



Danger Zone Entrepreneurs: The Importance of Resilience and Self-Efficacy for Entrepreneurial Intentions

Amanda Bullough
Maija Renko
Tamara Myatt

Little is known about the drivers of entrepreneurial decisions during war. We empirically examine the effects of perceived danger, entrepreneurial self-efficacy, and resilience on entrepreneurial intentions in adverse conditions with primary survey data from Afghanistan. Our findings suggest that perceived danger is negatively related to an individual's entrepreneurial intentions, but marginally less so among highly resilient individuals. Our findings also suggest that even under conditions of war, individuals develop entrepreneurial intentions if they are able to grow from adversity (resilience) and believe in their entrepreneurial abilities (entrepreneurial self-efficacy). Practical implications for role modeling and entrepreneurship training are then discussed.

Introduction

While the idea of entrepreneurship being vital for economic and societal development efforts (Cornwall, 1998; Schumpeter, 1934) and for peace building (Strong, 2009) has long had traction in the academic and international political communities, research on entrepreneurship in adverse, even dangerous, conditions is relatively scarce (e.g., Branzei & Abdelnour, 2010). Specifically, while research in this area is developing, scholars have not begun to uncover the motivational processes that drive individuals' entrepreneurial decisions in adverse conditions. To increase our understanding of what affects people's

Please send correspondence to: Amanda Bullough, tel.: (602) 978-7502; e-mail: amanda.bullough@thunderbird.edu, to Maija Renko at maija@uic.edu, and to Tamara Myatt at canada7541@gmail.com.

intentions to start businesses in such conditions, we need to look at both those dangers that exist in the operating environment, as well as individuals' persistence in the face of such dangers (resilience). In this research, we examine the developmental role of resilience on entrepreneurial intentions in highly adverse conditions, that is, in war-stricken Afghanistan.

Afghanistan is an extremely challenging context within which to operate a business. The lack of security is such that it is difficult to travel, and there exists a constant fear of corruption and an attack from the Taliban, insurgents, or even allied forces there to fight these groups (Radin, 2012). In national surveys, corruption, crime, theft, infrastructural deficiencies, and lack of security are the greatest areas of concern for the Afghan business community (CIPE, 2010; World Bank, 2008). These issues that present challenges for existing businesses may also have a negative influence on individuals' willingness to start new firms. At the same time, however, new businesses constantly emerge, and people are willing to risk their assets and even their lives in pursuit of a business opportunity that provides independence and income for their families (Cusack & Malmstrom, 2010, 2011). The purpose of our research is to understand key perceptual and cognitive factors that may affect the pursuit of entrepreneurial initiatives under such dangerous conditions.

Resilience, an ability to go on with life, or to continue living a purposeful life, after hardship or adversity (Tedeschi & Calhoun, 2004), has recently earned its place in entrepreneurship research from the viewpoint of entrepreneurs beginning again after previously failed attempts (Cope, 2011; Hayward, Forster, Sarasvathy, & Fredrickson, 2010) and resilient enterprises operating under terror conditions (Branzei & Abdelnour, 2010). We extend this research and examine the importance of resilience on individuals' intentions to launch entrepreneurial ventures in adverse environments. Intent to start a firm is a widely used cognitive construct in entrepreneurship literature (Thompson, 2009). Intentions profoundly impact entrepreneurial behavior, such as self-employment and new venture creation (Ajzen & Fishbein, 1980), and intentions are the first step in a typically long-term process of starting a new business (Krueger, 1993; Thompson).

An extensive literature review led us to deduce that entrepreneurial self-efficacy (ESE) and resilience are of particular relevance as key factors that may affect the pursuit of entrepreneurial initiatives under dangerous conditions. While social cognitive theory has led previous research to link self-efficacy to both resilience (Benight & Bandura, 2004; Linley & Joseph, 2004) and entrepreneurial intentions (Zhao, Seibert, & Hills, 2005), research integrating all three constructs is missing. In this research, we start filling this gap and provide two specific contributions to theory.

First, self-efficacy has not been explored as an antecedent of entrepreneurial intentions in dangerous contexts. According to social cognitive theory's idea of triadic reciprocity, behavior, personal factors, and environmental influences all operate interactively as determinants of each other (Bandura, 1986). In a dangerous environment, the effect of self-efficacy may be dependent on additional personal influences that have been overlooked in previous research from safer environments, such as individuals' resilience. Also, the adverse environment itself may be an important factor that affects entrepreneurial intentions through individuals' perceptions of danger.

Second, while resilience, in general, is key to understanding coping in and after crises (Folkman & Moskowitz, 2000; Tedeschi & Calhoun, 2004), it has yet to be linked to entrepreneurial initiatives in adverse conditions. Understanding these connections has tremendous implications for promoting entrepreneurship in places facing severe adversity. This understanding is especially important for the numerous government- and business

school-led entrepreneurship training programs currently underway in developing countries, like Afghanistan and elsewhere, and those still in the design phase. If we understand what drives entrepreneurial intentions in adverse conditions, we can design better programs to specifically enhance entrepreneurial efforts.

We report on primary survey research with a sample of Afghan men and women to examine the effects of resilience (Sinclair & Wallston, 2004), self-efficacy (Zhao et al., 2005), and perceived danger (King, King, & Vogt, 2003) on entrepreneurial intentions (Liñán & Chen, 2009). We begin with the theoretical background of our research. Based on this, we present hypotheses, which are then empirically tested with primary survey data from 272 Afghans. Methods are described in the following section, after which we deliver the results of the empirical study. We conclude with a discussion of the key findings in relation to previous literature, and suggest some recommendations for policy and future research.

Theory and Hypotheses

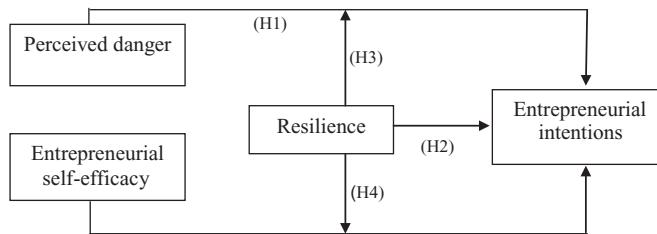
Social cognitive theory (Bandura, 1986; Wood & Bandura, 1989) suggests that environmental events, personal factors, and individual behaviors interact to affect individuals' ultimate actions. These actions are regulated by forethought. Derived from social cognitive theory, social cognitive career theory (Lent, Brown, & Hackett, 1994) specifically links self-efficacy beliefs, outcome expectations, and personal goals, which individuals use to regulate their own career goals. Hence, when an individual plans to start a new venture, intentions are the first step in planning the course of action to achieving this goal. This theory presents a well-suited framework for the current study since resilience is an ability that develops particularly from persevering through environmental adversity (Tedeschi & Calhoun, 2004). Social cognitive variables (e.g., self-efficacy) function in concert with other personal factors (e.g., gender, business experience, and resilience) and environments (e.g., danger zones) to affect career goals, such as those related to entrepreneurship (Lent & Brown, 1996). While social cognitive theory has been employed to investigate the roles of resilience and self-efficacy in other kinds of stressful situations (e.g., Bonanno, Rennicke, & Dekel, 2005; Major, Richards, Cooper, Cozzarelli, & Zubek, 1998; Mubarak, 1997), research incorporating these constructs in the context of entrepreneurship in general, and danger zone entrepreneurship in particular, is missing. This is surprising, given the importance of entrepreneurship for rebuilding in war zones and the face validity of resilience as an antecedent of entrepreneurial action. The following theory development section presents our hypotheses and their justifications. We specifically address living and working in a dangerous environment and the impact of perceived danger on one's intent to start and operate a business. We also show how resilience and self-efficacy interact with one another to influence entrepreneurial intentions. Figure 1 summarizes the proposed relationships.

Entrepreneurial Intentions

Entrepreneurial intentions refer to "the target behavior of starting a business" (Krueger, 1993, p. 6) either alone or as part of a team and are the focal point of this study. Generally, intentions toward a purposive behavior are critical to our understanding of that behavior (Ajzen & Fishbein, 1980). Several intentions models in the field of

Figure 1

Conceptual Model



entrepreneurship have been developed over the years (Bird, 1988; Boyd & Vozikis, 1994; Krueger; Krueger, Reilly, & Carsrud, 2000; Shapero, 1985; Shapero & Sokol, 1982). Intentions have been long established to be reliable predictors of behavior, and the intent to start a firm is the beginning of the new business creation process (Krueger; Thompson, 2009). Meta-analyses on the intentions-behavior/action gap tend to consistently show that up to 39% of the variance in actual behavior can be explained by intentions (e.g., Armitage & Conner, 2001; Sheeran, 2002; Sutton, 1998).¹ In line with Thompson, we describe entrepreneurial intent as a cognitive state: a self-acknowledged decision by a person that they aim to set up and own a business venture.

Based on the theory of planned behavior (Ajzen & Fishbein, 1980), Krueger (2000) argues that entrepreneurial intentions develop from perceptions of desirability and feasibility of entrepreneurial action. Following from this, perceived danger and other antecedents, like self-efficacy and resilience, can impact these perceptions and thus the self-acknowledged intention by a person to start a business. For example, a perceived lack of security in the environment may make traveling for business challenging or even impossible, thus negatively affecting the feasibility of a new venture. Krueger also argues that self-efficacy has a direct impact on the feasibility of entrepreneurship and that a personal propensity to act on opportunities (such as resilience in this study) may facilitate the realization of intentions. In other words, in the case of dangerous contexts, self-efficacy and resilience make up the infrastructure (Krueger) that supports entrepreneurial intentions.

Studies on entrepreneurial intentions (e.g., Douglas & Shepherd, 2002; Gupta, Turban, Wasti, & Sikdar, 2009; Liñán & Chen, 2009; Manolova, Eunni, & Gyoshev, 2008) have set the stage for a more in-depth examination of the entrepreneurial intentions of people in conflict zones. These individual-level intentions are the profound mechanism through which entrepreneurial energies of a nation are ultimately directed toward rebuilding and economic development following a conflict.

1. Given the complexity of entrepreneurial behaviors and the large amount of possible intervening variables that are not under the entrepreneur's control, the relationship between entrepreneurial intent and behavior may not be quite as strong as the relationships reported for more simple behaviors in these meta-analyses. Reliable reports on the strength of the entrepreneurial intent-behavior relationship do not seem to exist.

Perceived Danger

Previous studies have observed patterns in entrepreneurial activity after disasters (Tang, 2006) and war (El Jack, 2007). Terrorism² has been found to have a negative impact on economic growth and has been cited as repelling private investment and leading to an increase in government spending (Blomberg, Hess, & Orphanides, 2004). Civilians in Afghanistan face terrorism and a war³ between insurgents within their country and the local police and international armies. Daily life for civilians who live in war zones and deal with extremist tactics is sometimes characterized by being fired on; hearing bombs and gunfire in the distance; roadside bombs and kidnappings; seeing persons wounded, killed, or mistreated; experiencing arrest and torture; use of cruel weaponry; being exposed to grotesque death and mutilation; lacking desirable food; and enduring poor living conditions (King, King, Gudanowski, & Vreven, 1995). In line with King et al., we define perceived danger in terms of personal judgments of events or circumstances (such as the ones just mentioned) as potentially threatening or harmful. Not all individuals perceive a dangerous environment the same way, and therefore responses to such environments vary. In this study, we look specifically at dangers as they are converted to perceptions, and intentions based on those perceptions. Social cognitive theory (Bandura, 1986) and the theory of planned behavior (Ajzen, 1991; Krueger, 2000) agree that exogenous factors influence entrepreneurial intentions through their effect on how individuals think, emphasizing the role of entrepreneurs' perceptions.

Common personal reactions to war and terrorism can include, for example, social isolation, increased mental health difficulties, work and school absenteeism, interpersonal violence, and group conflict (Maguen, Papa, & Litz, 2008). Living conditions and economic initiatives in war zones are further hampered by poverty and lack of access to resources and capital (Demirci-Kunt, Klapper, & Panos, 2009). The effects of war and terrorism on economies are widely felt and challenge the operations of businesses. Those negative effects may be strongly felt by entrepreneurs and those just planning to start businesses in particular. For example, war and terrorism result in declines in buyer demand, increased transaction costs, interruptions in supply chains, and new government regulations and procedures intended to stem emergent threats (Czinkota, Knight, Liesch, & Steen, 2010); all of which may discourage individuals from pursuing new business opportunities.

The environment that specifies the relative payoffs to different economic activities plays a key role in determining whether entrepreneurial energy will be allocated in productive directions, such as starting businesses. After all, the prevailing laws, institutions, and legal procedures of an economy are prime determinants of the profitability of entrepreneurial activities (Baumol, 1996). In an environment of war and danger, people's activities are likely to be focused on mere survival and protection of their lives and the lives of their families. To make a living for mere survival, many individuals may work inside the home, look for employment provided by someone else, or beg on the streets. In an environment of danger, going through the activities required to start a new business requires facing an additional level of risk and vulnerability. While controlling for need-based (necessity) entrepreneurship, we propose that in such adverse conditions, the

2. Terrorism refers to the calculated use of violence (or the threat of violence) against civilians to attain goals that are political or religious or ideological in nature; this is done through intimidation or coercion or instilling fear (<http://www.wordnetweb.princeton.edu/perl/webwn>).

3. War refers to the waging of armed conflict against an enemy and a legal state created by a declaration of war and ended by official declaration during which the international rules of war apply (<http://www.wordnetweb.princeton.edu/perl/webwn>).

perception of danger and the constant threat of violence have negative effects on entrepreneurial intentions. For example, in a war zone, effective, fair, and efficient business practices could become compromised, leaving individuals with a weak rule of law. This insecurity could cause one to be apprehensive or even afraid of starting a business for reasons such as, but not limited to: (1) fear of others perceiving the entrepreneur as successful and therefore to be a worthwhile target for extortion or kidnapping; (2) loss of the business, employees, goods, or saved monetary gains if war activity comes too close to business operations; or (3) theft or takeover of the business from insurgents or criminals. If entrepreneurial intentions develop from perceptions of desirability and feasibility (Krueger, 2000), then the kinds of dangers listed above would disrupt those perceptions and therefore any potential entrepreneurial action. Therefore, we hypothesize:

Hypothesis 1: Perceptions of danger are negatively related to the intent to start and own a business.

Resilience

Positive emotions (gratitude, interest, love, etc.) have been found to coexist among the more often expected negative emotions (anger, fear, anxiety, and sadness) that result from crises (Folkman & Moskowitz, 2000; Tedeschi & Calhoun, 2004). Positive emotions following a tragedy defend resilient people against depression and can actually cause them to thrive in the face of crisis (Fredrickson, Tugade, Waugh, & Larkin, 2003). Resilience, specifically, has not received as much attention in entrepreneurship research, especially with respect to the individual unit of analysis (for prior research on enterprise resilience, see, e.g., Branzei & Abdelnour, 2010; Dewald & Bowen, 2010). A broad framework of individual differences is needed to understand resilient outcomes in response to adverse conditions (Westphal & Bonanno, 2007). For those who are able to take action in the face of adversity—like Afghan businesspeople—positive reactions add to resilience and productive action (Hobfoll et al., 2007).

We use Tedeschi and Calhoun's (2004) definition of resilience: "an ability to go on with life, or to continue living a purposeful life, after hardship or adversity." Resilience, rather than rare and extraordinary, emerges from relatively ordinary processes that result from unique and unexpected dynamics (Masten, 2001; Sutcliff & Vogus, 2003), and can be learned over time and with experience. Such learning is made possible through a steadfast acceptance of reality, a deep belief that life is meaningful, and a remarkable ability to improvise (Coutu, 2002).

Resilient individuals engage in activities specifically designed to alleviate problems that, in the context of war and terror, can be the lack of meaningful employment, inability to provide for the family financially, and the need to have a daily routine to counteract the chaos caused by the war. Resilient individuals may engage in entrepreneurial activities to directly address these problems. These activities may also help them distract themselves from the experience of war and the associated problems created by the adverse environment (Carver, Scheier, & Weintraub, 1989; Leana & Feldman, 1994; O'Brien & DeLongis, 1996).

The notion of resilience has a central role in entrepreneurship research: Entrepreneurs are likely to remain optimistic in the face of adversity and setbacks (Baron & Markman, 2000; Markman, Baron, & Balkin, 2005). For instance, those starting businesses at times of war and terror may discover ways to circumvent constraints or change them through their actions, whereas less resilient people are easily discouraged by impediments and challenges. Among failed entrepreneurs, those who are more resilient are the ones likely

to start again, should another business opportunity appear (Hayward et al., 2010). Indeed, besides entrepreneurial intentions being affected by perceptions of desirability and feasibility, one's "propensity to act" upon perceived opportunities is also critical (Krueger et al., 2000). The personal disposition to act on one's decisions ("I will do it") is an integrated element of well-formed intentions. Resilient individuals take action in the face of adversity; they have a higher propensity to act than less resilient individuals, who are easily discouraged by the challenges of a dangerous environment. Therefore, we hypothesize that resilience has a positive effect on entrepreneurial intentions.

Hypothesis 2: Resilience is positively related to the intent to start and own a business.

Further, we expect resilience to moderate the relationship outlined in hypothesis 1—more resilient individuals are less affected by perceived danger and are more likely to start and run a business. Indeed, while resilience may be crucial for the pursuit of an entrepreneurial opportunity in any setting, it may have a particularly significant bearing on entrepreneurial decisions under circumstances that are notoriously challenging. For example, Afghan people, who have known war and oppression to be ingrained in daily life for over 30 years, might be expected to be resilient in the face of traumatic and stressful events to persevere and move on with life—perhaps more so than others less accustomed to dangerous or adverse living and working conditions because of the developmental properties of resilience as discussed earlier.

Resilience can be thought of as a resource that individuals are able to mobilize in a time of stress (cf. Hobfoll, 2002). When entrepreneurs are able to be resilient, they are better able to cope with the dangerous environment around them; they are able to take action in the face of adversity, rather than recoil in fear (Folkman & Moskowitz, 2000; Tedeschi & Calhoun, 2004). Frightening and confusing trauma, causing fundamental assumptions to be challenged, can be fertile ground for unexpected positive outcomes (Tedeschi & Calhoun). Resilience makes these positive outcomes during adversity possible (Westphal & Bonanno, 2007). Potential entrepreneurs who have this ability to grow and learn from adversity would therefore be better positioned to partake in the actions needed to start and grow a business (Krueger, 2000). Therefore, we hypothesize that higher levels of resilience reduce the negative effect of perceived danger on entrepreneurial intentions.

Hypothesis 3: Resilience moderates the negative danger–intent relationship such that this relationship is attenuated at higher levels of resilience.

Entrepreneurial Self-efficacy

Self-efficacy, in general, refers to "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3). Rauch and Frese's (2007) meta-analysis found that, among other indicators, generalized self-efficacy and stress tolerance significantly correlated with business creation and success. In a war zone, we specifically extend this to look at the relation of ESE and resilience (a form of stress tolerance) to entrepreneurial intentions. ESE is the degree to which an individual believes that he or she is capable of performing the roles and tasks of the entrepreneur (McGee, Peterson, Mueller, & Sequeira, 2009). ESE has been consistently related to an individual's intent to engage in entrepreneurship, and it has been found to be a key antecedent of entrepreneurial intentions (Boyd & Vozikis, 1994; Jung, Ehrlich, De Noble,

& Baik, 2001; Sequeira, Mueller, & McGee, 2007; Wilson, Kickul, & Marlino, 2007; Zhao et al., 2005).

Self-efficacy and resilience are also related (Benight & Bandura, 2004; Linley & Joseph, 2004): Self-efficacy to manage intense stressors is related to how well people cope. Efficacy beliefs as well as mobilizing and sustaining coping efforts alleviate stress and anxiety. Specifically, previous literature on resilience suggests that individuals with higher levels of self-efficacy also use greater coping strategies (Leana & Feldman, 1994). If those who believe in their entrepreneurial abilities are also resilient, they should be more likely to use entrepreneurship as a mechanism to deal with an adverse environment.

According to the tenets of social cognitive theory, the stronger the sense of efficacy, the bolder people are in taking on the problematic situations that breed stress and the greater their success in shaping them more to their liking (Bandura, Blanchard, & Ritter, 1969; Benight & Bandura, 2004). Resilience and self-efficacy reinforce one another to affect behavior and decisions; belief in one's ability to exercise some measure of control over the entrepreneurial process in the face of challenges and stressors goes hand in hand with resilience (Bandura, 1997). Therefore, those who possess a high sense of ESE as well as resilient abilities are better able to adopt strategies and courses of action designed to change hazardous situations (such as poverty and lack of work at the time of war) into more benign ones (realizing opportunities for entrepreneurship). As pointed out by Luthans, Vogelgesang, and Lester (2006), the more confident people are in task accomplishments, the more likely they have a pathway to resilience where they frame a negative event or setback as a learning experience.

Even when faced with an adverse environment, such as that of Afghanistan over the past 30+ years, some people may pursue new business opportunities because they have a strong belief in their skills and abilities that enables them to overcome environmental adversity. Those who possess higher levels of self-efficacy are better able to cope with such dangers and a resilient ability further reinforces the positive effects of ESE on entrepreneurial decisions. In other words, we expect resilience and ESE to work together and to positively relate to one's entrepreneurial intent. This relationship would indicate that if we want to drive entrepreneurial activity in a country, especially in a country with severe adversity, then we need to engage in activities that build both individuals' self-efficacy and resilience.

Hypothesis 4: Resilience moderates the positive ESE—intent relationship such that this relationship is corroborated at higher levels of resilience.⁴

Methods

To study the hypothesized relationships, we chose a setting that is deemed dangerous, but where private enterprises are commonplace. Afghanistan presents an environment of insecurity, endemic corruption, and a struggling international effort to end what is now a decade-long war. As the United States and its partners in Afghanistan grapple to build a foundation for that country's long-term stability, the private sector and entrepreneurship provide potential for positive change (Cusack & Malmstrom, 2010, 2011).

4. We do not present a separate hypothesis concerning the effect of entrepreneurial self-efficacy on intent because this relationship has been widely tested and established in previous research.

Sampling and Procedures

The labor force distribution in Afghanistan is agriculture (79%), industry (6%), and services (16%) and the average Afghan has less than 2 years of schooling overall. The infant mortality rate is 16%, and the mortality rate of children under the age of 5 is an alarming 26%, the second and third worst in the world, respectively. Afghanistan is ranked “high” on the degree of risk for infectious diseases, and the life expectancy for both men and women is around 44 years of age, with a median age of 18 (CIA, 2010). All of these characteristics describe a country at war where living—let alone starting and running a business—is challenging and can be dangerous. Afghanistan also has one of the highest illiteracy rates in the world with approximately 49% of Afghans over the age of 15 unable to read or write (USAID, 2010). While the literacy rate among Afghans is low, the participants in our sample were mostly literate and have had at least a primary education. Survey taking in our population of interest is uncommon, and reading comprehension levels add to the challenges of such research. Furthermore, survey research in a war zone is particularly challenging given the constant lockdowns and restricted movement limitations imposed on our expat research team for their safety.

While researchers in more traditional research environments can often rely on a variety of secondary sources (such as business registers) to build their sampling frame, these options are either not available in Afghanistan or are of very low quality. The Afghan business community is relationship based and expatriates and Afghan businessmen and businesswomen work closely together, relying on referrals and networking to get various day-to-day tasks completed. It is through these relationships that we were able to collect our data. Even when relying on these relationships, our objectives were sometimes questioned, as is common in a context where people often distrust those they do not know personally.

For this study, our methodology involved surveying individuals who were in a position in their lives where they could start new businesses. We targeted adults ages 18–50 and collected data in two phases: phase I in the first 3 months of 2010, and a second phase II in July to October 2010. The phase I sample includes 163 Afghan male and female professionals in the working community in the capital city of Kabul. The research team used their relationships at a Kabul-based university and in the community to gather the initial sample, and then further employed snowball sampling⁵ (Gilbert, 1993) for a wider reach. Snowballing is useful when no adequate sampling frame exists and the target population—in this case, Afghan adults who may have the necessary means and interest to start businesses—is dispersed geographically. This approach has been frequently used to obtain research data (Grant & Mayer, 2009; Martins, Eddleston, & Veiga, 2002) and may be the only sampling option available (Bonaccorsi, Giannangeli, & Rossi, 2006). Essentially, it was the only sampling procedure that could be employed in a country where foreign access to many areas is strictly limited, reliable directories are scarce, and people are likely to distrust a request for personal data from a stranger while being more willing to disclose information when asked by a friend.

In phase II, the research team sought to get into the community beyond the reach of the highly educated expat and university relationships. To achieve this, we hired three graduates from a women’s business development training program as consultant survey collectors. We trained these consultants on proper survey taking techniques and sent them into their communities, unreachable safely by the expat research team. In cases where

5. In our snowball sampling, recruitment began with direct contacts and each participant was asked to recruit others, engaging people who would not have been contacted otherwise.

Table 1

Descriptive Statistics

Variable	N (% of those reporting)	% missing	Mean	SD
Gender		16.20	1.65	.478
Women	148 (54.4)			
Men	80 (29.4%)			
Highest level of education		13.60	3.36	.716
No formal education	7 (2.6%)			
Elementary school	12 (4.4%)			
High school	106 (39%)			
College/university	110 (40.4%)			
Age	264	2.90	29.69	9.51
Years of paid work experience	250	8.10	4.91	5.91
Number of businesses previously owned	209	23.20	0.77	1.07
Necessity entrepreneur (2 = yes, 1 = no)	247	9	1.11	.31
Entrepreneurial intentions	271	.40	5.84	1.21
Perceived danger	271	.40	2.80	.79
Self-efficacy	271	.40	3.91	1.00
Resilience	266	2.20	3.98	.90

participants were not literate, the survey collectors were trained to read the survey to them and fill in the responses for the participant. Phase II also included a round of applicants to a women's business development training program, which also allowed us to extend our sample reach to include women from the provinces outside of Kabul. In the end, our phase II sample included data from 109 individuals, giving us a total sample of 272 participants. Women are slightly overrepresented in the sample as a result of the participating university focusing on programs catering specifically to women's business education. In addition, since our hired survey collectors were women and contact between women and men in Afghanistan is limited, we obtained fewer surveys from men in the community (see Table 1 for sample descriptive statistics). In addition to the data collection challenges previously discussed, given the almost 80% agricultural nature of the larger Afghan population, we believe that our slightly older, more educated sample is representative of the more urban population where people have more access to education and are more likely to start businesses. Finally, the varied nature of the avenues we leveraged to collect the data (multiple groups surveyed by multiple survey collectors) limits any concern of bias that the respondents wanted to impress the administrators or were led to answer questions in any particular direction.

As indicated by the descriptives in Table 1, 40% of our respondents have attended college or university. Even though our respondents are clearly more educated and literate than average Afghan citizens, they are not too familiar with survey procedures. This resulted in a fairly high level of missing data in our dataset, as demonstrated in Table 1. In our final analyses, we included only those cases for which complete data were available for all variables.

Because of the challenges of empirical data collection in our research setting, we chose to collect data on both the independent and the dependent variables in the same survey. To combat common method variance, the following steps were taken (as recommended by Chang, Van Witteloostuijn, & Eden, 2010). First, we used different scale types,

as described in the next section. Second, respondents were assured of their anonymity and confidentiality and instructed to answer as honestly as possible because this research had no bearing on their businesses or personal safety. Third, to reduce problems with respondent comprehension of items, ambiguous, vague, or unfamiliar terms were not included; ensured through the careful translation and back-translation procedure. Finally, Siemsen, Roth, & Oliveira (2010) show that a correlation of measurement errors of dependent and independent variables does not create artificially significant moderation or interaction effects. Therefore, our findings related to moderation effects should be robust to common-method variance.

Measures

All surveys (both phase I and phase II) were administered using a paper-and-pencil technique. Our past experiences in Afghanistan taught us that surveys are difficult to collect, so we needed to keep our survey as streamlined and easy to understand as possible. We created a Dari language⁶ version of all measures by following the commonly used translation/back translation procedure (Brislin, 1980). Differences in the original and the back-translated versions were discussed and resolved by joint agreement between the translators and the research team.

Entrepreneurial Intentions. We used Liñán and Chen's (2009) entrepreneurial intentions questionnaire, which has 6 items asked on a 7-point Likert-type scale ranging from "total disagreement" to "total agreement." Sample items include, "I am ready to do anything to be an entrepreneur" and "My professional goal is to become an entrepreneur." Reliability statistic (Cronbach's alpha) for this scale suggests that the scale is reliable at $\alpha = .867$ (Nunnally, 1978).

Perceived Danger. Perceived danger was measured using King et al.'s (1995, 2003) perceived threat scale originally developed in 1995 and updated in 2003 for work with the U.S. federal government. The perceived threat scale was designed to assess soldiers' emotional or cognitive appraisals of their own safety and well-being during combat in a war zone. Because many of the 15 items in the original scale reflect potential exposure in combat circumstances, we limited our study to use a subset of items and eliminated those related to, for example, "enemy use of nuclear, biological, chemical agents," or "fear that protective equipment wouldn't work." Ten Likert-type items on a 5-point scale ranging from "strongly disagree" to "strongly agree" were used in this study. Sample items include, "Sometimes I feel I won't survive" and "I feel that I am in great danger of being killed or wounded." King and associates' scale items were worded in the past tense because soldiers were surveyed upon returning from combat; we therefore revised the items to reflect the present tense because the participants in this study were currently living in a war zone and under extreme conditions. Cronbach's alpha for this scale is .742, which indicates a reliable scale (Nunnally, 1978).

To investigate the validity of the perceived danger scale in a civilian population, we compared the perceived danger scale mean of the Afghan sample with a comparison sample collected from graduate students in a classroom at a university in the United

6. While there are numerous dialects in Afghanistan, including Pashto, Dari is the official language in the business, professional, and government communities, and is spoken by 50% of the country's population (CIA, 2010).

States. There was a significant difference in the 5-point scale means indicating that the Afghan sample⁷ ($M = 2.80$, standard deviation [SD] = .79) indeed perceived more danger than the American sample⁸ ($M = 1.76$, $SD = .58$); $t(368) = 13.75$, $p < .001$. In addition, the perceived threat scale was originally designed for the military, which have been found to have higher reported levels of perceived threat (King, King, Vogt, Knight, & Sampler, 2006; Vogt, Proctor, King, King, & Vesterling, 2008). King et al.'s sample mean for military ($M = 3.16$) is significantly higher than our Afghan sample mean: $t(627) = 5.85$, $p < .001$. Also, the mean perceived threat reported for combat/combat-support military by Vogt et al. ($M = 3.01$) is significantly higher than that in our sample: $t(910) = 4.39$, $p < .001$. These comparisons provide evidence of construct validity in two ways. First, the environment in Afghanistan is arguably more dangerous than in the United States, as reflected in the mean scores for perceived danger. Second, most Afghan civilians have been raised in one war after another. Therefore, they are more conditioned to living their daily lives in dangerous contexts. On the other hand, military personnel are away from home, at war, and learning to operate in a foreign land. Therefore, international military personnel would perceive more danger than an Afghan civilian, and this is reflected in the mean scores for perceived danger.

Self-Efficacy. We used Zhao et al.'s (2005) ESE scale of 4 items on a 5-point Likert-type scale ranging from "no confidence" to "complete confidence." This ESE scale gauges an entrepreneur's confidence with regard to identifying business opportunities, creating new products, creative thinking, and commercializing an idea for development. Cronbach's alpha for this scale is .817, indicating good reliability (Nunnally, 1978).

Resilience. Resilience was tested using Sinclair and Wallston's (2004) brief resilience coping scale, which is a 4-item, 5-point Likert-type scale ranging from "does not describe me at all" to "describes me very well." Sample items include, "I believe I can grow in positive ways by dealing with difficult situations" and "I actively look for ways to replace the losses I encounter in life." The scale is reliable (Nunnally, 1978) with a Cronbach's alpha of .712.

Control Variables. In the tests, we controlled for three types of human capital, since these may impact the focal relationships (Davidsson & Honig, 2003; Zhao et al., 2005): *work experience*, *number of businesses previously owned*, and *college education* (dummy). To achieve normality, work experience of over 10 years was recoded as "10," and previous businesses owned that exceeded two were coded as "2." We also controlled for *gender*, given the prevalence of gender differences in Afghanistan (Joya, 2009; Tzemach, 2008), as well as respondent's *age*. Further, in a country like Afghanistan, many people may be "pushed" to self-employment in the absence of other work opportunities (Wennekers, van Stel, Thurik, & Reynolds, 2005), and their intentions may differ from those who are pursuing more lucrative business opportunities. Hence, we control for *necessity motivation* (dummy) as measured with an item adopted from the Global Entrepreneurship Monitor studies (Reynolds et al., 2005): "Are you involved in this start-up to take advantage of a business opportunity or because you have no better choices for work?" Responses of "No better choices for work" were coded as "1" for necessity entrepreneurship; other responses were coded as a zero. Finally, we also controlled for whether the respondent was a part of the first or second *phase of data collection*.

7. $N = 272$.

8. $N = 98$.

Analyses and Results

Before proceeding to testing the hypotheses, we examined the characteristics of our scale variables. This initial examination revealed high entrepreneurial intentions in the Afghan sample; on the 7-point Likert scale, the average for the 6-item intent scale (our dependent variable) was 5.84 (SD = 1.21), with only 26% of the sample averaging a scale mean at 5 or below (n = 272). High intent levels were further confirmed with another variable included in the survey at the second phase of data collection: "If you were to choose between running your own business and being employed by someone, what would you prefer?" (Kolvereid, 1996; Kolvereid & Oystein, 1997). The response options for this 7-point Likert-type item varied from "to be employed by the government, an NGO, or a large business," (1) to "run my own business" (7). The mean for this item is 5.4 (SD = 2.31; n = 98), with 55% of respondents answering at value "7" indicating total preference for owning a business over being employed by someone else. Our dependent variable, the entrepreneurial intentions scale mean, is significantly and positively correlated with "running my own business" as employment preference ($r = .26, p < .05$), suggesting that high entrepreneurial intentions in the sample really reflect a preference for entrepreneurship, not just an absence of other job opportunities.

Our initial data screening showed that while the values on entrepreneurial intentions were high, non-normality was not a significant problem for any of our measurements. Multiple hierarchical regression analysis was used to test our hypotheses.

Table 2 reports the correlations. These correlations show that perceived danger is negatively and significantly related to entrepreneurial intentions, indicating initial support for hypothesis 1. Since self-efficacy and resilience are positively correlated, variance inflation factors (VIF) were calculated as a part of every regression procedure to investigate multicollinearity. All VIF values were comfortably low (below 1.8) (O'Brien, 2007). The other main assumptions for using multiple linear regressions (normality of the variables and homoscedasticity) were also met.

The tests of all hypotheses are presented in Table 3. Model 1 includes the control variables, out of which necessity motivation for entrepreneurship is the only variable significantly related to the dependent variable, entrepreneurial intentions. This implies that those pushed to entrepreneurship as the only way to get by have significantly lower levels of entrepreneurial intentions than those for whom entrepreneurship would be a preferred occupational choice (opportunity entrepreneurs).

Model 2 (Table 3) regressed entrepreneurial intentions on the independent variable of perceived danger. Perceived danger is significantly and negatively related to entrepreneurial intentions ($\beta = -.18, p < .05$), supporting hypothesis 1 (adjusted $R^2 = .06$). Model 3 provides support for hypothesis 2: Resilience is positively and significantly related to entrepreneurial intentions ($\beta = .49, p < .01$; adjusted $R^2 = .25$).

Hypothesis 3 suggested that resilience would moderate the perceived danger–intent relationship; a moderated regression analysis is appropriate for testing the effects (Aiken & West, 1991). To deal with possible multicollinearity between the interaction term and its components, we mean centered both resilience and perceived danger variables before creating the interaction term through a multiplication of the two variables (Aiken & West). Model 4 in Table 3 presents the results of the moderated regression analysis; the interaction effect is not significant.

Given the cross-sectional nature of our sample, which may deflate interaction effects (Siemsen et al., 2010), and the relatively small sample size for the final regressions (n = 146), which can be problematic for moderated regression analyses (Aguinis &

Table 2
Correlations and Descriptive Statistics

Correlations	N	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Entrepreneurial intentions	271	5.84	1.21	1											
2. Perceived danger	271	2.80	.79	-.19**	1										
3. Resilience	266	3.98	.90	.44**	-.24**	1									
4. Entrepreneurial self-efficacy	271	3.91	1.00	.45**	-.23**	.50**	1								
5. Gender (female)	228	1.65	.48	.10	-.17*	.17*	.14*	1							
6. Age	264	29.70	9.51	.03	.17**	.06	.06	-.07	1						
7. Work experience (years, recoded)	250	4.03	3.44	.07	.04	.15*	.08	-.06	.48***	1					
8. Businesses previously owned (recoded)	209	.68	.73	.06	.09	-.05	.04	-.16*	.32**	.20**	1				
9. College education (dummy)	235	1.47	.50	-.02	-.09	.13	.07	-.13	-.07	.00	-.03	1			
10. Necessity entrepreneur (dummy)	247	1.11	.31	-.21**	.05	-.18**	-.25***	-.11	.05	-.01	.10	-.08	1		
11. Employment preference (entrepreneurship)	98	5.44	2.31	.26*	-.05	.26*	.09	.02	.12	.05	.05	.02	1		
12. Wave of data collection	272	1.40	.50	-.08	-.07	-.00	.00	.19**	.02	.04	-.02	.03	-.11	.00	1

** $p < .01$; * $p < .05$

Note: Correction added on 27 February 2013, after initial online publication on 16 January 2013. The correlation between Perceived danger and Entrepreneurial intentions was corrected from .19** to -.19** in this version of the article.

Table 3

Results of Regression Models, Tests of Hypotheses 1–4 (n = 146)

	Control model Model 1	Hypothesis 1: Danger Model 2	Hypothesis 2: Resilience Model 3	Hypothesis 3: Resilience × danger Model 4	Controls + ESE Model 5	Controls + ESE + resilience Model 6	Hypothesis 4: Resilience × ESE Model 7
Controls	Gender (female) .09 Age .09 Work experience .05 Businesses previously owned .01 College education -.10 Necessity entrepreneur -.21* Wave of data collection -.08 	.07 .10 .06 .01 .03 -.12 -.10 -.21* -.09 -.18* .49** .04 .08 .11 .06 n.s. 1.65	.01 .07 -.06 .03 .03 -.12 -.10 -.10 .01 -.04 .49** .04 .30 .25 ** n.s. 2.09*	.01 .07 -.06 .03 .01 -.09 -.10 -.10 .01 -.04 .49** .04 .30 .25 ** 	.03 .03 .04 .01 .01 -.10 -.10 -.10 .01 -.04 .42** .04 .20 .15 .15 ** 5.73**	.00 .04 -.05 .03 .03 -.10 -.07 -.07 .03 .02 .43** .04 .17* .32 .27 .27 ** 4.17**	-.03 .00 -.05 .03 .03 -.06 -.06 -.06 .02 .02 .43** .04 .17* .21* .20** .35 .30 * 6.55** 6.97**
Moderation	R-square Adjusted R-square R-squared change [‡] F-value	.08 .03 n.s. 1.65	.11 .06 * 2.09*	.30 .25 ** 6.38**	.20 .15 ** 5.73**	.37** .32 .27 ** 4.17**	.17* .21* .20** .35 .30 * 6.97**

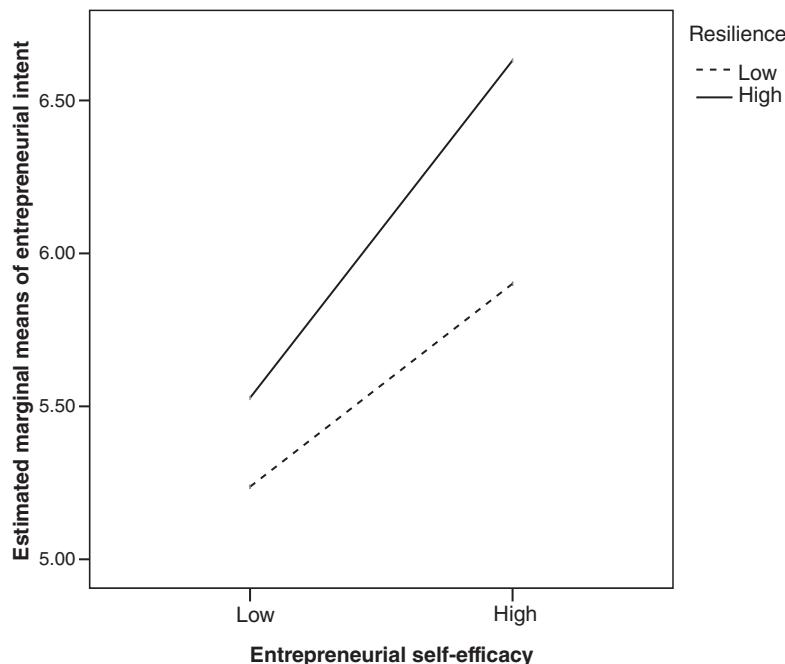
[†] $p < .10$; * $p < .05$; ** $p < .01$; Beta-coefficients are standardized.[‡] Models 2–4: Compared with previous model. Model 5, compared with Model 1. Models 6–7: Compared with previous model.

Dependent variable: Entrepreneurial intentions.

ESE, entrepreneurial self-efficacy; n.s., not significant; IV, independent variable.

Figure 2

Moderating Effect of Resilience on the Entrepreneurial Self-Efficacy to Intent Relationship



Stone-Romero, 1997), we decided to investigate the resilience \times perceived danger interaction in a larger sample without the control variables. After removing one multivariate outlier, the interaction model without the controls ($n = 264$) shows that resilience has a marginally significant moderating effect ($p < .10$) on the perceived danger–intent relationship. The direction of this interaction shows that the negative relationship between perceived danger and entrepreneurial intentions is weaker among those who are very resilient, as suggested in our hypothesis 3. Clearly, this marginally significant interaction effect should be interpreted with caution, and future research should investigate the reliability of this moderation in larger samples.

Model 5 shows that ESE is a positive predictor of entrepreneurial intentions ($\beta = .37$, $p < .01$). We did not hypothesize this effect but based on widely established empirical support from previous research, this relationship was expected.

Hypothesis 4 suggested that resilience would interact with ESE to impact entrepreneurial intentions. Again, a moderated regression analysis is appropriate for testing the effects (Aiken & West, 1991). As before, we mean centered both resilience and ESE before creating the interaction term through a multiplication of the two variables (Aiken & West). Model 7 in Table 3 suggests that this interaction has a significant effect ($p < .01$) on entrepreneurial intentions. The interaction is depicted in Figure 2. This figure shows that the positive relationship between ESE and entrepreneurial intentions is intensified for those who are very resilient, supporting our hypothesis 4.

Finally, given the prevalence of gender differences in Afghanistan (Joya, 2009; Tzemach, 2008), we wanted to test, *post hoc*, whether the effects of danger, resilience, and

ESE on entrepreneurial intentions would differ between men and women. Among men ($n = 79$), perceived danger is a marginally significant negative predictor of entrepreneurial intent ($\beta = -.21, p = .06$), while the effect of this variable among women ($n = 145$) is slightly more significant, and still negative ($\beta = -.17, p < .04$). Resilience is positively and significantly related to intentions in both groups ($\beta = .44, p < .001$ for men; $\beta = .48, p < .001$ for women), and the same is true for ESE ($\beta = .41, p < .001$ for men; $\beta = .44, p < .001$ for women). The Chow (1960) test is the most popular way of testing whether the parameter values associated with one data set are the same as those associated with another data set. The regression coefficients and significance levels reported previously do not suggest large differences between men and women, but to be sure, we ran the Chow test to compare the groups. The test statistic was not significant for any of the regressions: $F_{2, 224} = .54$ (n.s.) for perceived danger, $F_{2, 224} = .23$ (n.s.) for ESE, and $F_{2, 220} = .14$ (n.s.) for resilience. There are no significant differences between men and women in terms of how perceived danger, resilience, and ESE relate to entrepreneurial intentions.

Discussion

The importance of entrepreneurial initiative for rebuilding war and conflict zones is indisputable, yet little is known about the factors that are related to individuals' entrepreneurial decisions in such environments. This study begins to flush out a missing but important facet of entrepreneurship in adverse conditions by explaining the importance of resilience and self-efficacy for entrepreneurial intentions in war and terrorism settings. We build on prior insights into the antecedents of entrepreneurial intentions, like self-efficacy, in peaceful and stable environments (Ajzen, 1991; Krueger et al., 2000; Zhao et al., 2005) and complement these previous models with insights from literature on perceived danger (Fredrickson et al., 2003; King et al., 1995) and resilience (Branzei & Abdnour, 2010; Hayward et al., 2010).

Social cognitive career theory posits that individuals' career interests are more likely to turn into intentions and then actions when they perceive beneficial environmental conditions as opposed to hostile conditions, and when they have high levels of career-specific self-efficacy. Social cognitive variables (e.g., self-efficacy) function in concert with other personal factors (e.g., resilience), and environments (e.g., danger zones) to affect career goals, such as those related to entrepreneurship (Lent & Brown, 1996). Supporting this theoretical framework, we have found that perceptions of environmental danger inhibit entrepreneurial intentions, but the combination of resilience and ESE enhance such intentions in a danger zone. Resilience is particularly important; besides its immediate and direct positive effect of entrepreneurial intentions, resilience in a danger zone interacts with self-efficacy to impact entrepreneurial intentions. Also, resilience slightly attenuates the negative relationship between perceived danger and entrepreneurial intentions. However, the support we find for this moderation is marginal, and further research is needed to confirm this result. Most importantly, resilience and ESE significantly intensify each other's positive relationship with entrepreneurial intentions, indicating that both constructs are important for the understanding of entrepreneurship in danger zones.

Our model and findings begin to fill the gap in our knowledge of what drives entrepreneurial initiative in highly adverse conditions (i.e., in economies subject to war and terror). While macro-level research on business development in such conditions exists, we believe that our study is unique in that we explore individual-level antecedents of, and variation in, entrepreneurial intentions.

Our empirical results come from a sample of Afghans who live in adverse conditions of war and terror, for whom decisions about ways to make their daily living, including entrepreneurship, are salient. Entrepreneurial intentions in our sample are very high. Such intent levels are not completely surprising given that unemployment in Afghanistan is at 35% (CIA, 2010), and unemployment has been found to have positive effects on new firm creation and self-employment (Caliendo & Kritikos, 2010; Meager, 1992; Storey, 1991; Tervo & Ritsilä, 2002; Wang, 2006). Furthermore, entrepreneurial activities have been argued to generate higher economic returns than alternative employment opportunities under terrorism conditions (Branzei & Abdelnour, 2010), and Afghanistan does not have unemployment insurance that would financially protect people who lose their jobs, another macro-level characteristic that has been linked with high levels of self-employment in past research (Wang).

An environment that is perceived as highly dangerous is negatively related to the entrepreneurial intentions of its people. Some individuals perceive the objectively same situation as more dangerous than do others, and this anxiety about the environment is negatively related to their entrepreneurial intentions (Gist & Mitchell, 1992). These negative effects may be due to, for example, experiencing anxiety about starting and running a business, perceiving less control over outcomes, or judging the likelihood of receiving positive rewards to be low. We uncovered a marginally significant moderation effect of resilience on the perceived danger–intent relationship. Previous research from domains outside of entrepreneurship has described resilience as a resource that individuals are able to mobilize in a time of stress or adversity allowing them to overcome barriers in various domains of life (e.g., Gabriel, Diefendorff, & Erickson, 2011; Rossi, Bisconti, & Bergeman, 2007). It looks like resilience can have a similar role in entrepreneurship, enabling the development of entrepreneurial intentions in dangerous environments. Even in conditions that are perceived as dangerous, individuals who believe in their abilities and can be resilient to persevere through hardships are better equipped to start businesses. However, further research is needed to confirm this marginally significant moderated relationship found here.

We have shown that resilience is strongly and positively related to entrepreneurial decisions under circumstances that are notoriously challenging. In fact, in our empirical models, the association of resilience with entrepreneurial intentions is stronger than, for example, the relationship between self-efficacy and intentions. This importance of resilience for the development of entrepreneurial intentions complements previous studies where entrepreneurs have been profiled as individuals who stay optimistic and persist even in the face of setbacks (Baron & Markman, 2000; Hayward et al., 2010; Markman et al., 2005). Our findings are also an important extension of previous research that has investigated enterprise resilience and terrorism (e.g., Branzei & Abdelnour, 2010; Hayward et al.). Also, our findings are in line with psychological theories suggesting that resilience can buffer the negative effects of stressors, such as war and terror-related threats. Optimistic orientation and ability to positively adapt are valuable psychological resources that can aid stress resistance and facilitate coping, general contentment, and adjustment to stressful circumstances (Joseph & Linley, 2008; Meyer, 1982). Combined, our results from the empirical analysis suggest that self-efficacy, resilience, and perceived danger should be elements in future attempts to understand entrepreneurship under conditions of war and terror.

With regard to self-efficacy, it is interesting to note that its positive effect on entrepreneurial intentions, widely observed in previous research typically from developed countries and safe environments, is significantly corroborated in the presence of resilience. Resilience and self-efficacy reinforce one another in their relationship with

entrepreneurial intentions; relying on their resilience, those who also possess a high sense of ESE are able to adopt strategies in the face of adversity designed to change hazardous conditions for themselves and their families through entrepreneurship. The stronger the sense of efficacy, the more likely the people to have a pathway to resilience where they frame a negative event or setback as a learning experience (Luthans et al., 2006). Such individuals, instead of being passive bystanders, may develop intentions to change the status quo of their communities through entrepreneurial initiatives.

Practical Implications

For those looking to promote entrepreneurship in adverse environments and conflict zones, our research provides some important implications. First, when an individual's focus is on surviving and avoiding immediate threats, their pursuit of potential long-term business enterprises can be jeopardized. Hence, the primary focus in adverse environments should be on creating an (business) environment that is perceived as safe by potential entrepreneurs. In Afghanistan, great effort is being expended to end the war and turn the country over to a democratic, capitalist system (Aikins, 2011), although the reality is that the progress of these efforts has been slow.

Second, even when the environment is dangerous, people are likely to develop intentions for entrepreneurship when they believe they have the necessary skills (self-efficacy) and when they are resilient and can persevere through challenging and even dangerous conditions. Resilience helps individuals focus on long-term goals and productive activities even when times are tough—the old adage, “that which doesn’t kill you, makes you stronger.” Of course, enhancing individuals’ confidence and resilience still does not assure that they will succeed as entrepreneurs—it only increases the likelihood that they will consider an entrepreneurial career.

Since both self-efficacy and resilience can be developed (Coutu, 2002; Wilson et al., 2007), educators should work to foster them through entrepreneurship and business development training. Activity, practice, and feedback are particularly important for developing personal performance standards, a sense of efficacy, and outcome expectations based on performance (Lent & Brown, 1996). Potential entrepreneurs can learn by modeling others (Bandura, 1977) who have successful businesses born out of turbulent times. This indicates that mentoring and speaking events by those who have found positive personal growth as a result of learning from adverse events (McMillen, 1999; Meyer, 1982), and training, might help boost the self-efficacy, coping, and resilience of aspiring entrepreneurs. Those who have shown resilience and can be role models may also thrive from a need for nobility and altruism to give back to society, which have been cited as a part of resilience (Richardson, 2002), and therefore might be especially willing to help aspiring entrepreneurs. Also, for both men and women, increasing the frequency of media coverage of start-up stories, integrating entrepreneurship curriculum throughout the education system, and creating opportunities for extracurricular entrepreneurship activities would all be worthwhile endeavors to promote self-efficacy and resilience in potential entrepreneurs (GEM, 2010).

Limitations and Directions for Future Research

The primary limitations of our study stem from our use of self-report data and a single data collection method (surveys), which raises concerns about common method variance. However, multicollinearity was not an issue in our analyses, and common method

variance should not inflate the significance of interaction effects (Siemsen et al., 2010). Also, while the location of our sample is critical for a study of entrepreneurial intentions in a conflict zone, it nonetheless posed problems with data collection because of the danger such activities bring for the research team, and the cultural limitations (literacy, education, unfamiliarity with survey and social science research, etc.) imposed on the survey collectors and potential participants. The realities of empirical data collection in a war zone also forced us to make the survey as short as possible, while still capturing all the relevant constructs. This means that in our selection of instruments, we favored shorter scales even if some longer scales (e.g., McGee et al., 2009) may have offered a more robust evaluation of the construct. In addition, more data from the provinces outside the capital city would have been ideal, but access was an issue.

For those interested in entrepreneurial behaviors, our use of a behavioral intention measure as the dependent variable may be considered a limitation. However, the link between behavioral intent and subsequent behavior has been established (Ajzen, 1991; Bird, 1988; Sheppard, Hartwick, & Warshaw, 1988; Souitaris, Zerbinati, & Al-Laham, 2007; Wilson et al., 2007), although certainly more empirical research is needed to improve our understanding of the intent–behavior relationship and to provide more unifying theory on entrepreneurship in adverse conditions. Longitudinal research that examines who actually starts a business or succeeds as an entrepreneur in an adverse environment is an important direction for future research, especially given the importance of entrepreneurship for sustainable development.

In this paper, we test the effects of perceived danger in an extreme context. Danger can be perceived in many other parts of the world and even in subcultures of countries considered to be safe. Interesting future research would include more countries so that war zones like Afghanistan can be compared with countries with other adverse conditions—for example, conditions of poverty compared with the added limitations of war or civil unrest—as well as countries with entrepreneurially favorable environments. Such research could tackle questions related to the relative importance of resilience and self-efficacy depending on the level of adversity, and whether less desirable conditions actually breed stronger, more resilient entrepreneurs.

Conclusion

Our study makes important contributions to entrepreneurship research in an under-researched, yet important context of war and terror. In addition to contributing to the literature on entrepreneurial intentions through an examination of novel antecedents (resilience and perceived danger), we expect this research to provide guidance for educators and policy makers who are trying to increase productive entrepreneurship in a variety of adverse environments. We also believe that continued behavioral research in original contexts, like war zones and adverse conditions, builds the understanding of how and why people engage in entrepreneurial activities. This study specifically helps us better understand why some are able to grow rather than retreat when faced with intense obstacles. With increased understanding of the importance of self-efficacy and resilience, educators can use this information to help more people who might otherwise have shied away from becoming involved in the economy. The men and women who believe in their abilities and are tough enough to persevere are transformational examples who can inspire and motivate others to engage in businesses that grow and develop their communities.

REFERENCES

- Aguinis, H. & Stone-Romero, E.F. (1997). Methodological artifacts in moderated multiple regression and their effects on statistical power. *Journal of Applied Psychology*, 82(1), 192–206.
- Aiken, L.S. & West, S.G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.
- Aikins, M. (2011, March 23). How to end the war in Afghanistan? *Foreign Policy*. Available at http://www.afpak.foreignpolicy.com/posts/2011/03/23/how_to_end_the_war_in_afghanistan, accessed 25 April 2011.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211.
- Ajzen, I. & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice Hall.
- Armitage, C.J. & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology*, 40, 471–499.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191–215.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Bandura, A., Blanchard, E.B., & Ritter, B. (1969). Relative efficacy of desensitization and modeling approaches for inducing behavioral, affective, and attitudinal changes. *Journal of Personality and Social Psychology*, 13, 173–199.
- Baron, R.A. & Markman, G.D. (2000). Beyond social capital: How social skills can enhance entrepreneurs' success. *Academy of Management Executive*, 14(1), 106–116.
- Baumol, W.J. (1996). Entrepreneurship: Productive, unproductive, and destructive. *Journal of Business Venturing*, 11(1), 3–22.
- Benight, C.C. & Bandura, A. (2004). Social cognitive theory of posttraumatic recovery: The role of perceived self-efficacy. *Behaviour Research and Therapy*, 42, 1129–1148.
- Bird, B. (1988). Implementing entrepreneurial ideas: The case for intention. *Academy of Management Review*, 13(3), 442–453.
- Blomberg, S.B., Hess, G.D., & Orphanides, A. (2004). The macroeconomic consequences of terrorism. *Journal of Monetary Economics*, 51, 1007–1032.
- Bonacorsi, A., Giannangeli, S., & Rossi, C. (2006). Entry strategies under competing standards: Hybrid business models in the open source software industry. *Management Science*, 52(7), 1085–1099.
- Bonanno, G.A., Rennicke, C., & Dekel, S. (2005). Self-enhancement among high-exposure survivors of the September 11th terrorist attack: Resilience or social maladjustment? *Journal of Personality and Social Psychology*, 88(6), 984–998.
- Boyd, N.G. & Vozikis, G.S. (1994). The influence of self-efficacy on the development of entrepreneurial intentions and actions. *Entrepreneurship Theory and Practice*, 18(4), 63–77.
- Branzei, O. & Abdelnour, S. (2010). Another day, another dollar: Enterprise resilience under terrorism in developing countries. *Journal of International Business Studies*, 41(5), 804–825.

Brislin, R.W. (1980). Translation and content analysis of oral and written materials. In H.C. Triandis & W.W. Lambert (Eds.), *Handbook of cross-cultural psychology* (Vol. 2, pp. 349–444). Boston, MA: Allyn & Bacon.

Caliendo, M. & Kritikos, A. (2010). Start-ups by the unemployed: Characteristics, survival and direct employment effects. *Small Business Economics*, 35(1), 71–92.

Carver, C.S., Scheier, M.F., & Weintraub, J.K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267–283.

Chang, S.-J., Van Witteloostuijn, A., & Eden, L. (2010). From the editors: Common method variance in international business research. *Journal of International Business Studies*, 41(2), 178–184.

Chow, G.C. (1960). Tests of equality between sets of coefficients in two linear regressions. *Econometrica*, 28, 591–605.

CIA. (2010). CIA World Factbook [Electronic Version]. Available at <https://www.cia.gov/library/publications/the-world-factbook/index.html>, accessed 26 July 2010.

CIPE. (2010). *Afghan business attitudes on the economy, government, and business organizations. 2009–2010 Afghan business survey, final report*. Washington, DC: Center for International Private Enterprise.

Cope, J. (2011). Entrepreneurial learning from failure: An interpretative phenomenological analysis. *Journal of Business Venturing*, 26(6), 604–623.

Cornwall, J.R. (1998). The entrepreneur as a building block for community. *Journal of Developmental Entrepreneurship*, 3(2), 141–149.

Coutu, D.L. (2002). How resilience works. *Harvard Business Review*, 80(5), 46–55.

Cusack, J. & Malmstrom, E. (2010). *Afghanistan's willing entrepreneurs. Supporting private sector growth in the Afghan economy*. Washington, DC: Center for a New American Security.

Cusack, J. & Malmstrom, E. (2011). *Bacterial gold: Challenges and hope for private-sector development in Afghanistan*. Kauffman Foundation Research Series.

Czinkota, M.R., Knight, G.A., Liesch, P.W., & Steen, J. (2010). Terrorism and international business: A research agenda. *Journal of International Business Studies*, 41, 826–843.

Davidsson, P. & Honig, B.L. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing*, 18(3), 301–331.

Demirguc-Kunt, A., Klapper, L.F., & Panos, G.A. (2009). Entrepreneurship in post-conflict transition: The role of informality and access to finance. The World Bank Development Research Group Finance and Private Sector Team. Available at http://econ.worldbank.org/external/default/main?pagePK=64165259&piPK=64165421&theSitePK=469372&menuPK=64216926&entityID=000158349_20090518152429, accessed 11 March 2011.

Dewald, J. & Bowen, F. (2010). Storm clouds and silver linings: Responding to disruptive innovations through cognitive resilience. *Entrepreneurship Theory and Practice*, 34(1), 197–218.

Douglas, E.J. & Shepherd, D.A. (2002). Self-employment as a career choice: Attitudes, entrepreneurial intentions, and utility maximization. *Entrepreneurship Theory and Practice*, 26, 81–90.

El Jack, A. (2007). Gendered implications: Development-induced displacement in Sudan. In P. Vandergeest, P. Idahosa, & P.S. Bose (Eds.), *Development's displacements: Ecologies, economies, and cultures at risk* (pp. 61–81). Vancouver, BC: UBC Press.

Folkman, S. & Moskowitz, J.T. (2000). Positive affect and the other side of coping. *American Psychologist*, 55, 647–654.

Fredrickson, B.L., Tugade, M.M., Waugh, C.E., & Larkin, G.R. (2003). What good are positive emotions in crises? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology*, 84(2), 365–376.

Gabriel, A.S., Diefendorff, J.M., & Erickson, R.J. (2011). The relations of daily task accomplishment satisfaction with changes in affect: A multilevel study in nurses. *Journal of Applied Psychology*, 96(5), 1095–1104.

GEM. (2010). *Global Entrepreneurship Monitor: GEM-MENA Regional Report 2009 (Middle East and North Africa)*. Egypt: International Development Research Center with contributions from Palestine Economic Policy Research Institute (MAS).

Gilbert, N. (1993). *Researching social life*. London: Sage.

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.

Grant, A.M. & Mayer, D.M. (2009). Good soldiers and good actors: Prosocial and impression management motives as interactive predictors of affiliative citizenship behaviors. *Journal of Applied Psychology*, 94(4), 900–912.

Gupta, V.K., Turban, D.B., Wasti, S.A., & Sikdar, A. (2009). The role of gender stereotypes in perceptions of entrepreneurs and intentions to become an entrepreneur. *Entrepreneurship Theory and Practice*, 33(2), 397–417.

Hayward, M.L.A., 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.

Hobfoll, S.E. (2002). Social and psychological resources and adaptation. *Review of General Psychology*, 6(4), 307–324.

Hobfoll, S.E., Hall, B.J., Canetti-Nisim, D., Galea, S., Johnson, R.J., & Palmieri, P.A. (2007). Refining our understanding of traumatic growth in the face of terrorism: Moving from meaning cognitions to doing what is meaningful. *Applied Psychology: An International Review*, 56(3), 345–366.

Joseph, S. & Linley, P.A. (Eds.). (2008). *Trauma, recovery, and growth: Positive psychological perspectives on posttraumatic stress*. Hoboken, NJ: Wiley.

Joya, M. (2009). *A woman among warlords: The extraordinary story of an Afghan who dared to raise her voice*. New York: Scribner.

Jung, D.I., Ehrlich, S.B., De Noble, A.F., & Baik, K.B. (2001). Entrepreneurial self-efficacy and its relationship to entrepreneurial action: A comparative study between the US and Korea. *Management International*, 6(1), 41–55.

King, D.W., King, L.A., Gudanowski, D.M., & Vreven, D.L. (1995). Alternative representations of war zone stressors: Relationships to post-traumatic stress disorder in male and female Vietnam veterans. *Journal of Abnormal Psychology*, 104(1), 184–196.

King, D.W., King, L.A., & Vogt, D.S. (2003). *Perceived threat scale*. Manual for the Deployment Risk and Resilience Inventory (DRRI). Accessed 15 December 2009.

King, L.A., King, D.W., Vogt, D.S., Knight, J., & Sampler, R.E. (2006). Deployment risk and resilience inventory: A collection of measures for studying deployment-related experiences of military personnel and veterans. *Military Psychology*, 18(2), 89–120.

Kolvereid, L. (1996). Organizational employment versus self-employment: Reasons for career choice intentions. *Entrepreneurship Theory and Practice*, 20, 23–31.

Kolvereid, L. & Oystein, M. (1997). Entrepreneurship among business graduates: Does a major in entrepreneurship make a difference? *Journal of European Industrial Training*, 21(4), 154–160.

Krueger, N. (1993). The impact of prior entrepreneurial exposure on perceptions. *Entrepreneurship Theory and Practice*, 18(1), 5–22.

Krueger, N., Reilly, M.D., & Carsrud, A.L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15, 411–432.

Krueger, N.F. (2000). The cognitive infrastructure of opportunity emergence. *Entrepreneurship Theory and Practice*, 24(3), 5–23.

Leana, C.R. & Feldman, D.C. (1994). The psychology of job loss. *Research in Personnel and Human Resources Management*, 12, 271–302.

Lent, R.W. & Brown, S.D. (1996). Social cognitive approach to career development: An overview. *Career Development Quarterly*, 44(4), 310–321.

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, 79–122.

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.

Linley, P.A. & Joseph, S. (2004). Positive change following trauma and adversity: A review. *Journal of Traumatic Stress*, 17(1), 11–21.

Luthans, F., Vogelgesang, G.R., & Lester, P.B. (2006). Developing the psychological capital of resiliency. *Human Resource Development Review*, 5(1), 25–44.

Maguen, S., Papa, A., & Litz, B.T. (2008). Coping with the threat of terrorism: A review. *Anxiety, Stress, and Coping*, 21(1), 15–55.

Major, B., Richards, C., Cooper, M.L., Cozzarelli, C., & Zubek, J. (1998). Personal resilience, cognitive appraisals, and coping: An integrative model of adjustment to abortion. *Journal of Personality and Social Psychology*, 74(3), 735–752.

Manolova, T.S., Eunni, R.V., & Gyoshev, B.S. (2008). Institutional environments for entrepreneurship: Evidence from emerging economies in Eastern Europe. *Entrepreneurship Theory and Practice*, 32(1), 203.

Markman, G., Baron, R., & Balkin, D. (2005). Are perseverance and self-efficacy costless? Assessing entrepreneurs' regretful thinking. *Journal of Organizational Behavior*, 26, 1–19.

Martins, L.L., Eddleston, K.A., & Veiga, J.F. (2002). Moderators of the relationship between work-family conflict and career satisfaction. *Academy of Management Journal*, 45, 399–409.

Masten, A.S. (2001). Ordinary magic. *American Psychologist*, 56(3), 227–238.

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.

McMillen, J.C. (1999). Better for it: How people benefit from adversity. *Social Work*, 44(5), 455–468.

Meager, N. (1992). Does unemployment lead to self-employment? *Small Business Economics*, 4(2), 87–103.

- Meyer, A.D. (1982). Adapting to environmental jolts. *Administrative Science Quarterly*, 27, 515–537.
- Mubarak, J.A. (1997). The “hidden hand” behind the resilience of the stateless economy of Somalia. *World Development*, 25(12), 2027–2041.
- Nunnally, J.C. (1978). *Psychometric theory*. New York: McGraw-Hill.
- O’Brien, R.M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality and Quantity*, 41(5), 673–690.
- O’Brien, T.B. & DeLongis, A. (1996). The interactional context of problem-, emotion-, and relationship-focused coping: The role of the big five personality factors. *Journal of Personality and Social Psychology*, 64(4), 775–813.
- Radin, C. (2012). Security and stability in Afghanistan: Progress and risk [Electronic Version]. *The Long War Journal*. Available at http://www.longwarjournal.org/archives/2012/05/security_and_stabili.php#ixzz2DdirVDI8, accessed 29 November 2012.
- Rauch, A. & Frese, M. (2007). Let’s put the person back into entrepreneurship research: A meta-analysis on the relationship between business owners’ personality traits, business creation, and success. *European Journal of Work and Organizational Psychology*, 16(4), 353–385.
- Reynolds, P., Bosma, N., Autio, E., Hunt, S., Bono, N.D., Servais, I., et al. (2005). Global entrepreneurship monitor: Data collection design and implementation 1998–2003. *Small Business Economics*, 24, 205–231.
- Richardson, G.E. (2002). The meta-theory of resilience and resiliency. *Journal of Clinical Psychology*, 58(3), 307–321.
- Rossi, N.E., Bisconti, T.L., & Bergeman, C.S. (2007). The role of dispositional resilience in regaining life satisfaction after the loss of a spouse. *Death Studies*, 31(10), 863–883.
- Schumpeter, J. (1934). *The theory of economic development*. Oxford: Oxford University Press.
- Sequeira, J., Mueller, S.L., & McGee, J.E. (2007). The influence of social ties and self-efficacy in forming entrepreneurial intentions and motivating nascent behavior. *Journal of Developmental Entrepreneurship*, 12(3), 275–294.
- Shapero, A. (1985). The entrepreneurial event. *Enterprise, February*, 5–9.
- Shapero, A. & Sokol, L. (1982). The social dimensions of entrepreneurship. In C.A. Kent, D.L. Sexton, & K.H. Vesper (Eds.), *Encyclopedia of entrepreneurship* (pp. 72–90). Englewood Cliffs, NJ: Prentice Hall.
- Sheeran, P. (2002). Intention-behaviour relations: A conceptual and empirical overview. *European Review of Social Psychology*, 12(1), 1–36.
- Sheppard, B.H., Hartwick, J., & Warshaw, P.R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *Journal of Consumer Research*, 15(3), 325–343.
- Siemsen, 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.
- Sinclair, V.G. & Wallston, K.A. (2004). The development and psychometric evaluation of the brief resilient coping scale. *Assessment*, 11(1), 94–101.
- Souitaris, V., Zerbinati, S., & Al-Laham, A. (2007). Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. *Journal of Business Venturing*, 22(4), 566–591.

Storey, D. (1991). The birth rate of new firms—Does unemployment matter? A review of the evidence. *Small Business Economics*, 3(3), 167–178.

Strong, M. (2009). Peace through access to entrepreneurial capitalism for all. *Journal of Business Ethics*, 89(4), 529–538.

Sutcliff, K.M. & Vogus, T.J. (2003). Organizing for resilience. In K.S. Cameron, J.E. Dutton, & R.E. Quinn (Eds.), *Positive organizational scholarship* (pp. 95–110). San Francisco, CA: Berrett-Koehler.

Sutton, S. (1998). Predicting and explaining intentions and behaviour: How well are we doing? *Journal of Applied Social Psychology*, 28(15), 1317–1338.

Tang, C.S. (2006). Positive and negative postdisaster psychological adjustment among adult survivors of the Southeast Asian earthquake-tsunami. *Journal of Psychosomatic Research*, 61(5), 699–705.

Tedeschi, R.G. & Calhoun, L.G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry*, 15(1), 1–18.

Tervo, H. & Ritsilä, J. (2002). Effects of unemployment on new firm formation: Micro-level panel data evidence from Finland. *Small Business Economics*, 19(1), 31–40.

Thompson, E.R. (2009). Individual entrepreneurial intent: Construct clarification and development of an internationally reliable metric. *Entrepreneurship Theory and Practice*, 33(3), 669–694.

Tzemach, G. (2008). Afghan woman is all about business. *Christian Science Monitor*, 100(44), 7.

USAID. (2010). USAID Afghanistan education objective: Increasing access to quality education and suitable learning environments. Available at http://afghanistan.usaid.gov/en/about/country_strategy, accessed 19 May 2010.

Vogt, D.S., Proctor, S.P., King, D.W., King, L.A., & Vesterling, J.J. (2008). Validation of scales from the deployment risk and resilience inventory in a sample of operation Iraqi freedom veterans. *Assessment*, 15(4), 391–403.

Wang, S. (2006). Determinants of new firm formation in Taiwan. *Small Business Economics*, 27(4–5), 313–321.

Wennekers, S., van Stel, A., Thurik, R., & Reynolds, P. (2005). Nascent entrepreneurship and the level of economic development. *Small Business Economics*, 24(3), 293–309.

Westphal, M. & Bonanno, G.A. (2007). Posttraumatic growth and resilience to trauma: Different sides of the same coin or different coins? *Applied Psychology: An International Review*, 56(3), 417–427.

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.

World Bank. (2008). *The Afghanistan investment climate in 2008. Growth despite poor governance, weak factor markets, and lack of innovation*. Washington, DC: The World Bank Group.

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.

Amanda Bullough is an Assistant Professor of Entrepreneurship and Leadership at the Thunderbird School of Global Management, 1 Global Place, Voris Bldg B 115, Glendale, AZ 85306, USA.

Maija Renko is an Assistant Professor of Entrepreneurship in the Department of Managerial Studies at the University of Illinois at Chicago, MC 243, Room 2211, University Hall, 601 South Morgan Street, Chicago, IL 60607, USA.

Tamara Myatt was the Senior Program Manager for the Women's Business Development Training Program at The American University of Afghanistan, Darulaman Rd., Kabul, Afghanistan. She is now an independent research consultant.