

# **AN EXAMINATION OF ENTREPRENEURIAL PERSONALITY FACTORS IN A BRAZILIAN STUDENT POPULATION**

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## **ABSTRACT**

The current study examined gender differences among Brazilian undergraduate students based on personality variables previously shown to be correlated with entrepreneurship. It also examined the degree to which said personality variables correlated with entrepreneurial intentions. Findings indicated limited gender differences. While all three items about future entrepreneurial intentions were significantly correlated with one another, fewer significant correlations were found between the personality traits and future intentions.

## **INTRODUCTION**

Entrepreneurship is viewed by many countries as a powerful source of economic growth and innovation. The Global Entrepreneurship Monitor research group generally classifies countries as either high-income or middle-income in terms of economic strength and potential. The entrepreneurial goal in high-income countries, like the U.S., is to continually encourage competition, innovation, and growth. In contrast, middle-income countries, like Brazil, are trying to develop the necessary infrastructure to better promote the development of entrepreneurial ventures. Some of these aspects include greater access to venture capital, stronger property rights, fewer governmental regulations, and more exposure to educational programs and entrepreneurial opportunities (Moy, Luk & Wright, 2003). As noted in the Global Entrepreneurship Monitor's *2005 Executive Report*, these environmental differences generally allow entrepreneurs in high-income countries to focus more on opportunities while entrepreneurs from middle-income countries tend to be more necessity-driven due to adverse market conditions (Minniti, Allen & Langowitz, 2006).

Brazil is in the midst of an economic shift, particularly since the early 1990s, and is moving away from a traditional reliance on large state-controlled businesses to a greater emphasis on small and medium-sized enterprises. While high-income countries often feature a more established small business sector, many middle-income countries are becoming an attractive market for early stage entrepreneurial activities (Minniti, Allen & Langowitz, 2006). In addition, the level of business development is less pronounced between the various income level groups in these countries, indicating that individuals with fewer resources still have a positive view of entrepreneurship. Research also shows that many young adults, particularly 25 – 34 year olds, are interested in entrepreneurship and business ownership.

### ***Brazilian Entrepreneurship Education***

Brazil has been slow to adopt educational change. As indicated in a 2003 Global Entrepreneurship Monitor report entitled *Entrepreneurship in Brazil*, the Brazilian educational system generally “does not foster entrepreneurship” (p. 15). However, officials have recognized this deficiency and are working to better introduce entrepreneurship at all educational levels. A primary objective of reform is to intensify and enhance entrepreneurship education programs in order to adopt a more entrepreneurial culture that encourages business ownership and less reliance on traditional jobs in the public service sector.

Some of the various obstacles currently restricting entrepreneurship in Brazil include a scarcity of venture capital, high unemployment rates, bureaucratic business policies, and an undeveloped infrastructure. Nevertheless, Brazil consistently ranks among the top ten entrepreneurial countries in the world and plays a critically important role in the global economy. According to the 2003 Global Entrepreneurship Monitor report, Brazil has a high number of young people with an interest in entrepreneurship, particularly individuals with a higher educational attainment (Schlemm, Greco, Feller & Horochovski, 2004). This interest combined with the size and potential of the Brazilian marketplace can offer ample entrepreneurial opportunities. More emphasis on entrepreneurship education can help individuals better recognize these opportunities and grow the national economy through entrepreneurial activity.

Despite indications that women are becoming a stronger entrepreneurial force in Brazil, the 2005 *Report on Women and Entrepreneurship* from the Global Entrepreneurship Monitor indicates that globally men are twice as likely to engage in entrepreneurial activities as women. This finding, combined with the traditionally masculine culture within South America, would cause one to believe that gender may play a role in the development of entrepreneurial attributes in Brazilian students.

### ***Personality and Entrepreneurship***

Management research has made extensive use of psychological personality variables as predictors for constructs such as leadership, organizational behavior, and entrepreneurship.

Prior research has examined numerous personality constructs in the field of entrepreneurship. McClelland (1961) and Collins, Hanges & Locke (2004) asserted that need for achievement is a strong entrepreneurial trait, and Gasse (1985) and Hansemark (2003) found that entrepreneurs often possess a greater internal locus of control than the general population. Higher self-efficacy has also been associated with entrepreneurship and business creation (Krueger & Brazeal, 1994; Erickson, 2002; Frazier & Niehm, 2006). In addition, research has suggested that entrepreneurs have a high level of self-esteem and confidence (Robinson, 1987), demonstrate greater initiative and innovation (Bateman & Grant, 1993; Stewart, Watson, Carland & Carland, 1999), and possess a more positive attitude toward risk and independence (Douglas & Shepherd, 2002; McMullen & Shepherd, 2006).

Obviously there are numerous personality constructs that have been shown to have potential for predicting either entrepreneurship or entrepreneurship success. The current paper will examine five of these.

*Self Efficacy.* Bandura's (1997) construct of self efficacy is defined as people's judgments of their capabilities to execute necessary behaviors to successfully achieve desired ends. It is not necessarily concerned with the skills or abilities one has, but rather with perceptions of what one can do with the skills and abilities one possesses. Self efficacy has both theoretical and practical implications for entrepreneurs because initiating a new venture requires the belief that one has the knowledge, skills, and abilities necessary to be successful. Entrepreneurial self efficacy has been found to significantly relate to both entrepreneurial intentions (Kickul and D'Intino, 2005) and new venture creation (Frazier & Niehm, 2006).

*Creativity/Ingenuity.* Creativity has been described as the generation of novel and appropriate solutions to open-ended problems in any domain of human activity (Amabile, 1997). In a business context, this can occur along the dimensions of new businesses, new products, new processes, new markets, and new ways of acquiring resources. Ko and Butler (2007) posit that creativity is important to entrepreneurial behavior because it is linked with identification of opportunities that lead to new firms (and, in some cases, even new industries).

*Risk Tolerance.* A third characteristic frequently associated with entrepreneurs is the propensity for risk-taking. Risk taking, both personal and financial, is a traditional aspect of the definition of entrepreneurial activity (McClelland, 1961; entrepreneur, n.d.). Researchers have reported significant associations between risk tolerance and entrepreneurship (Chattopadhyay and Ghosh, 2002), and Stewart and Roth (2001) concluded that risk-tolerant individuals are more likely to choose entrepreneurial careers versus risk-avoidant individuals who are likely to choose traditional, organizational employment.

*Locus of Control.* As a construct, locus of control is associated with how individuals perceive environments, events, and the causes of these circumstances (Rotter, 1966). Individuals with an internal locus of control believe they are able to control what happens in their lives, whereas individuals with an external locus of control attribute life events to factors outside of their control such as fate, luck, or powerful others. Both Robinson et al. (1991) and Hansemark (2003) concluded that entrepreneurs had higher internal control expectations than do non-entrepreneurs.

*Openness to Experience.* Recent research has stated that a major motivation of entrepreneurs is to be creative and to create something larger than themselves (Engle, Mah, & Sadri, 1997). Openness to Experience is a personality construct characterized by someone who is intellectually curious and tends to seek new experiences and explore novel ideas; someone high on Openness can be described as creative, innovative, imaginative, reflective, and untraditional. (Zhao and Seibert, 2006).

### *The Current Study*

The current study is multi-faceted in its aim. First it will test for gender-based differences in personality variables previously shown to be correlated with entrepreneurship. Secondly it will examine the degree to which said personality variables correlate with entrepreneurial intentions in this sample of Brazilian students.

## **METHODOLOGY**

### *Participants*

Participants were 99 students enrolled at three Brazilian universities (39 male, 60 female) who ranged in age from 17 to 48 years old, with an average age of 21 years.

### *Procedure*

At the start of the fall 2007 semester, faculty teaching undergraduate courses at multiple universities in Brazil received a letter requesting their voluntary participation. The stated purpose of the study was to study entrepreneurial attitudes that might exist across cultures. Faculty members have been asked to request that their students complete an 88-item anonymous online survey. Survey completion is entirely voluntary and no identifying information was recorded.

### *Measures*

We measured the personality constructs of self efficacy, creativity/ingenuity, risk tolerance, locus of control, and openness to experience using short multi-item scales available online from the International Personality Item Pool (<http://ipip.ori.org/>; Goldberg, Johnson, Eber, Hogan, Ashton, Cloninger, Gough, 2006). In addition to this our survey asked respondents to report on their future entrepreneurial intentions via three questions rated on five point likert-type scales. Participants answered: (1) Would you like to own a small business one day? (2) How prepared to you currently feel to own a small business? and (3) How likely is it that you will start your own business one day?

## **RESULTS**

Table 1 provides the descriptive statistics for all of the variables of interest – the three future intention survey items and the scores for the five personality constructs. Each of these is broken down by gender.

Table 2 shows the results of the ANOVA testing for differences based upon gender with regard to the personality variables. Contrary to expectations, absolutely no differences existed between male and female students with regard to the personality variables of interest. Only one significant difference related to gender emerged – male students indicated that they felt significantly “more prepared to own a small business” than did their female counterparts ( $F(96) = 5.96, p < .05$ ).

Table 1. Means and Standard Deviations for All Survey Items

		N	Mean	Std. Deviation	Std. Error	Min	Max
Would you like to own a small business one day?	Male	39	3.92	1.061	.170	1	5
	Female	59	3.81	1.444	.188	1	5
How prepared do you currently feel to own a small business?	Male	39	3.03	1.203	.193	1	5
	Female	59	2.44	1.134	.148	1	5
How likely is it that you will start your own small business one day?	Male	39	3.23	1.012	.162	1	5
	Female	59	3.15	1.387	.181	1	5
Self Efficacy	Male	39	31.45	4.538	.727	22	44
	Female	60	30.65	4.597	.593	20	39
Creativity/Ingenuity	Male	39	28.98	3.82	.612	20	36
	Female	60	27.83	4.06	.524	17	37
Risk Tolerance	Male	39	25.88	5.622	.900	15	38
	Female	60	27.27	4.741	.612	17	42
Locus of Control	Male	39	16.13	3.481	.557	9	22
	Female	60	16.90	3.824	.494	9	25
Openness to Experience	Male	39	29.97	3.944	.631	22	39
	Female	60	29.75	4.588	.592	19	42

Due to the fact that male and female students did not differ significantly with regard to the personality attributes, the correlation analyses were conducted on the sample as a whole. As would be expected, all three items about future entrepreneurial intentions were significantly correlated with one another. However, with regard to relationships between the personality traits and future intentions, fewer significant correlations were found than had been anticipated. None of the personality traits considered were found to correlate with “wanting to own a small business one day;” however, Creativity/Ingenuity and Openness to Experience were both found to correlate significantly with feeling “prepared to own a small business” and with being “likely to start one’s own small business one day.” Table 3 shows the inter-correlations for all variables considered.

## DISCUSSION & FUTURE RESEARCH

The current study examined the degree to which personality constructs previously shown as associated with entrepreneurship would also be found to be related to entrepreneurial intentions. Although findings were not fully as expected, they are still highly informative.

Although most previous research examining the role of personality traits in relation to entrepreneurship have focused upon those actually engaging in entrepreneurial behavior versus those who are not, our study examined future intentions toward entrepreneurial activities. The theory of planned behavior argues that intention is an antecedent to behavior (Ajzen, 1991), however intentions do not always lead to future behavior. As such, it is quite plausible that

although our sample expressed strong future intentions, these may not come to fruition. Prior studies have shown that intentions play a crucial role in understanding the entrepreneurial process (Krueger, 1993; Krueger & Brazeal, 1994). A positive entrepreneurial experience can impact intentions (Krueger, 1993), and entrepreneurial characteristics can be learned and often vary according to personal characteristics and experiences (Krueger & Brazeal, 1994). As such, opportunities to strengthen the factors associated with intention should be sought within Brazil.

Table 2. ANOVA Comparing Male & Female Brazilian Students' Personality Constructs

		Sum of Squares	df	Mean Square	F	Sig.
Would you like to own a small business one day?	Between Groups	.282	1	.282	.165	.685
	Within Groups	163.718	96	1.705		
How prepared do you currently feel to own a small business?	Between Groups	8.034	1	8.034	5.955	.017
	Within Groups	129.517	96	1.349		
How likely is it that you will start your own small business one day?	Between Groups	.144	1	.144	.092	.763
	Within Groups	150.550	96	1.568		
Self Efficacy	Between Groups	15.079	1	15.079	.721	.398
	Within Groups	2029.047	97	20.918		
Creativity/Ingenuity	Between Groups	31.120	1	31.120	1.977	.163
	Within Groups	1526.506	97	15.737		
Risk Tolerance	Between Groups	45.147	1	45.147	1.733	.191
	Within Groups	2527.464	97	26.056		
Locus of Control	Between Groups	14.079	1	14.079	1.032	.312
	Within Groups	1323.259	97	13.642		
Openness to Experience	Between Groups	1.190	1	1.190	.063	.802
	Within Groups	1832.724	97	18.894		

Table 3. Correlations Between Personality and Future Entrepreneurial Intentions.

	Would you like to own a small business one day?	How likely is it that you will start your own small business one day?	How prepared do you currently feel to own a small business?	Self Efficacy	Creativity & Ingenuity	Risk Avoidance	Locus of Control	Openness to Experience
Would you like to own a small business one day?	1	.576**	.409**	.011	.153	.125	.032	.084
How likely is it that you will start your own small business one day?		1	.402**	.083	.275**	.107	.129	.213*
How prepared do you currently feel to own a small business?			1	.187	.330**	.059	.104	.227*
Self Efficacy				1	.508**	.302**	-.023	.494**
Creativity & Ingenuity					1	.168	.029	.673**
Risk Avoidance						1	.334**	.316**
Locus of Control							1	.159
Openness to Experience								1

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

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

The current study has implications for the training of individuals interested in entrepreneurship. Although personality traits are relatively stable over time, many of the behaviors associated with these variables can be acquired with practice and effort. Brazil has been classified in prior studies as a country in the take-off stage of entrepreneurial development (Jones, 2000), with an education system that does not emphasize the importance of entrepreneurship, but rather the pursuit of more formal jobs in large companies (Schlemm, Greco, Feller & Horochovski, 2004). The educational arena is therefore one in which entrepreneurship needs to receive more attention. Our findings indicate that both male and female students want to start their own businesses, but males feel greater levels of preparation at this time. Education designed to promote the behaviors associated with the attainment of small business ownership might be very beneficial to the individual wishing to pursue an entrepreneurial career. Past research has shown that educational programs can positively impact the development of entrepreneurial attitudes (Florin, Karri & Rossiter, 2007), and provide students with a more complete entrepreneurial skill set (Gatewood, Shavers, Powers & Gartner, 2002).

In our study no significant differences were found with regard to desire for owning a small business one day and likelihood for doing so. Both men and women appear to see this as a comparably viable career path. These findings are highly consistent with those of Jones (2000), who found that Brazilian male and female entrepreneurs had similar dispositions and did not differ with regard to entrepreneurial growth plans. He concluded that cultural differences could over-ride socialized sex-conditioning. It appears that as Brazil evolves economically, providing access to role models of entrepreneurship, education related to entrepreneurship, and increased opportunities for business ownership, young women's attitudes may very well supersede the traditional masculine sex-conditioning found in their respective cultures. Our results are consistent with findings published in the 2006 Global Entrepreneurship Monitor's *Executive Report* which found less of a gender gap in middle-income countries.

Both Creativity and Openness to Experience were found to be related to our sample's future intentions. Creativity and a willingness to try new things are at the core of many definitions of entrepreneurship (e.g., Shane & Venkataraman, 2000), and founding a new venture is likely to require one to explore new or novel ideas, use creativity to solve novel problems, and take an innovative approach to products, business methods, or strategies (Zhao & Seibert, 2006).

When we possess a better understanding of the relationship between personality and entrepreneurial intention, we have the potential to contribute in applied areas related to entrepreneurship. Previous research (Zhao & Seibert, 2006) has provided evidence that personality is associated with entrepreneurial status. As such, using what we glean of students' personalities and professed future intentions could be beneficial in the context of career counseling to determine who is likely to be attracted to, selected in, and remain in an entrepreneurial career distinct from a general interest in business and management. This information could allow individuals to better match themselves to the challenges and rewards offered by an entrepreneurial occupation.

Brazil has made great strides in recent years with regard to its entrepreneurial initiatives. It currently plays a critically economic role in its region, and while it still has work to do in strengthening its overall business infrastructure, the results of our study indicate that a new



generation of educated professionals are interested in pursuing entrepreneurial opportunities. This move toward entrepreneurship not only will benefit the individuals involved, but also society in general, which benefits enormously from entrepreneurial activity.

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