

6-7-2008

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Recommended Citation

Hmieleski, Keith M. and Carr, Jon C. (2008) "THE RELATIONSHIP BETWEEN ENTREPRENEUR PSYCHOLOGICAL CAPITAL AND NEW VENTURE PERFORMANCE," *Frontiers of Entrepreneurship Research*: Vol. 28: Iss. 4, Article 1.
Available at: <http://digitalknowledge.babson.edu/fer/vol28/iss4/1>

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THE RELATIONSHIP BETWEEN ENTREPRENEUR PSYCHOLOGICAL CAPITAL AND NEW VENTURE PERFORMANCE

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ABSTRACT

The current study investigated the relationship between the psychological capital of entrepreneurs and the performance of their new ventures (i.e., revenue and employment growth). Entrepreneurs' psychological capital was found to explain a significant amount of variance in new venture performance, above and beyond measures of financial capital, human capital and social capital. Further, the relationship between psychological capital and new venture performance was found to be enhanced by environmental dynamism, such that the relationship is most positive when dynamism is high, as opposed to low.

INTRODUCTION

Considering that the context of new venture creation and development is fraught with environmental stressors (Baron, 1998), it would seem that successful entrepreneurs must possess a high degree of mental hardiness in order to persist and make effective strategic decisions. Recent work has conceptualized such mental hardiness in terms of psychological capital—defined as psychic resources that can be drawn from in order to meet the emotional challenges of the moment (Csikszentmihalyi, 2004). While human capital defines “what you know” and social capital defines “who you know,” psychological capital is said to define “who you are” (Jessen & Luthans, 2006). Luthans and Youssef (2004) suggest that the combination of self-efficacy, optimism, hope, and resilience act synergistically to build psychological capital within individuals.

Research has demonstrated that individuals who are high in psychological capital tend to attract other likeminded persons to them, which in turn, increases the likelihood of creating long-lasting friendships and coalitions (Fredrickson, 2001). These strong emotional connections with both their work and individuals within their social networks helps those rich in psychological capital to broaden and build their emotional capacity—enabling them to be particularly resilient to stress and other health ailments (Fredrickson & Levenson, 1998), and to flourish under situations in which others may find to be overwhelming (Corey, Keyes, & Seligman, 2003). Therefore, we suggest that psychological will be a particularly important individual characteristic for entrepreneurs to possess in leading their new ventures through the entrepreneurial process—as it will empower them with the capability to persevere through uncertain conditions and to bounce back from failure.

Adopting the view that the performance of relatively young firms can be considered as a direct reflection of the decision-making of lead entrepreneurs (Baum & Locke, 2004), we expect the psychological capital of entrepreneurs to be positively related to the performance of the new ventures that they lead. To further examine the value of psychological capital within this context, we contrast its explanatory value with that of more traditional forms of capital, including financial capital, human capital, and social capital. It is anticipated that entrepreneurs' psychological capital

will account for a significant amount of variance in new venture performance above and beyond these other forms of capital. Finally, we argue that such effects will be moderated by the level of environmental dynamism present in the industry in which the entrepreneur leads his/her firm. Since dynamic environments tend to demand greater resources, present higher levels of uncertainty, and involve greater amounts of risk than more stable environments, we expect the linkage between psychological capital and performance to be positively enhanced by environmental dynamism; whereas, in contrast, we expect the value of psychological capital to be less strongly linked to performance for entrepreneurs leading their firms in stable industry environments.

Through the current study we hope to make two primary contributions. The first is to demonstrate the value of psychological capital within the domain of entrepreneurship, where financial, human, and social forms of capital have historically received much greater attention. Secondly, we seek to build further conceptual ties between the fields of entrepreneurship and organizational behavior, by evaluating the effects of psychological capital in a context that places extreme demands on leaders and their emotional states (Baron, 2008).

With these goals in mind, the paper proceeds as follows. First, we briefly review the literature on financial capital, human capital, and social capital. We then introduce the concept of psychological capital and explain the additional benefits that it is likely to provide entrepreneurs beyond those other more traditional forms of capital. Afterward, we outline the methodology of the study and review the results. Finally, we consider the implications of our findings.

Financial Capital

Financial capital is perhaps the most fluid form of capital in that it can be exchanged for other resources that are crucial to the new venture creation and development process (Alsos, Isaksen, & Ljunggren, 2006). In other words, entrepreneurs can use financial capital to overcome inadequacies in other resource stocks (Manolova, Brush, Edelman, & Greene, 2002). For example, financial capital can enable entrepreneurs to hire employees who bring specialized human capital to the firm (Cooper, Woo, & Dunkelberg, 1988) and provide them status that can be leverage to access elite social networks (Marsden & Hurlbert, 1988). Therefore, entrepreneurs with access to financial capital appear to have an advantage in terms of being able to use such resources to exploit entrepreneurial opportunities. Further, entrepreneurs leading their ventures within dynamic industry environments tend to have particularly high needs for financial capital in order to adapt their new ventures to evolving business opportunities and fuel growth that is necessary to keep up with competitors (Aldrich, 2000). Thus, we offer the following hypotheses:

H1a: Entrepreneurs' level of financial capital will be positively related to the performance of their new ventures.

H1b: The relationship between entrepreneurs' level of financial capital and the performance of their new ventures will be enhanced by environmental dynamism, such that the relationship will be more positive when dynamism is high, as opposed to low.

Human Capital

Human capital is the stock of personal skills that the entrepreneur has at his/her disposal (Wright, Hmieleski, Siegel, & Ensley, 2007; Piazza-George, 2002). These skills consist of both industry specific know-how (Cooper, Gimeno-Gascon, & Woo, 1994) and general knowledge

(Preisdorfer & Voss, 1990). In general, studies that have examined the human capital of entrepreneurs have found that those with more human capital tend to perform better than those with less human capital (Bates, 1995). This is because entrepreneurs who are high in human capital tend to be proficient at developing contacts (Danson, 1999), gaining knowledge about obtaining the most appropriate sources of financing (Starr & Bygrave, 1991), learning managerial and technical skills necessary for leading new ventures (Wright, Westhead, & Sohl, 1998), and identifying how to serve new and emerging market segments (Wright, Robbie, & Ennew, 1997). Further, those with more human capital are likely to more readily be able to identify opportunities and formulate plans to exploit them (Baron & Ensley, 2006). These abilities would appear to be particularly useful in dynamic industry environments, where entrepreneurs must be able to quickly and comprehensively integrate diverse information in order to make effective strategic decisions for their firms (Eisenhardt, 1989). Based on these findings, we offer the following hypotheses:

H2a: Entrepreneurs' level of human capital will be positively related to the performance of their new ventures.

H2b: The relationship between entrepreneurs' level of human capital and the performance of their new ventures will be enhanced by environmental dynamism, such that the relationship will be more positive when dynamism is high, as opposed to low.

Social Capital

Social capital refers to the ability of individuals to extract benefits from their social structures, networks and memberships (Davidsson & Honig, 2003). The amount of social capital that entrepreneurs are able to accrue is in large part dependent on their social ability. In this regard, it is particularly important for entrepreneurs to be able to make favorable first impressions, read others accurately, adapt to various social situations and be persuasive (Baron & Markaman, 2000; 2003). One of the greatest attributes of social capital is that it can often be used to offset deficiencies in human capital (Coleman, 1988). Further benefits of social capital include exposure to a wide range of opportunities that would not be available to those with more restricted networks (Piazza-George, 2002), emotional support that can be gained through other network members (Cauce, 1986), and prestige that can be accrued through membership into elite networks (Marsden & Hurlbert, 1988). Additional research has shown that social capital can facilitate the acquisition of business-related resources (Sexton & Bowman-Upton, 1991) and improve entrepreneurial opportunity identification (Singh, Hills, Hybels, & Lumpkin, 1999). Such capabilities are likely to be particularly important within dynamic industries, where entrepreneurs must be able to recognize and exploit rapidly shifting entrepreneurial opportunities. For these reasons, we offer the following hypotheses:

H3a: Entrepreneurs' level of social capital will be positively related to the performance of their new ventures.

H3b: The relationship between entrepreneurs' level of social capital and the performance of their new ventures will be enhanced by environmental dynamism, such that the relationship will be more positive when dynamism is high, as opposed to low.

Psychological Capital

Psychological capital has become the central topic of examination within the emerging area of positive organizational behavior (Luthans & Youssef, 2004). It is conceptualized as a second-

order construct comprised of the following elements: self-efficacy (Bandura, 1997), optimism (Carver & Sheier, 2003), hope (Snyder, Cheavens, & Sympson, 1997), and resiliency (Masten, 2001). There are two key aspects to each of these factors. First, they are each “state-like” in that they can be developed through training and intentional practice. This is to say that, although there may be dispositional boundaries or upper limits on the degree to which individuals are able to exhibit each of these characteristics, it is possible for most individuals to achieve some gains in each of these areas. Secondly, each element has been established as being positively associated with human performance. We will now provide a brief overview of each of these elements, with an eye toward their impact on leading new ventures.

Self-Efficacy

Self-efficacy relates to the general belief in one’s ability to produce high levels of performance in tasks undertaken in life (Bandura, 1977). It is considered a state-like characteristic that generally increases with experience (Phillips & Gully, 1997). People with high levels of self-efficacy tend to set challenging goals; persist toward the achievement of their goals, even under difficult and stressful circumstances; recover quickly from failure, even in the face of conditions that would appear to be overwhelming to the average person; be more satisfied with their jobs; and experience greater levels of life satisfaction (Bandura, 1997). Further, studies by Baum, Locke and Smith (2001), Baum and Locke (2004), and Hmieleski and Corbett (2008) have identified a positive relationship between the self-efficacy of entrepreneurs and the growth of their firms. Similarly, Forbes (2005) and Anna, Chandler, Jansen, and Mero (2000) have found a positive relationship between entrepreneurial self-efficacy and subjective measures of new venture performance. The findings of these studies suggest that entrepreneurs high in self-efficacy are likely to set challenging growth expectations for their firms and persist in their leadership efforts toward the accomplishment of those goals.

Optimism

Optimism is defined as generalized positive outcome expectancy (Carver & Sheier, 2003). While self-efficacy has been established as an individual characteristic that tends to be context specific and developed through life experience (Bandura, 1977; 1997), optimism has been shown to remain relatively stable within individuals across both time and context (Schulman, Keith, & Seligman, 1993). Seligman (1990) has, however, suggested that although individuals tend to have fixed ranges in which they are able to experience optimism, it is possible through training to move persons to consistently experience the high end of their range. Thus, keeping with Luthans and Youssef’s (2004) criteria of psychological capital consisting of attributes that can be developed within individuals, it does seem that there is some latitude to increase optimism over time, albeit only up to certain limits. A vast amount of research has demonstrated a positive relationship between optimism and well-being. Particularly important within the context of entrepreneurship is the finding that optimists, as opposed to pessimists, often enjoy experiencing various forms of adversity (Scheier, Carver, & Bridges, 2001). Further, while pessimists tend to easily give up in the face of adversity, optimists typically rise to the challenge presented to them, persisting and remaining engaged in the pursuit of their goals (Carver, & Scheier, 2003).

Hope

Perhaps the most widely accepted conceptualization of hope has been developed by Snyder (Snyder et al., 1997; Snyder, 2000), who defines hope as consisting of three interacting components: goals, agency, and pathways. For individuals to possess hope, they must have goals,

short- and/or long-term, the motivation to achieve their goals, and the ability to imagine multiple routes through which their goals may be achieved. The pathways component—the ability to imagine multiple routes to success—is a key factor in differentiating hope from optimism. Central to hope is the presence of an internal dialoged within individuals, reinforcing their self-view that they cannot be stopped and will find a way to get things done. In non-academic circles hope is often viewed as the extent of an individual's willpower. Hope, like optimism, tends to be considered a dispositional individual characteristic that can be moderately increased through training interventions over time (Valle, Huebner, & Suldo, 2006). Hope has been found to be a buffer against psychological distress (Horton & Wallander, 2001; Ong, Edwards, & Bergeman, 2006). Further, individuals high in hope tend to have an exceptional capacity to deal with “surprise-based” events, such as a sudden tragic loss (Lopez, Snyder, & Pedrotti, 2003). In fact, hope has often been viewed as a coping mechanism for dealing with stressful events (Alexander & Onwuegbuzie, 2007). We expect hope to be of at least equal importance within the entrepreneurship context, as setting goals and planning for the future, imagining multiple pathways toward achieving goals, and reacting positively in the face of surprise have been shown to be critical success factors for entrepreneurs—as has been demonstrated by recent work on entrepreneurial bricolage (Baker & Nelson, 2005) and entrepreneur improvisational behavior (Hmieleski & Corbett, 2006).

Resiliency

Resiliency is the extent to which individuals are able to bounce back from negative experiences and adapt to changing and stressful life demands (Tugade & Fredrickson, 2004). Resilient individuals are able to thrive and learn in the face of adversity (Masten, 2001). Two types of judgments must be made before being able to classify an individual as resilient (Masten, 1999). First, the individual must have experienced some kind of adverse or threatening event(s). Second, is the degree to which the individual was able to overcome and/or thrive under the hazards that he or she faced. Certainly the capacity to bounce back from adversity is critical to entrepreneurs, who need to persevere in the face of high risk and resource constrained conditions (Markman, Baron, & Balkin, 2005). Although little research has been conducted on the psychological resilience of entrepreneurs, “stick-to-itiveness” has long been thought to be a key characteristic of entrepreneurial performance.

To summarize, these four elements (i.e., self-efficacy, optimism, hope, and resiliency) combine to form the higher-level construct of psychological capital. Just as entrepreneurship is an intentional activity, so is the building of psychological capital. In order to build self-efficacy, optimism, hope, and resiliency, individuals must go out into the world, seek out challenges, and persevere. Without so doing, individuals will have no basis for building these elements within themselves. Furthermore, psychological capital tends to be self-perpetuating. This is to say that it becomes easier to build additional psychological capital the further we move along this dimension. As individuals build psychological capital, they tend to form a reputation for mental hardiness that attracts to them individuals and situations that reinforce this capacity within them—in effect “building and broadening” their psychic resources (Fredrickson, 2001). Entrepreneurs who build psychological capital should not only increase their general level of well-being, but also tend to develop the “grit” that is necessary to persevere through the entrepreneurial process. Considering the heightened emotional demands involved in leading new ventures within dynamic industries (Hmieleski & Ensley, 2007), we expect for psychological capital to be a particularly important resource for leading new ventures in such environments. To this end, we offer our final hypotheses:

H4a: Entrepreneurs' level of psychological capital will be positively related to the performance of their new ventures.

H4b: The relationship between entrepreneurs' level of psychological capital and the performance of their new ventures will be enhanced by environmental dynamism, such that the relationship will be more positive when dynamism is high, as opposed to low.

METHOD

Sample and Procedures

A national (United States) random sample of 1,500 firms was drawn from the Dun and Bradstreet Market Identifiers Database for use in the current study. This database compiles organizational and financial information on a continuous basis to create what is considered to be the most exhaustive database of young firms founded in the United States (Kalleberg, Marsden, Aldrich, & Cassell, 1990). Within this database, Dun and Bradstreet includes the names and addresses of firms and their respective top management team leaders (i.e., chief executive officers). To generate data for this study, a packet containing our survey, along with a cover letter and pre-paid business reply envelope was sent to the top management team leader (as identified by Dun and Bradstreet) of each firm. An initial and a follow-up mailing were sent to each sampled firm. In total, 247 of the mailings were returned as non-deliverable. Overall, we received 223 surveys from individuals who were both founders and top management team leaders of their new ventures. Of the completed surveys, information from 7 firms could not be used due to incomplete performance data, resulting in an overall usable response rate of 17.2 percent. While the response rate was not ideal, it is consistent with response rates produced by other studies using similar samples of young firms and their top management (e.g., Neck, Meyer, Cohen, & Corbett, 2004; Sapienza & Korsgaard, 1996). Non-response bias was examined using t tests on the sex of the respondent and firm age, revenues, number of employees, and firm growth. In each case the results examining non-response bias were non-significant. Therefore, the final group of respondents appears to be representative of the population in which the sample was drawn.

Measures

Psychological Capital. This was examined through the measurement of its following four core elements: Optimism was measured using the Life Orientation Test-Revised (Scheier, Carver, & Bridges, 1994). Entrepreneurial self-efficacy was measured using a scale developed by De Noble, Jung, and Ehrlich (1999). Resilience was measured using a scale developed by Wagnild and Young (1993). Hope was measured using a scale developed by Snyder, Sympson, and Ybasco (1996). Six items were used for each scale. Respondents rated their level of agreement with each item on a seven-point Likert-type scale ranging from (1) strongly disagree to (7) strongly agree. An index of psychological capital was formed by adding the summed standardized scores from each of these four scales. The Cronbach's coefficient alpha for the index was .86.

Human Capital. This was examined in terms of entrepreneurial experience, which was measured by the number of previous ventures founded by the participants (Stuart & Abetti, 1990). Specifically, respondents answered a single survey item asking them to report "the number of new ventures started prior to the founding of their current business." Responses ranged from 0 to 5, with nearly half of the respondents ($n = 100$) having previously founded a business. Whereas other studies have dummy coded the previous founding of new ventures dichotomously as 0 or 1 (e.g., Cooper, Folta, & Woo, 1995; Forbes, 2005), we used the actual number of new ventures

started as our study variable. This approach was taken because there should be additional learning that takes place, to some extent, each time an entrepreneur starts another new venture (Zhao, Seibert, & Hills, 2005). In other words, knowledge of the entrepreneurial process should increase each time that individuals proceed through founding an additional new venture (Wright, Westhead, & Sohl, 1998).

Social Capital. This construct was measured using three items adapted from Reynolds (1999). The items were reworded to assess the extent to which the respondents are able to leverage their social networks toward aiding their effectiveness as entrepreneurs. Participants were asked to indicate to what extent that they agreed with each statement using a seven-point Likert-type scale anchored by (1) strongly disagree and (7) strongly agree. The three items were summed such that high scores indicate greater levels of social capital. The scale produced a Cronbach's coefficient alpha of .59 in the current study.

Financial Capital. This construct was evaluated in terms of firms' financial stress score provided by Dun and Bradstreet. The vast majority of new ventures within the United States must file for a DUNS number with Dun and Bradstreet in order to create a business credit record, which is a primary way that companies evaluate whether to do business with each other (e.g., whether to sell, lend money, partner, or lease equipment to a company). Dun and Bradstreet rate these firms on a 5-point scale, ranging from (1) low credit risk to (5) high credit risk. Thus, the lower firms' financial stress score, the greater access they should have to financial capital. We reverse coded these scores so that high scores would indicate high financial capital and low scores would represent low financial capital.

Environmental Dynamism. The industry level rate of unpredicted change was measured following techniques from Dess and Beard (1984) and Sharfman and Dean (1991). Time was regressed against industry revenues, number of industry establishments, and number of industry employees over the most recent 5-year period. An index of the standard errors of the regression was used as the indicator of unpredicted change. The data were acquired through the U.S. Bureau of the Census.

New Venture Performance. Growth is often cited as the most important performance indicator of new venture success (Brush & Vanderwerf, 1992; Danson, 1999). Consistent with this approach, we used two different objective measures of growth: revenue and employment growth. The performance data for the study were obtained from Dun and Bradstreet. Recent studies have validated the accuracy of Dun and Bradstreet revenue and employment data for new ventures (e.g., Baum et al., 2001; Baum and Locke, 2004). The performance measures were calculated as the average annual revenue and employment growth over the one-year period immediately following the collection of the survey data. We used lagged performance data in order to enhance our ability to draw causal inferences from our results. Following previous work, we formed an index of new venture growth by standardizing and then summing revenue and employment growth measures (Keats & Hitt, 1988; McGuire, Schneweis, & Hill, 1986). This allowed for a more parsimonious presentation of the results.

Control Variables. The sex (coded: male = 0 and female =1) and age of the participating entrepreneurs were used as control variables. This information was obtained through demographic questions at the end of the administered questionnaire.

Statistical Procedures

Moderated hierarchical regression analysis was utilized as the main statistical procedure for examining the hypothesized relationships. In addition, the significant two-way interactions were graphed following procedures set forth by Cohen, Cohen, West, and Aiken (2003, p. 276).

RESULTS

Table 1 provides the means, standard deviations, and bi-variate correlations for all of the variables measured in the study. The results of the hierarchical moderated regression model for new venture performance are displayed in Table 2. The two-way interactions of social capital with dynamism and psychological capital with dynamism are illustrated in Figures 1 and 2, respectively. We will now consider the results specific to the individual hypotheses.

Hypothesis 1a stated that entrepreneurs' level of financial capital will be positively related to the performance of their new ventures. Further, hypothesis 1b stated that this relationship will be enhanced by environmental dynamism, such that the relationship will be more positive when dynamism is high, as opposed to low. As shown in Model 2 of Table 2, entrepreneurs' financial capital is not found to be a significant predictor of new venture performance ($\beta = .05, p > .10$). In addition, the interaction of financial capital x environmental dynamism is non-significant with respect to new venture performance ($\beta = -.09, p > .10$). Therefore, hypothesis 1 is not supported.

Hypothesis 2a stated that entrepreneurs' level of human capital will be positively related to the performance of their new ventures. Further, hypothesis 2b stated that this relationship will be enhanced by environmental dynamism, such that the relationship will be more positive when dynamism is high, as opposed to low. As shown in Model 2 of Table 2, entrepreneurs' human capital is not found to be a significant predictor of new venture performance ($\beta = -.07, p > .10$). In addition, the interaction of human capital x environmental dynamism is non-significant with respect to new venture performance ($\beta = -.02, p > .10$). Therefore, hypothesis 2 is not supported.

Hypothesis 3a stated that entrepreneurs' level of social capital will be positively related to the performance of their new ventures. Further, hypothesis 3b stated that this relationship will be enhanced by environmental dynamism, such that the relationship will be more positive when dynamism is high, as opposed to low. As shown in Model 2 of Table 2, entrepreneurs' social capital is found to be a significant negative predictor of new venture performance ($\beta = -.17, p < .05$). In addition, the interaction of social capital x environmental dynamism is significant with respect to new venture performance ($\beta = -.55, p < .01$). The interaction graph (see Figure 1) indicates that the relationship of entrepreneurs' social capital with the performance of their new ventures becomes more negative as dynamism increases. Therefore, hypothesis 3 is supported, but in the opposite direction as to what was anticipated.

Hypothesis 4a stated that entrepreneurs' level of psychological capital will be positively related to the performance of their new ventures. Further, hypothesis 4b stated that this relationship will be enhanced by environmental dynamism, such that the relationship will be more positive when dynamism is high, as opposed to low. As shown in Model 2 of Table 2, entrepreneurs' psychological capital is found to be a significant positive predictor of new venture performance ($\beta = .16, p < .05$). In addition, the interaction of psychological capital x environmental dynamism is significant with respect to new venture performance ($\beta = .44, p < .01$). The interaction graph (see Figure 2) indicates that the relationship of entrepreneurs' psychological capital with the performance of their new ventures becomes more positive as dynamism increases. Therefore, hypothesis 4 is supported.

DISCUSSION

The main findings of the study indicate that (1) entrepreneurs' psychological capital is positively related to the performance of their new ventures, and (2) this relationship is enhanced by environmental dynamism, such that the relationship becomes more positive as environmental dynamism increases. In the following sections we discuss the implications of these findings, limitation of the study, and suggestions for future research.

The Benefits of Psychological Capital

The emerging literature on positive organizational behavior (Luthans & Youssef, 2004) suggests that having a positive outlook generally enhances the performance of individuals. The rationale behind this relationship has been grounded in a substantial body of work that has consistently demonstrated the benefits of self-efficacy (Bandura, 1997), optimism (Carver & Scheier, 2003), hope (Snyder, Cheavens, & Sympson, 1997), and resiliency (Masten, 2001) on human performance. Further, these "positive" individual characteristics have been theoretically and empirically established as forming together under the higher-order construct of psychological capital (Luthans & Youssef, 2004), which was the central focus of the current study.

In alignment with our predictions, entrepreneurs' psychological capital was found to share a positive relationship with the performance of their new ventures. In fact, entrepreneurs' psychological capital was found to explain a significant amount of unique variance in new venture performance above and beyond more traditional forms of capital. In addition, the benefit of psychological capital was found to be greatest for entrepreneurs leading their new ventures within dynamic industry environments. Considering the great emotional demands that are placed on most entrepreneurs (Baron, 2008), this would seem to be an important contribution toward advancing the field in its quest to identify why some individuals, and not others, are able to develop successful new ventures.

Perhaps most promising about the results of the current study is that psychological capital can presumably be developed within individuals, thus highlighting an opportunity for training nascent entrepreneurs to be able to thrive and even flourish under adverse and tense situations. For example, Seligman (1990; 2002) and Luthans, Avey, Avolio, Norman, and Combs (2006) have gone to great lengths in outlining interventions that can be used to develop the elements of psychological capital within individuals. These tools should be able to be used by educators to develop the psychological capital of individuals working within in virtually any domain, including entrepreneurship.

Finally, if psychological capital is truly an important construct for understanding how entrepreneurs are able to persist over time, then we should observe higher levels of psychological capital within repeat versus novice entrepreneurs. The fact that 100 of the 216 participants in the current study had started multiple businesses in their careers allowed us to run a post hoc analysis to investigate this proposition. A comparison of mean differences between the two groups does indeed demonstrate that repeat entrepreneurs (i.e., those who have experience starting two or more businesses) tend to be significantly higher in psychological capital than novice entrepreneurs (i.e., those who have experience starting only a single business) ($t = 3.05, p < .01$). This finding would seem to add additional support for the importance psychological capital within the domain of entrepreneurship.

Conclusions

A growing stream of literature (e.g., Baron, 2008; Cardon et al., in press) suggests that the emotions of entrepreneurs can have a significant bearing on their ability to develop and grow their new ventures. The findings of the current study suggest that psychological capital may endow entrepreneurs with the psychic resources necessary to meet the emotional challenges inherent to the entrepreneurial process. Further, the benefits of psychological capital appear to be as central to the success of entrepreneurs as more traditional forms of capital. This observation may be partly due to the fact that entrepreneurs regularly face shortages of financial, human, and social capital. As a result, they often have only themselves to rely on in the moment to get the job done. This state of affairs tends to be particularly common in dynamic environments, whereby strategic decisions must be made quickly and under high levels of risk and uncertainty. Therefore, psychological capital may be a critical factor in determining why some entrepreneurs, but not others, are able to persevere and develop successful new ventures with limited resources.

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Table 1: Descriptive Statistics and Variable Intercorrelations

Variables	Mean	SD	1	2	3	4	5	6	7
1. Age	48.07	9.67							
2. Sex	.29	.45	-.05						
3. Dynamism	9.77	.99	.00	-.01					
4. Financial Capital	4.68	.81	.05	-.02	.01				
5. Human Capital	.91	1.23	.18**	-.10	.04	.00			
6. Social Capital	5.56	1.02	-.02	-.01	.00	.00	.05		
7. Psychological Capital	.00	3.40	.09	-.04	.03	-.08	.17*	.51**	
8. New Venture Performance	.00	1.66	.04	-.09	-.03	.05	-.03	-.10	.06

$N = 216$; * $p < .05$; ** $p < .01$

Table 2: Hierarchical Regression Model of New Venture Performance

Variables	New Venture Performance		
	Model 1	Model 2	Model 3
<i>Control Variables</i>	<i>β</i>	<i>β</i>	<i>β</i>
Age	.04	.03	.03
Sex	-.09	-.09	-.05
<i>Main Effects</i>			
Dynamism		-.03	-.05
Financial Capital		.05	.02
Human Capital		-.06	-.07
Social Capital		-.17*	-.26**
Psychological Capital		.16*	.22**
<i>Two-Way Interaction</i>			
Financial Capital x Dynamism			-.09
Human Capital x Dynamism			-.02
Social Capital x Dynamism			-.55**
Psychological Capital x Dynamism			.44**
<i>F-Ratio</i>	.97	1.22	3.21**
<i>R²</i>	.01	.04	.15
<i>Adjusted R²</i>	.00	.01	.10

$\underline{N} = 216$; * $p < .05$; ** $p < .01$

Figure 1: Interaction of Social Capital with Environmental Dynamism on New Venture Performance

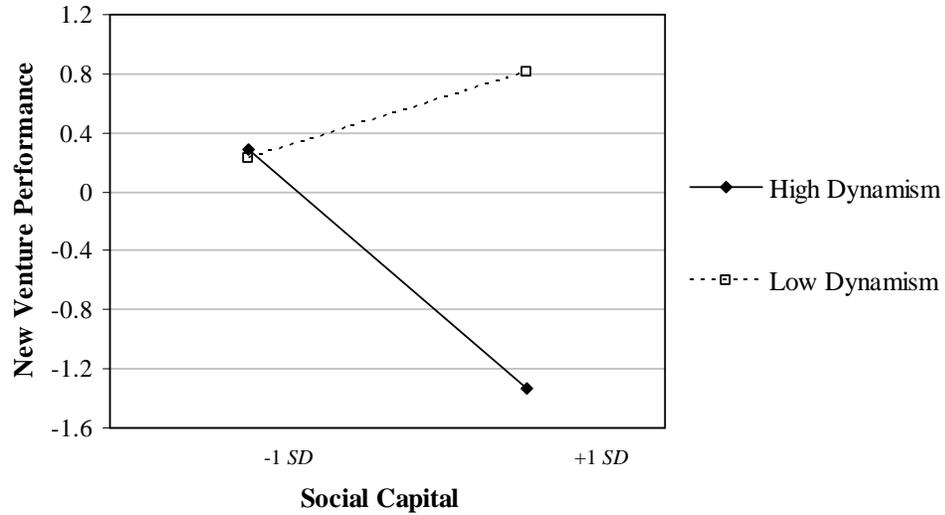


Figure 2: Interaction of Psychological Capital with Environmental Dynamism on New Venture Performance

