacy: Refining the Measure. *Entrepreneurship Theory and Practice*, 33(4),

965-988.

Mellahi, K., & Wilkinson, A. (2004). Organizational failure: a critique of recent research

and a proposed integrative framework. *International Journal of Management*

Reviews, 5(1), 21-41.

Miller, L. E., & Smith, K. L. (1983). Handling nonresponse issues. *Journal of Extension*,

21, 45-50.

Minniti, M., & Bygrave, W. (2001). A dynamic model of entrepreneurial learning.

Entrepreneurship Theory & Practice, 25(3), 5-16.

Morgan, J., & Sisak, D. (2016). Aspiring to succeed: A model of entrepreneurship and

fear of failure. *Journal of Business Venturing*, 31(1), 1-21.

Morgeson, F. P. (2005). The external leadership of self-managing teams: Intervening in

the context of novel and disruptive events. *Journal of Applied Psychology*, 90(3),

497–508.

- Morgeson, F. P., & DeRue, D. S. (2006). Event criticality, urgency, and duration: Understanding how events disrupt teams and influence team leader intervention. *Leadership Quarterly*, 17(3), 271–287.
- Morgeson, F. P., Mitchell, T. R., & Liu, D. (2015). Event system theory: An event-oriented approach to the organizational sciences. *Academy of Management Review*, 40(4), 515-537.
- Mueller, B. A., & Shepherd, D. A. (2016). Making the most of failure experiences: exploring the relationship between business failure and the identification of business opportunities. *Entrepreneurship Theory and Practice*, 40(3), 457-487.
- Nielsen, K., & Sarasvathy, S. D. (2011). Passive and Active Learning from Entrepreneurship. An Empirical Study of Re-Entry and Survival (No. 11-12).
- Ooghe, H., & De Prijcker, S. (2008). Failure processes and causes of company bankruptcy: a typology. *Management Decision*, 46(2), 223-242.
- Ornstein, S., Cron, W. L., & Slocum, J. W. (1989). Life stage versus career stage: A comparative test of the theories of Levinson and Super. *Journal of Organizational Behavior*, 10(2), 117-133.
- Phillips, B. D., & Kirchhoff, B. A. (1989). Formation, growth and survival; small firm dynamics in the US economy. *Small Business Economics*, 1(1), 65-74.
- Plehn-Dujowich, J. (2010). A theory of serial entrepreneurship. *Small Business Economics*, 35(4), 377-398.

- Politis, D., & Gabrielsson, J. (2009). Entrepreneurs' attitudes towards failure: An experiential learning approach. *International Journal of Entrepreneurial Behavior & Research*, 15(4), 364-383.
- Raffiee, J., & Feng, J. (2014). Should I quit my day job? A hybrid path to entrepreneurship. *Academy of Management Journal*, 57(4), 936-963.
- Ralston, D. A., Egri, C. P., Casado, T., Fu, P., & Wangenheim, F. (2009). The impact of life stage and societal culture on subordinate influence ethics: A study of Brazil, China, Germany, and the US. *Journal of International Management*, 15(4), 374-386.
- Rasclé, O., Le Foll, D., Charrier, M., Higgins, N. C., Rees, T., & Coffee, P. (2015). Durability and generalization of attribution-based feedback following failure: Effects on expectations and behavioral persistence. *Psychology of Sport and Exercise*, 18, 68-74.
- Reitan, B. (1997, June). Where do we learn that entrepreneurship is feasible, desirable, and/or profitable. In *ICSB World Conference* (pp. 21-24).
- Rerup, C. (2005). Learning from past experience: Footnotes on mindfulness and habitual entrepreneurship. *Scandinavian Journal of Management*, 21(4), 451-472.
- Rider, C. I., & Negro, G. (2015). Organizational failure and intraprofessional status loss. *Organization Science*, 26(3), 633-649.

- Riggs, M. L., & Knight, P. A. (1994). The impact of perceived group success-failure on motivational beliefs and attitudes: a causal model. *Journal of Applied Psychology*, 79(5), 755-766.
- Robin, E. (2008). How do I recover financially and emotionally from a business failure? *Entrepreneurship*. Retrieved from <https://www.entrepreneur.com/answer/221310>
- Robinson, P. B., Stimpson, D. V., Huefner, J. C., & Hunt, H. K. (1991). An attitude approach to the prediction of entrepreneurship. *Entrepreneurship Theory and Practice*, 15(4), 13-31.
- Rooij, A. V. (2015). Sisyphus in business: success, failure and the different types of failure. *Business History*, 57(2), 1-21.
- Rumberger, R. W., & Lim, S. A. (2008). Why students drop out of school: A review of 25 years of research. California Dropout Research Project Report, 15, 1-130.
- Schwab, D. P. (1980). *Construct validity in organizational behavior*. Graduate School of Business, University of Wisconsin-Madison.
- Shapero, A., & Sokol, L. (1982). The social dimensions of entrepreneurship. *Encyclopedia of Entrepreneurship*, 72-90.
- Shepherd, D. A. (2003). Learning from business failure: Propositions of grief recovery for the self-employed. *Academy of Management Review*, 28(2), 318-328.

- Shepherd, D. A., Wiklund, J., & Haynie, J. M. (2009). Moving forward: balancing the financial and emotional costs of business failure. *Journal of Business Venturing*, 24(2), 134-148.
- Shepherd, D. A., & Wolfe, M. (2011). Moving forward from project failure: negative emotions, affective commitment, and learning from the experience. *Academy of Management Journal*, 54(6), 1229-1259.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: new procedures and recommendations. *Psychological Methods*, 7(4), 422-445.
- Siemens, E., Roth, A., & Oliveira, P. (2010). Common method bias in regression models with linear, quadratic, and interaction effects. *Organizational Research Methods*, 13(3), 456-476.
- Simmons, S. A., Wiklund, J., & Levie, J. (2014). Stigma and business failure: implications for entrepreneurs' career choices. *Small Business Economics*, 42(3), 485-505.
- Sinclair, V. G., & Wallston, K. A. (2004). The development and psychometric evaluation of the Brief Resilient Coping Scale. *Assessment*, 11(1), 94-101.
- Singh, S., Corner, P., & Pavlovich, K. (2007). Coping with entrepreneurial failure. *Journal of Management and Organization*, 13(4), 331-344.

- Singh, S., Corner, P. D., & Pavlovich, K. (2015). Failed, not finished: a narrative approach to understanding venture failure stigmatization. *Journal of Business Venturing*, 30(1), 150-166.
- Sitkin, S. B., & Pablo, A. L. (1992). Reconceptualizing the determinants of risk behavior. *Academy of Management Review*, 17(1), 9-38.
- Small Business Administration. (2012). *Frequently asked questions*. Retrieved from https://www.sba.gov/sites/default/files/FAQ_Sept_2012.pdf
- Taylor, J., & Wilson, J. C. (2016). Failing time after time: time perspective, procrastination, and cognitive reappraisal in goal failure. *Journal of Applied Social Psychology*, 46(10), 557-564.
- Ucbasaran, D., Shepherd, D. A., Lockett, A., & Lyon, S. J. (2013). Life After Business Failure The Process and Consequences of Business Failure for Entrepreneurs. *Journal of Management*, 39(1), 163-202.
- Ucbasaran, D., Westhead, P., Wright, M., & Flores, M. (2010). The nature of entrepreneurial experience, business failure and comparative optimism. *Journal of Business Venturing*, 25(6), 541-555.
- Walsh, G. S., & Cunningham, J. A. (2016). Business failure and entrepreneurship: emergence, evolution and future research. *Foundations and Trends in Entrepreneurship*, 12(3), 163-285.

- Wang, H., Lin, D., Yin, H., Lu, Q., & Cheng, H. (2008). Linking incubator services to the performance of incubated firms: A review. *IEEE International Conference on Management of Innovation and Technology*, 894-899.
- Warnecke, T. (2013). Entrepreneurship and gender: An institutional perspective. *Journal of Economic Issues*, 47(2), 455-464.
- Weingart, L. R., Behfar, K., Bendersky, C., Todorova, G., & Jehn, K. A. (2015). The directness and oppositional intensity of conflict expression. *Academy of Management Review*, 40(2), 235-262.
- Wells, A., & Matthews, G. (1996). Modelling cognition in emotional disorder: The S-REF model. *Behaviour Research and Therapy*, 34(11), 881-888.
- Wennberg, K., & Detienne, D. R. (2014). What do we really mean when we talk about 'exit'? - a critical review of research on entrepreneurial exit. *Social Science Electronic Publishing*, 32(1), 4-16.
- Wennberg, K., Wiklund, J., Detienne, D. R., & Cardon, M. S. (2010). Reconceptualizing entrepreneurial exit: divergent exit routes and their drivers. *Journal of Business Venturing*, 25(4), 361-375.
- Wiesenfeld, B. M., & Hambrick, D. C. (2008). The stigmatization and devaluation of elites associated with corporate failures: a process model. *Academy of Management Review*, 33(1), 231-251.

- Williams, J. M., Greenleaf, A. T., Albert, T., & Barnes, E. F. (2014). Promoting educational resilience among African American students at risk of school failure: the role of school counselors. *Journal of School Counseling*, 12(9).
- Wilson, F., Kickul, J., & Marlino, D. (2007). Gender, entrepreneurial self-efficacy, and entrepreneurial career intentions: implications for entrepreneurship education. *Entrepreneurship Theory and Practice*, 31(3), 387-406.
- Wood, R., & Bandura, A. (1989). Social cognitive theory of organizational management. *Academy of Management Review*, 14(3), 361-384.
- Wright, C., Maylor, U., & Becker, S. (2016). Young black males: resilience and the use of capital to transform school 'failure'. *Critical Studies in Education*, 57(1), 21-34.
- Yamakawa, Y., & Cardon, M. S. (2015). Causal ascriptions and perceived learning from entrepreneurial failure. *Small Business Economics*, 44(4), 797-820.
- Yamakawa, Y., Peng, M. W., & Deeds, D. L. (2010). How does experience of previous entrepreneurial failure impact future entrepreneurship? *Academy of Management Annual Meeting Proceedings*, 2010(1).
- Yamakawa, Y., Peng, M. W., & Deeds, D. L. (2015). Rising from the ashes: cognitive determinants of venture growth after entrepreneurial failure. *Entrepreneurship Theory and Practice*, 39(2), 209-236.
- Yang, Y., & Danes, S. M. (2015). Resiliency and resilience process of entrepreneurs in new venture creation. *Entrepreneurship Research Journal*, 5(1), 1-30.

- Zahra, S. A. (1993). Environment, corporate entrepreneurship, and financial performance: A taxonomic approach. *Journal of Business Venturing*, 8(4), 319-340.
- Zautra, A. J., Hall, J. S., & Murray, K. E. (2010). A new definition of health for people and communities. *Handbook of Adult Resilience*, 1, 3-29.
- Zhao, H., Seibert, S. E., & Hills, G. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology*, 90(6), 1265-1272.
- Zhao, H., Seibert, S. E., & Lumpkin, G. T. (2010). The relationship of personality to entrepreneurial intentions and performance: A meta-analytic review. *Journal of Management*, 36(2), 381-404.
- Zhu, W., He, H., Treviño, L. K., Chao, M. M., & Wang, W. (2015). Ethical leadership and follower voice and performance: The role of follower identifications and entity morality beliefs. *The Leadership Quarterly*, 26(5), 702-718.

Appendix A

Entrepreneurial Opinion Interview

1. Please tell me about the events that happened right before, during and then after the closure of your last business?
2. Prior to this experience, had you experienced business failure before? In what ways was this more recent experience similar to or different from your prior experience?
3. Upon deciding that you would need to close this last company, what would you say your reaction was to this realization?
4. How did the business closure influence your life? (only after they volunteer their responses should you ask them about specifics - Was the closure a significant financial loss? In what ways was your guanxi with others influenced? How did the closure affect you emotionally? What did you do to manage these changes?)
5. What did this failed business mean for you? (e.g. a meaning of status)
6. What did this failed business mean for your family? (e.g. the only income source of the family)

Individual information:

Name:

Email address:

Year of birth:

Gender:

Appendix B

Entrepreneurial Opinion Questionnaire

A. If you have had a business fail recently, please indicate how strongly you agree or disagree with each statement by marking under the appropriate number (1=strongly disagree; 7=strongly agree).

	Strongly Disagree			Strongly Agree			
	1	2	3	4	5	6	7
I knew a clear way to respond to the business failure.							
There is a sequence of steps that I could follow in responding to the business failure.							
I could rely on established practices in responding to the business failure.							
I had rules, procedures, or guidelines to follow when this business failure occurred.							
I lost all my personal assets because of this business failure.							
I was heavily in debt after the business failure.							
I suffered severe emotional problems from the business failure.							
My family members treated me differently because of the business failure.							
My friends treated me differently because of the business failure.							
My relationship with co-workers went bad because of the business failure.							
I spent all of my time and effort in this business before it failed.							
This business was the only income source for me before it failed.							
This business was the only income source for my whole family before it failed.							

B. Thinking about your current skills, marking under a number from the confident scale 1 to 7 (1= not confident at all; 7= extremely confident).

	Not confident at all			Extremely Confident			
	1	2	3	4	5	6	7
Conceive a unique idea for a business							
Identify market opportunities for a new business							
Plan a new business							
Write a formal business plan							
Raise money to start a business							
Convince others to invest in my business							
Convince a bank to lend me money to start a business							
Convince others to work for me in my new business							
Manage a small business							
Grow a successful business							

C. From your current point of view, starting a business again is:

	1	2	3	4	5	6	7	
1. Unpleasant								Pleasant
2. Useless								Useful
3. Unsuitable								Suitable
4. Negative								Positive
5. Regrettable								Laudable
6. Objectionable								Acceptable
7. Harmful								Beneficial
8. Bad								Good
9. Foolish								Wise

D. To what extent do you think the following factors will support your entrepreneurial behavior if you would start a new business now (1=no support; 7=high support):

	No Support				High Support		
	1	2	3	4	5	6	7
National public funding							
International public funding							
Regional funding							
Existence of a business plan competition							
Existence of regional technology transfer offices							
Existence of regional patent support offices							
Interest of public research institutions in investing in firms' equity							
Possibility to access academic laboratories and equipment							
Possibility to be hosted in a university incubator							
Synergies between public research institutions and private firms							

E. Consider how well the following statements describe your behavior and actions on a scale from 1 to 7 (1=strongly disagree; 7=strongly agree):

	Strongly Disagree				Strongly Agree		
	1	2	3	4	5	6	7
I look for creative ways to alter difficult situations.							
Regardless of what happens to me, I believe I can control my reaction to it.							
I believe I can grow in positive ways by dealing with difficult situations.							
I actively look for ways to replace the losses I encounter in life.							
I can recover from unhappiness quickly.							
I can calm down quickly from anxiety.							
I can recover quickly when I am upset.							
I can recover from negative emotions quickly.							
I can recover from distress quickly.							
I feel as if I'm always facing imminent							

disaster.							
I panic easily.							
I get anxious easily.							
I get upset easily.							

F. Please indicate how strongly you agree or disagree with each statement by marking under the appropriate number (1=strongly disagree; 7=strongly agree):

	Strongly Disagree				Strongly Agree		
	1	2	3	4	5	6	7
I'm ready to do anything to be an entrepreneur again.							
My professional goal is to become an entrepreneur.							
I will make every effort to start and run my own firm again.							
I'm determined to create a firm in the future.							
I have very seriously thought of starting another firm.							
I have strong intentions of starting a firm again some day.							

Individual Information

Email address:

Year of birth:

Gender: A. Male B. Female

Please select your education level:

- A. PhD
- B. Master
- C. University degree
- D. High school degree and below

When you ran the business that closed, did you work for that company on a:

- A. Part time basis
- B. Full time basis

Had you started other companies during the time you were running the business that closed:

- A. Yes (Please indicate number of other firms _____)
- B. No

What is your job right now?

- A. Founder of a new firm
- B. Employee
- C. Student
- D. Unemployed
- E. Other (Please specify_____)

Information of the most recent closed company

Company name:

Year of establishment:

Year of cancellation:

Industry:

What happened to the company that you cancelled?

- A. Bankruptcy
- B. Liquidation
- C. Acquisition
- D. Merger
- E. Other (Please specify_____)

Had you experienced business failure before this one? A. Yes, B. No

If yes, please indicate the information of previous failed companies below:

Company name	Establishment year	Cancellation year	Industry	Reason code for cancellation

Reason Code: A. Bankruptcy; B. Liquidation; C. Acquisition; D. Merger;
E. Other

Thank you!

Appendix C

Entrepreneurial Self-Efficacy Scale (Kickul et al., 2009)

Thinking about your current skills, marking under a number from the confident scale 1 to 7 (1= not confident at all; 7= extremely confident).

	Not confident at all			Extremely Confident			
	1	2	3	4	5	6	7
Conceive a unique idea for a business							
Identify market opportunities for a new business							
Plan a new business							
Write a formal business plan							
Raise money to start a business							
Convince others to invest in my business							
Convince a bank to lend me money to start a business							
Convince others to work for me in my new business							
Manage a small business							
Grow a successful business							

Appendix D

Perceived Environmental Support Scale (Fini et al., 2009)

To what extent do you think the following factors will support your entrepreneurial behavior if you would start a new business now (1=no support; 7=high support):

	No Support				High Support			
	1	2	3	4	5	6	7	
National public funding								
International public funding								
Regional funding								
Existence of a business plan competition								
Existence of regional technology transfer offices								
Existence of regional patent support offices								
Interest of public research institutions in investing in firms' equity								
Possibility to access academic laboratories and equipment								
Possibility to be hosted in a university incubator								
Synergies between public research institutions and private firms								

Table 1.1

Summary of Research on Entrepreneurial Failure

Author(s) & Year	Theme	Title	Key related findings
Bolinger & Brown (2015)	Concept of entrepreneurial failure	Entrepreneurial failure as a threshold concept: the effects of student experiences	Entrepreneurial failure is a complex phenomenon and the authors suggest to view it as a threshold concept in entrepreneurial courses.
Coad (2014)	Concept of entrepreneurial failure	Death is not a success: reflections on business exit	The author repeats that most of business exits are unsuccessful.
Headd (2003)	Concept of entrepreneurial failure	Redefining business success: distinguishing between closure and failure	Not all business closure should be viewed as business failure.
Jenkins & McKelvie (2016)	Concept of entrepreneurial failure	What is entrepreneurial failure? Implications for future research	Review the conceptualizations of entrepreneurial failure
Justo et al. (2015)	Concept of entrepreneurial failure	Failure or voluntary exit? Reassessing the female underperformance hypothesis	Failure and exit are unequal, and female are more likely than man to exit voluntarily.
Khanna et al. (2015)	Characteristics of failure	Fail often, fail big, and fail fast? Learning from small failures and R&D performance in the pharmaceutical industry	The number, importance and timing of small failures are related with R&D output and R&D quality.

Khelil (2016)	Faces of entrepreneurial failure	The many faces of entrepreneurial failure: insights from an empirical taxonomy	Using typology and taxonomy, the author explores different configurations of entrepreneurial failure.
Rooij (2014)	Types of entrepreneurial failure	Sisyphus in business: success, failure and the different types of failure	A typology of failure based on causes of failure: fallibility, error, and flaw.
Walsh & Cunningham (2016)	Concept of entrepreneurial failure; consequences of entrepreneurial failure	Business failure and entrepreneurship: emergence, evolution and future research	A review on entrepreneurial failure
Wennberg & DeTienne (2014)	Concept of entrepreneurial failure	What do we really mean when we talk about “exit”? A critical review of research on entrepreneurial exit	The definition of entrepreneurial exit and entrepreneurial failure.
Wennberg et al. (2009)	Types of entrepreneurial exit	Reconceptualizing entrepreneurial exit: divergent exit routes and their drives	A typology of exit based on performance and exit route: harvest sale, distress sale, liquidation, distress liquidation.
Byrne & Shepherd (2015)	Consequences of entrepreneurial failure on entrepreneurs	Different strokes for different folks: entrepreneurial narratives of emotion, cognition, and making sense of business failure	Entrepreneurs’ Emotion states are related with entrepreneurs’ making sense of business failure

Cope et al. (2004)	Consequences of entrepreneurial failure on entrepreneurs	Attitudes of venture capital investors towards entrepreneurs with previous business failure	Business failures are not automatically considered a black mark by CVs.
Cope (2011)	Learning from entrepreneurial failure	Entrepreneurial learning from failure: an interpretative phenomenological analysis	Recovery from failure is a function of learning process, and the outcomes of learning are future-oriented.
Detienne & Wennberg (2016)	Consequences of entrepreneurial failure on entrepreneurs	Studying exit from entrepreneurship: new directions and insights	An introduction of a special issue discusses exit from entrepreneurship
Dias & Teixeira (working paper)	Consequences of entrepreneurial failure on entrepreneurs	The anatomy of business failure. A qualitative account of its implications for future business success	Previous failure influence entrepreneurs strongly. The influence is related with entrepreneurs' experience, age, and their blame for the failure.
Eggers & Song (2015)	Consequences of entrepreneurial failure on entrepreneurs	Dealing with failure: serial entrepreneurs and the costs of changing industries between ventures	How entrepreneurs blame the failure will influence their decision of whether to change industries for subsequent venture.
Jalan et al. (2014)	Consequences of failure	Narratives of fate and misfortune in organizational life: stories of success and failure	How both failure and success produce anxiety and how narratives help reduce it.

Jenkins et al. (2014)	Consequences of entrepreneurial failure on entrepreneurs	Individual responses to firm failure: appraisals, grief, and the influence of prior failure experience	The more the failure experience is appraised as stressful for loss, the greater the feeling of grief.
Mantere et al. (2013)	Consequences of entrepreneurial failure on entrepreneurs	Narrative attributions of entrepreneurial failure	Narratives provide means for both cognitive and emotional processing of failure through grief recovery.
Minniti & Bygrave (2001)	Learning from entrepreneurial failure	A dynamic model of entrepreneurial learning	Failure is as informative as success. And entrepreneurs repeat choices that is promising and vice versa.
Mueller & Shepherd (2016)	Learning from entrepreneurial failure	Making the most of failure experiences: exploring the relationship between business failure and the identification of business opportunities	Cognitive conditions under which failure experiences can be used to identify business opportunities.
Politis & Gabrielsson (2009)	Learning from entrepreneurial failure	Entrepreneurs' attitudes towards failure: an experiential learning approach	Previous entrepreneurial experience is related a more positive attitude toward failure.
Rerup (2005)	Learning from entrepreneurial failure	Learning from past experience: footnotes on mindfulness and habitual entrepreneurship	How, when, and why past experience can improve the new venture performance.

Rider & Negro (2015)	Consequences of entrepreneurial failure on entrepreneurs	Organizational failure and intraprofessional status loss	Failure can diminish career advantage.
Shepherd et al. (2009)	Consequences of entrepreneurial failure on entrepreneurs	Moving forward: balancing the financial and emotional costs of business failure	Business failure can be costly for entrepreneurs. And the more the cost, the more difficult the recovery.
Shepherd & Wolfe (2011)	Consequences of project failure	Moving forward from project failure: negative emotions, affective commitment, and learning from the experience	How individuals recover from failure is influenced by the strength of individuals' coping orientations.
Shepherd (2003)	Consequences of entrepreneurial failure on entrepreneurs	Note: learning from business failure: propositions of grief recovery for the self-employed	Business failure can cause the entrepreneurs to feel grief. And the grief will interfere entrepreneurs' abilities to learn from business failure.
Simmons et al. (2014)	Consequences of entrepreneurial failure on entrepreneurs	Stigma and business failure: implications of entrepreneurs' career choices	Failed entrepreneurs' decision of whether to reenter into entrepreneurship are influenced by social sanctions.
Singh et al. (2015)	Consequences of entrepreneurial failure on entrepreneurs	Failed, not finished: a narrative approach to understanding venture failure stigmatization	Investigate entrepreneurs' individual experience of stigma associated with business failure.

Ucbasaran et al. (2010)	Consequences of entrepreneurial failure on entrepreneurs	The nature of entrepreneurial experience, business failure and comparative optimism	Experience of failed business will influence entrepreneurs' comparative optimism.
Ucbasaran et al. (2013)	Consequences of entrepreneurial failure on entrepreneurs	Life after business failure: the process and consequences of business failure for entrepreneurs	A review of consequences of business failure on entrepreneurs
Wiesenfeld & Hambrick (2008)	Consequences of entrepreneurial failure on entrepreneurs	The stigmatization and devaluation of elites associated with corporate failures: a process model	Business failure will lead to professional devaluation of individual elites.
Yamakawa & Cardon (2015)	Learning from entrepreneurial failure	Causal ascriptions and perceived learning from entrepreneurial failure	Failure attribution will influence perceived learning from failure
Yamakawa et al. (2010)	Consequences of entrepreneurial failure on entrepreneurs	How does experience of previous entrepreneurial failure impact future entrepreneurship	How entrepreneurial failure impact future entrepreneurship are influenced by the number of previous failures, attribution of failure, and motivation.
Yamakawa et al. (2015)	Consequences of entrepreneurial failure on entrepreneurs	Rising from the ashes: cognitive determinants of venture growth after entrepreneurial failure	Under what conditions do failed entrepreneurs do better when they restart a new venture.

Table 2.1

Summary of Research on Other Failures

Author(s) & Year	Field	Title	Key related findings
Wright et al. (2016)	Education	Young black males: resilience and the use of capital to transform school failure	Young black males can use aspirational and resident capital, family capital, and social capital to transform school failure into success.
Casillas et al. (2012)	Education	Predicting early academic failure in high school from prior academic achievement, psychosocial characteristics, and behavior.	Prior grades are the strongest predictors of high school GPA; psychosocial and behavior characteristics also predict GPA.
Williams et al. (2014)	Education	Promoting educational resilience among African American students at risk of school failure: the role of school counselors	Protective factors from family, school, and community can contribute to positive outcomes and reduce drop off.
Iver (2010)	Education	Gradual disengagement: a portrait of the 2008-09 dropouts in the Baltimore City Schools	The most important reason for students to drop out is the poor grade performance and course failure.
Rumberger & Lim (2008)	Education	Why students drop out of school: a review of 25 years of research	Poor academic performance is one of the strongest predictors of dropping out.

Rasclé et al. (2015)	Sports	Durability and generalization of attribution-based feedback following failure: effects on expectations and behavioral persistence	Attribution feedback of failure will influence the following success expectations and persistence.
Hammond et al (2013)	Sports	The prevalence of failure-based depression among elite athletes	A failed performance of elite athletes will lead to negative affect and even depression.
Foll et al. (2006)	Sports	Persistence in a putting task during perceived failure: influence of state-attributions and attributional style	Golf students who have the "high personal control" attributional style have greater persistence than those who have the "low personal control" attributional style.
Ball (1976)	Sports	Failure in sports	Personal reactions to failure: embarrassment and involuntarily demonstrate role-distance.
Coffee et al. (2009)	Sports	Bouncing back from failure: the interactive impact of perceived controllability and stability on self-efficacy beliefs and future task performance	After failure, athletes who attribute the failure to controllable and unstable conditions will have higher self-efficacy and better future performance.

Conroy & Elliot (2004)	Sports	Fear of failure and achievement goals in sport: addressing the issue of the chicken and the egg	Fear of failure predicts achievement goals.
Taylor et al. (2016)	Psychology	Failing time after time: time perspective, procrastination, and cognitive reappraisal in goal failure	When facing goal failure, people who are low in future time perspective will procrastinate more and as a result less likely to do cognitive reappraisal than people who are high in future time perspective.
Boese et al. (2013)	Psychology	Assisting failure-prone individuals to navigate achievement transitions using a cognitive motivation treatment (attributional retraining)	Attributional Retraining treatment is a treatment to help people to re-attribute failure to internal, unstable, controllable (v.s. external, stable, uncontrollable) causes. AR treatment is most effective for those with high level of failure avoidance.
Ellis et al. (2006)	Psychology	Learning from successful and failed experience: the moderating role of kind of after-event review	The effectiveness of learning from successful and failed experience is contingent on the type of after-event review (internal v.s.

			external & specific v.s. general).
Bragger et al. (2003)	Psychology	When success breeds failure: history, hysteresis, and delayed exit decisions	When facing investment failure, people who receive equivocal feedback on the decisions will invest more and across more opportunities.
Riggs & Knight (1994)	Psychology	The impact of perceived group success-failure on motivational beliefs and attitudes: a causal model	Group success-failure have a direct influence on group members' attitudes (satisfaction and organizational commitment).

Table 2.2
Interview Summary

Number	Gender	Age	Industry type	Failure experience	Length of entrepreneur's time in business	Failure novelty	Failure disruption	Failure criticality
1	Male	34	Clothing shop (online and offline)	The offline shop ran well because only a limited number of employees managed the store. While, the employees for the online shop spread in different cities, and he was not good at managing so many people. In the end, the business failed.	8 years	He was a serial entrepreneur and had run a business since graduating. This was not his first failure, and he knew what business failure looks like.	This was the most difficult business failure he experienced. He lost a huge amount of money in it and didn't pay off the debts until now.	Entrepreneurship was always his dream, and he ventured again and again. This time was the nearest he'd come to succeeding, but he still failed. It was difficult for him to accept the failure, and he didn't want to shut down the company.
2	Male	30	Internet (app developing)	He trusted his partner too much. His partner took control of most	2.5 years	He thought everything was going smoothly	He lost all his initial investment in this business	The app he developed was as important to him as his own son. He

3	Male	30	Training Institution	resources and betrayed him. The partner changed all of the passwords associated with the company's account and broke all connections. The resources he then controlled were not enough to maintain the business.	4 years	with his company. All of a sudden, the partner betrayed him, and he lost everything. His mind went blank when he heard the news.	and also lost some important working relationships.	came up with the idea for the app and put so much time and effort into developing it. He couldn't believe he'd lost control of it in this way.
				He has three training institutes in different locations. One of the locations was not perfect. The rent was too high, and the number of students was not enough for covering that price. He had to shut down the location and look for a new location.		The business failure was a long process. Therefore, he was ready and had plans for how to handle it.	The financial cost of this business failure was limited. And his relationships with the students and their parents are good.	He had deep feelings for this institution since this was his first training institution. But business is business, so he had to shut down the one that couldn't bring him profit.

4	Male	40	Retail industry	He ran an English training institution and a billiard hall before this one. After the previous two tests, he decided to invest in a larger program. But still failed.	8 years	He had experienced two small business failures before.	He was heavily in debt and broke up with his girlfriend. He is still in the process of paying back the debt.	He wanted to show his family and friends that he could succeed. He tried so hard, but still failed.
5	Male	27	Photography studio	He ran a studio with his partner who was a friend. Entrepreneurship is a tough process, and his friend gave up during the process. He had to shut down.	1.5 years	He was not ready to give up.	The financial loss was limited. But his relationships with his friend were negatively affected.	Photography was his interest, and he believed he could run the studio well as long as he persisted.
6	Male	28	Food processing industry	He successfully ran a small milk tea shop before this one and earned the initial capital for this business. However, he failed in this business.	3 years	His best friend experienced business failure before, and therefore he knew how business	He lost all his investment and had to hold back employees' salaries for 3 months.	The business was the only income source for him, and he put every effort and time in it.

7	Male	33	Restaurant	He gave up his good job and insisted on starting a venture even though his parents didn't support him.	3 years		failure suffered. This was his first business failure.	He lost all his money and gained a lot of debt. Now, he is afraid to go back home because of the debts. This failure influences the lives of his whole family.	He resigned from his decent job and devoted himself to this business.
8	Male	36	Retail	His father was in the hospital, and he had a newborn infant one month before he started his business. His previous job was hopeless and could not support his family any more. Therefore, he wanted to gamble on himself and start a small retail shop	1 year		He saw the positive side of self-employment but neglected to understand the negative impact of a possible business failure.	The retail store he ran was a small one because he hadn't had too much to invest. Therefore, he didn't lose too much in this business failure.	The family burden was heavy for him, and the failed business was his only income source for the family.

9	Male	54	Manufacturing	but failed. He returned to paid work with a steady salary, which may be a better choice for his family.	10 years	He had considered closing the business 2 years ago. Therefore, he was well prepared for the business closure.	He lost almost nothing from this business failure.	Thanks to this company, he has already gained a lot. Even though he was reluctant to close the business, he was tired from trying to keep it running and wanted to retired.
10	Male	28	Board game bar	He was an ambitious individual and didn't like a 9-to-5 life. Every time he had an idea and the resources, he tried to make the idea happen.	6 years	He experienced business failure 3 times before.	He won't let himself lose too much with each failure.	Every venture he started was a fulfillment of his entrepreneurial dreams.

11	Female	28	Milk tea shop	It was difficult to start a business with partners. Having partners can reduce burdens at the beginning of the process, but many conflicts emerged during the business process, especially when the business was in loss.	1.5 years	She was aware that most businesses failed and knew the risk.	She lost both money and friends. But the business was small, and therefore the financial loss was affordable.	Starting this business was like a job for her. It was a way to support herself.
12	Female	33	Housekeeping services	She started the company with the help of family and friends. While she focused too much on earning money, and, in the end, she failed.	2.5 years	This was her First-time failure and didn't plan for the failure in advance.	She lost all her assets and her friends' confidence in her.	Many employees were her relatives and friends. They trusted her and relied on her, but she didn't do the business well.
13	Female	42	KTV	She ran the KTV for many years. The decoration and equipment didn't keep up with the times. A good selling opportunity	12 years	She was ready to sell the company.	She lost almost nothing from this business failure.	She had a job, and the KTV was her avocation.

14	Female	35	Textile machinery industry	<p>came along, so she sold the KTV to others.</p> <p>She went through a difficult time because of this business failure. She realized that if you didn't do well in your daily work, you have low salary; but not doing well in your business may wipe you out.</p>	5 years	<p>Even though she realized that business was declining, she could not help but accept the failure.</p>	<p>The most difficult time in this business failure was when the suppliers asked for money, the agents asked for products, the employees asked for salary, and the household asked for rents.</p>	<p>The business was an important income source for her family, even though it was not the only source.</p>
15	Female	30	Flower shop	<p>She thought the business had a good business model, so she invested all her savings and also borrowed money</p>	4 years	<p>She had experienced two small business failures before. But she was too confident on</p>	<p>In the end, she lost all of her investment and was deeply in debt. Her friends ran away and were afraid to lend</p>	<p>Even though she started 2 businesses before, this one was the most serious venture for her. She had a passion for this project and</p>

16	Female	32	Internet	from family and banks.		this one and didn't expect the failure.	her money. During this time, she could not fall asleep at night and felt so guilty. The failure made her feel incompetent and frustrated.	put much effort and time in it.
				She is not afraid of failure and has a passion for entrepreneurship.	7 years	She failed several times before.	She controlled the loss and quit in time. What's more, she has a rich family that supports her.	Entrepreneurship was her dream. And every business she started was a possibility her dreams may come true.
17	Female	38	Training institution	She had good resources for education, so she started a training institute. However, good resources were not enough. Without management skills, she failed.	2.5 years	This was her first-time business failure.	She lost her investment in this failure and nothing else.	The business was her avocation, and she didn't expect too much from it.

18	Female	28	Bookstore	<p>She didn't like her daily job and wanted to become self-employed. She started a bookstore. However, running a business was much more difficult than she thought, and she failed.</p>	1.5 years	<p>This was her first-time business failure.</p>	<p>She lost all her investment and borrowed some money from family. She was frustrated, but with the help of her family and friends, she recovered and became confident again.</p>	<p>The business was her only source of income.</p>
----	--------	----	-----------	---	-----------	--	--	--

Table 2.3

Items Generated to Measure Failure Intensity

Items	Representative quotes	Dimension
1. I knew a clear way to respond to the business failure. *	Event novelty from Morgeson (2005)	Failure novelty
2. There is a sequence of steps that I could follow in responding to the business failure. *	Event novelty from Morgeson (2005)	Failure novelty
3. I could rely on established practices in responding to the business failure. *	Event novelty from Morgeson (2005)	Failure novelty
4. I had rules, procedures, or guidelines to follow when this business failure occurred. *	“When an important client cannot pay off the payments, I should have cut down my expenses soon instead of expecting on that client. The cash flow is the deadline.”	Failure novelty
5. This business failure was the result of an unexpected event.	“One of our main partners run away with our core resources without any omens.” “Our important order suddenly disappeared when we have already made many preparations for that.”	Failure novelty
6. Before starting the business, I considered that it might fail.	“Before I run the business, I asked myself if I can bear the consequences once it failed. I started the company when I have the courage to say yes to that question. Therefore, I can	Failure novelty

	accept this business failure calmly. ”	
7. I lost all my personal assets due to this business failure.	“I worked for 4 years to prepare for the initial capital and lost all of them in it.” “I even sold my car to pay my debt.”	Failure disruption (Financial)
8. I was heavily in debt after the business failure.	“I have ¥ 200,000 debt and I don’t know when I will pay them off” “I have more than ¥ 1,000, 000 debts. And I’m even afraid to go back home because of the creditors”	Failure disruption (Financial)
9. I suffered severely psychological problems from the business failure.	“As a man, I never cried since I grew up. During that time, I always felt helpless, lonely and then cried at bed at night.” “I was under heavy pressure because of the debts.”	Failure disruption (Psychological)
10. My relationship with family members went bad due to the business failure.	“When I was succeeded, all my unknown relatives appeared. And when I failed, they run away because they didn’t want me to borrow money from them.”	Failure disruption (Social)
11. My relationship with friends went bad due to the business failure.	“Just like an old saying: when the tree falls, the monkeys scatter; when the boss falls from power, his lackeys disperse.”	Failure disruption (Social)
12. My relationship with co-workers went bad	“I lost my reputation with the suppliers.”	Failure disruption (Social)

because of due to the business failure.		
13. This business used to be the source of my confidence.	<p>“I felt so proud when it was succeeded. All my friends looked me as their idol at that time.”</p> <p>“The people around me discouraged me before I started the business. When the business was running well, I felt that I finally proved myself. And now when I looked back, maybe they are the ones that correct.”</p>	Failure criticality
14. I spent all of my time and effort in this business before it failed.	“I quit a decent job and threw myself into this business with enthusiasm.”	Failure criticality
15. This business was the only income source for me before it failed.	“I run 3 organizations at that time. And when I have to close this one, I feel calm.”	Failure criticality
16. This business was the only income source for my whole family before it failed.	<p>“My father was hospitalized, and my mother was taking care of him. My wife was a full-time housewife taking care of my 2-year daughter.</p> <p>And I also have a ¥ 7,000 monthly payment. It was a great pressure for me when I run the business. ”</p>	Failure criticality

Note: Items marked with “*” were items that were adapted from previous literature; other items were adapted from the interview.

Table 2.4

Survey Sample Description (N=169)

Female (%)	45.6
Age (years)	30.9
Education level (%)	
High school and below	0.6
University	82.2
Master	15.4
PhD	1.8
Current job (%)	
Founder of a new firm	18.9
Employee	71.6
Student	1.8
Unemployed	6.5
Other	1.2

Table 2.5

Item Loading Values from Exploratory Factor Analysis (N=169)

Items	Source	Component			
		1	2	3	4
Q1. I knew a clear way to respond to the business failure.	Adapted from literature	.80	.08	.01	.00
Q2. There is a sequence of steps that I could follow in responding to the business failure.	Adapted from literature	.86	.00	-.05	-.02
Q3. I could rely on established practices in responding to the business failure.	Adapted from literature	.81	-.01	.09	-.12
Q4. I had rules, procedures, or guidelines to follow when this business failure occurred.	Adapted from literature	.80	.12	-.02	-.10
Q5. I lost all my personal assets because of this business failure.	From interview	.04	.15	.92	.11
Q6. I was heavily in debt after the business failure.	From interview	-.02	.29	.88	.07
Q7. My relationship with family members went bad	From interview	.09	.85	.19	-.08

because of the business failure.					
Q8. My relationship with friends went bad because of the business failure.	From interview	.03	.91	.16	-.04
Q9. My relationship with co-workers went bad because of the business failure.	From interview	.05	.86	.11	.09
Q10. This business used to be the source of my confidence.	From interview	-.23	.00	.00	.85
Q11. I spent all of my time and effort in this business before it failed.	From interview	.04	-.02	.17	.87
Cumulative percentage of variance (%)		25.02	46.79	62.62	76.53
Factor Names		Failure Novelty	Relationship Disruption	Financial Disruption	Failure Criticality
Cronbach's α s (subscales)		0.84	0.86	0.86	0.68
Cronbach's α s (Failure Intensity)		0.71			

Table 3.1

Survey Sample Description (N=237)

Female (%)	44.7
Age (years)	33.3
Education level (%)	
High school and below	4.2
University	78.5
Master	15.6
PhD	1.7
Current job (%)	
Founder of a new firm	23.2
Employee	67.1
Student	3.0
Unemployed	4.6
Other	2.1

Table 3.2
Discriminant Validity

Model	CFI	GFI	TLI	RMSEA	χ^2	Df	$\Delta\chi^2$	ΔDf
Model 1	0.91	0.84	0.92	0.06	1631.24	588		
Model 2	0.81	0.77	0.80	0.09	1948.13	591	316.89**	3
Model 3	0.83	0.78	0.81	0.10	1883.82	591	252.58**	3
Model 4	0.82	0.77	0.80	0.10	1925.66	591	294.22**	3

Note: Model 1: baseline model; Model 2: combine failure intensity with ATV;
Model 3: combine failure intensity with ESE; Model 4: combine failure intensity with EI

Table 3.3

Means, Standard Deviations, and Correlations Between Variables (N=237)

Variable	M	SD	1	2	3	4	5
1. Failure intensity	4.19	0.78	—				
2. ESE	4.97	0.89	-0.30**	—			
3. Attitude toward venturing	5.30	1.05	-0.14*	0.53**	—		
4. Entrepreneurial intention	5.21	1.22	-0.21**	0.56**	0.68**	—	
5. Gender	1.45	0.50	0.01	-0.02	-0.13*	-0.10	—

** . Correlation is significant at the 0.01 level (2-tailed)

* . Correlation is significant at the 0.05 level (2-tailed)

Table 3.4

Comparison of Early and Late Respondents on Variables

Variable	Group	M	SD	F	P
1. Failure intensity	Early respondents	4.25	0.68	1.32	0.25
	Late respondents	4.13	0.88		
2. ESE	Early respondents	4.88	0.81	2.09	0.15
	Late respondents	5.05	0.96		
3. Attitude toward venturing	Early respondents	5.21	1.08	1.44	0.23
	Late respondents	5.38	1.01		
4. Entrepreneurial intention	Early respondents	5.22	1.23	0.02	0.90
	Late respondents	5.20	1.23		

Table 3.5

Mediation of the Effect of Failure Intensity on Entrepreneurial Intention through Attitude-toward-Venturing and

Entrepreneurial Self-Efficacy (N=237)

Variable	B	SE	t	p
Mediator variable model				
Attitude toward venturing regressed on failure intensity (H1)	-0.18	0.09	-2.13	0.03
ESE regressed on failure intensity (H2)	-0.33	0.07	-4.73	0.00
Dependent variable model: Entrepreneurial intention regressed on				
Attitude toward venturing (H3)	0.61	0.06	9.78	0.00
ESE (H4)	0.37	0.08	4.84	0.00
Failure intensity	-0.10	0.08	-1.28	0.20
Indirect effect of failure intensity on entrepreneurial intention				
Boot				
	Effect	SE	BootLLCI	BootULCI
Total	-0.23	0.08	-0.41	-0.09
Attitude toward venturing (H5)	-0.11	0.05	-0.23	-0.01
ESE (H6)	-0.12	0.05	-0.26	-0.04

Note. Results are based on 5,000 bootstrap samples.

Table 4.1

Levinson's Life-Stage Development Model

Life stage (age)	Tasks to be accomplished
Early adulthood (17-45)	
Early adult transition (17-22)	To begin thinking about one's place in the world separate from the institutions of youth (e.g. parents, school) To test one's initial choices about preferences for adult living
Entering the adult world (23-28)	To develop a sense of personal identity in the world of work and nonwork (e.g. family, community)
Thirties transition (29-33)	To evaluate accomplishments of the twenties and make adjustments to the life structure adopted
Setting down (34-39)	To strive toward achievement of personal and professional goals To make strong commitments to work, family and community
Middle adulthood (40-65)	
Midlife transition (40-45)	To review life structure adopted in the thirties To recognize mortality and limits an achievement and answer the questions raised by these issues
Entering middle adulthood (46-50)	To develop greater stability as answers to questions posed in earlier stages are incorporated into the mindset
Fifties transition (51-55)	To raise questions about life structure previously adopted
Culmination of middle adulthood (56-65)	To answer questions previously raised and adjusted to life choices

Source: adapted from Lewis and Ryan (2014), Ornstein et al. (1989).

Table 4.2

Survey Sample Description (N=223)

Female (%)	43.0
Age (years)	33.2
Education level (%)	
High school and below	3.6
University	79.4
Master	15.7
PhD	1.3
Current job (%)	
Founder of a new firm	23.8
Employee	66.4
Student	3.1
Unemployed	4.5
Other	2.2

Table 4.3

Reliability Test (N=223)

Variable	N of Items	Research Reference	Cronbach's alpha
Failure intensity	11	New measurement	0.73
Attitude-toward-venturing	9	Ajzen (1991)	0.93
Entrepreneurial self-efficacy	10	Cox et al. (2002)	0.88
Entrepreneurial intention	6	Linan & Chen (2009)	0.92
Resilience	4	Sinclair & Wallston (2004)	0.79
Perceived environmental support	10	Fini et al. (2009, 2012)	0.95

Table 4.4

Comparison of Early and Late Responders on Variables

Variable	Group	M	SD	F	P
1. Failure intensity	Early respondents	4.25	0.68	1.11	0.29
	Late respondents	4.13	0.89		
2. ESE	Early respondents	4.98	0.73	0.41	0.52
	Late respondents	5.06	0.96		
3. Attitude toward venturing	Early respondents	5.38	0.90	0.14	0.71
	Late respondents	5.43	1.00		
4. Entrepreneurial intention	Early respondents	5.38	1.07	0.99	0.32
	Late respondents	5.23	1.25		
5. Resilience	Early respondents	5.14	0.79	0.09	0.76
	Late respondents	5.11	0.78		
6. Perceived environment support	Early respondents	3.87	1.20	0.32	0.57
	Late respondents	3.76	1.60		
7. Life stage	Early respondents	1.88	0.32	2.76	0.10
	Late respondents	1.80	0.40		

Table 4.5

Conditional Indirect Effects of Life Stage, Resilience and Perceived Environmental Support on Entrepreneurial Intention Through Attitude Toward Venturing and ESE (N=223)

Index of moderated mediation						
	Mediator	Moderator	Index	Boot SE	BootLLCI	BootULCI
H1	Attitude toward venturing	Life stage	0.25	0.16	-0.00	0.62
H2	ESE	Resilience	0.08	0.06	0.01	0.22
H3	ESE	PES	0.01	0.03	-0.02	0.09
Conditional indirect effect(s) of failure intensity on entrepreneurial intention at values of the moderator(s)						
	Mediator	Moderator	Indirect effect	Boot SE	BootLLCI	BootULCI
H1	Attitude toward venturing	Life stage: early adulthood	-0.05	0.06	-0.17	0.06
		Life stage: middle adulthood	-0.30	0.15	-0.67	-0.05
H2	ESE	Resilience: -1SD (4.36)	-0.17	0.08	-0.36	-0.05
		Resilience: M (5.13)	-0.11	0.05	-0.22	-0.03
		Resilience: +1SD (5.91)	-0.05	0.05	-0.17	0.01
H3	ESE	PES: -1SD (2.40)	-0.11	0.07	-0.29	-0.02
		PES: M (3.81)	-0.10	0.05	-0.21	-0.03
		PES: +1SD (5.22)	-0.08	0.05	-0.20	-0.01

Note. Results are based on 5,000 bootstrap samples.

Figure 3.1

Ajzen's Theory of Planned Behavior

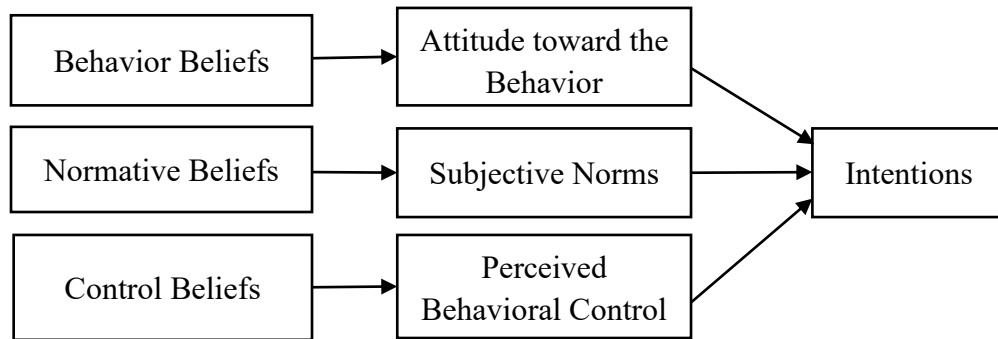


Figure 3.2

Shapero-Krueger Model

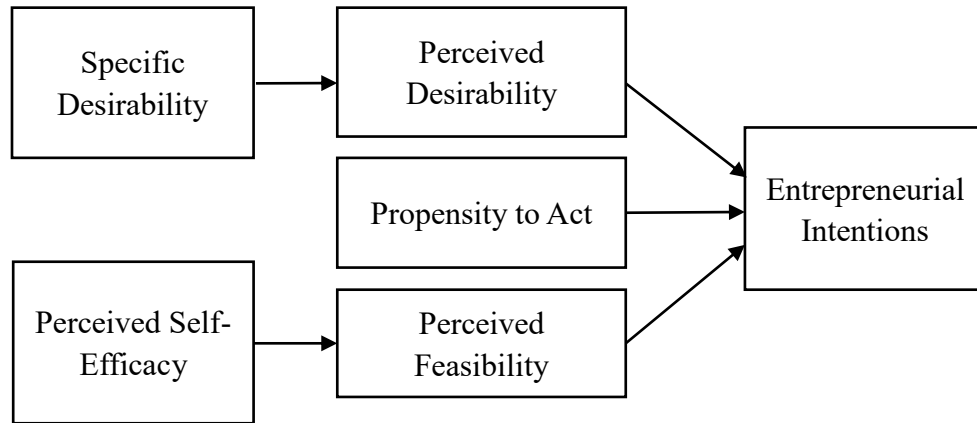


Figure 3.3

Proposed Model

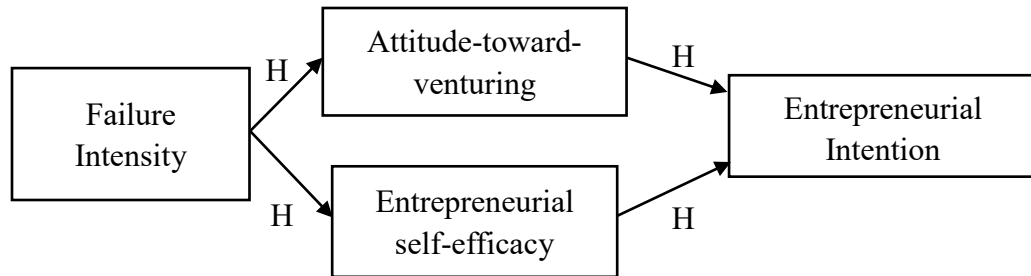


Figure 3.4

Determinants of Self-Efficacy

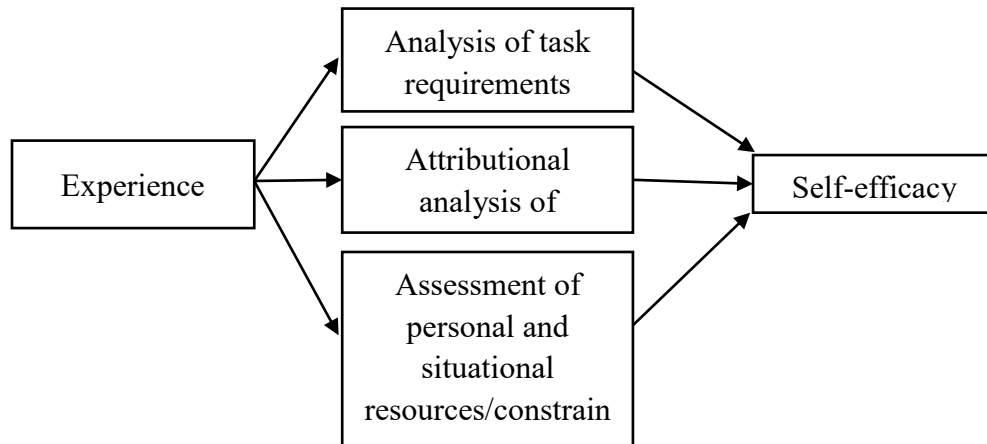


Figure 3.5

Entrepreneurial Self-Efficacy Model

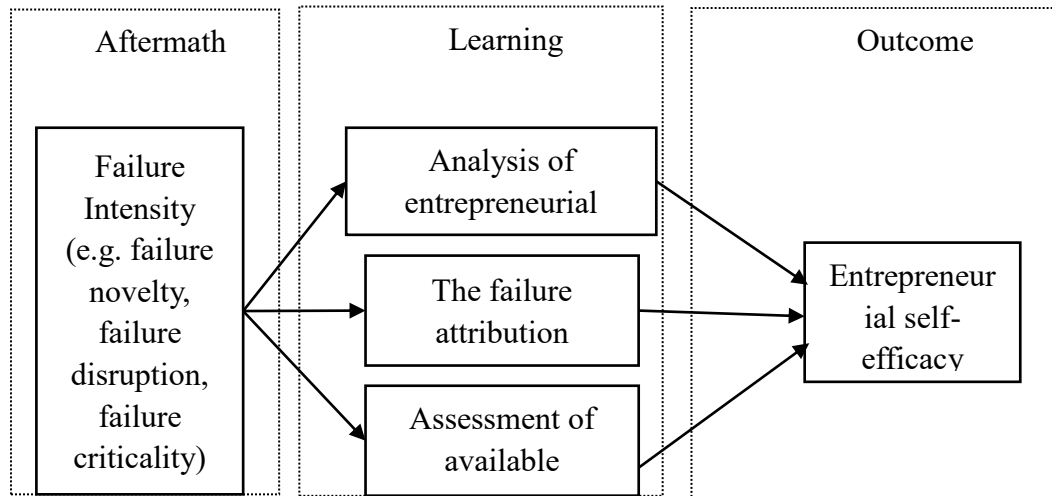


Figure 3.6

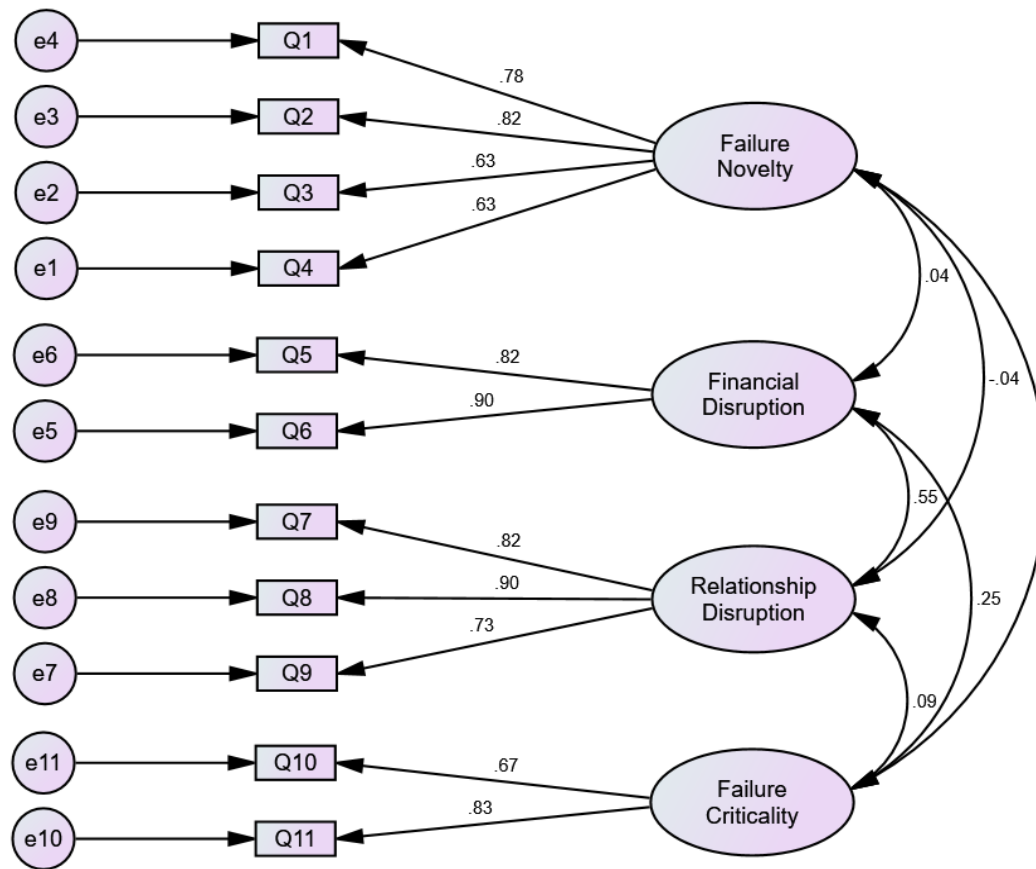


Figure 4.1

Proposed Model

