

Creative Individuals and Entrepreneurship: Is There an Inherent Attraction?

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In this study, we argue that entrepreneurship is a fruitful pursuit for creative individuals. Using a sample of 152 undergraduate students, we investigated to see if individual creativity predicts one's intentions to enter into the field of entrepreneurship. Specifically, we looked at one's ability to think divergently (the generation and elaboration upon ideas) and creative personality in our conceptualization of what it means to be "creative." Our findings show that divergent thinking was able to predict entrepreneurial intentions alone and that creative personality was best used to increment what is explained by divergent thinking. These findings are discussed along with implications for practitioners and academics.

Creativity and its resulting innovation, due to creative employees (Florida, 2004), is shown to be linked to the ability of organizations to perform, grow, and, most importantly, survive (Mumford, Hester, & Robledo, 2011). For years, many managers and scholars have worked on identifying, selecting, and fostering creative individuals based on variables such as personality, cognitive processes, and environments that lead to increased practical innovations that align with the goals of organizations (Acar & Runco, 2011; Baer, Oldham, Jacobsohn, & Hollingshead, 2008; Farr, 1990; Hocevar & Bachelor, 1989; Reiter-Palmon, Herman, & Yammarino, 2008; Robert & Cheung, 2010).

Herein, we argue that entrepreneurship is a fruitful avenue for creative individuals to flourish and that creative individuals will be more attracted to this form of employment than others. This argument is supported by the findings of Baron and Tang (2011) who, with a sample of entrepreneurs, found that creativity is positively related to firm innovation. Further, they found that this relationship was stronger in dynamic environments, a type of environment often encountered by entrepreneurs. This sentiment is echoed by Ward (2004), who notes that novelty and usefulness, two key aspects of creativity, are important to entrepreneurship. Herein, we argue that the dynamic situations, or what Chatman (1989) terms "weak," encountered by entrepreneurs require creative solutions, which should be ideally suited for creative individuals.

The purpose of this article is to investigate how creativity functions outside of the traditional organization and if it can be used to predict which individuals will choose to forgo traditional employment in favor of entrepreneurial ventures. Specifically, we intend to investigate how to identify creative individuals, using established creativity measures, and determine if highly-creative individuals are more likely to be attracted to entrepreneurship.

ENTREPRENEURIAL CONCEPTUALIZATION

We define an entrepreneur as a primary owner of a business who is not employed by another organization (Brockhaus, 1980). Like the entrepreneur, entrepreneurship itself can be conceptualized in many fashions. We chose to follow the recommendations of Gartner (1988) and Davidsson and Wiklund (2001), which view entrepreneurship as including the establishment of new organizations and the exploitation of opportunity. Thus our definition of entrepreneurship, with respect to entrepreneurial propensity, is the ownership of an independently owned business(es), their owner-managers, and their efforts to exploit opportunity (Davidsson, 2005).

A UNIQUE GROUP

Entrepreneurs have many distinct characteristics that separate them from managers employed by traditional organizations (Zhao & Seibert, 2006). First, with respect to personality, research has shown that entrepreneurs are higher on conscientiousness and openness, and lower on neuroticism and agreeableness than managers (Zhao & Seibert, 2006). With respect to creativity, the foci of this investigation, entrepreneurs have been shown to be more creative, innovative, and likely to embrace new ideas than other business people (Zhao & Seibert, 2006; Griest, 2011 and Pryntz-Nadworny, 2011 for discussion).

Entrepreneurs are generally more motivated to achieve (Stewart & Roth, 2007) and less constrained by organizational systems and structures than other business people (Daily, McDougal, Covin, & Dalton, 2002). We believe these are key aspects as to why creative individuals may be more attracted to entrepreneurship than others. In that, by being the head of the organization, “their own boss,” entrepreneurs are more free to be creative than others and more motivated to develop and exploit innovation in order to achieve their goals. Yet, this freedom does come at somewhat of a price.

The freedom entrepreneurs possess is the result of a lack of organizational restraints placed upon them by superiors and their organization, such as standard operating procedures or organizational norms, which traditional managers face. This results in entrepreneurs facing mostly “weak” situations, where there is large variation, or latitude, in how individuals can handle a situation (Chatman, 1989), as opposed to “strong” situations where there is little room for individual variation in handling situations, which is often the case for traditional managers. For example, when encountering a customer who is unhappy with his new purchase, a manager employed by a large organization may be very limited, by his or her organization, in what he or she can do to resolve the situation. These limitations may involve hard rules such as not allowing a return because the organization’s rules state that merchandise cannot be returned once it has been opened or used. When confronted with the same situation, entrepreneurs are free to do whatever they see fit because they set their own rules and are free to change them as they please.

Markman and Baron (2003) echo this perspective, arguing that entrepreneurs do indeed face mostly weak situations. Stewart and Roth (2007) elaborate on this point by discussing how founding entrepreneurs must create a business where nothing existed before, define that business and what services or products it will offer, obtain the requisite resources, and establish how the new organization will operate. To do this, entrepreneurs must be creative or they will not succeed or emerge from entrepreneurial nascence. Thus, entrepreneurs are, by necessity, better at making decisions under conditions of uncertainty and ambiguity than others (Bierly, Kolodinsky, & Charette, 2009), that is, conditions where creative practical solutions are required to succeed.

THE RIGHT PERSON FOR THE RIGHT JOB

Not all individuals are equal when it comes to creativity. As with any other psychological constructs, individuals are spread throughout the continuum of creative ability levels. One way to assess creativity is by measuring divergent thinking ability. Divergent thinking is the process that individuals undertake when generating ideas (Acar & Runco, 2011); the process consists of four basic components. First, fluency is the number of new ideas one can generate in a given amount of time (Torrance, 1966). Second is flexibility, which reflects one’s ability to incorporate different perspectives when generating ideas (Baer et al., 2008). Third, originality deals with the uniqueness of one’s ideas (Guilford, 1950). Finally, elaboration is the ability to add detail to preexisting ideas (Torrance, 1966). Thus creativity can be conceptualized as a multi-faceted construct.

We propose that individuals who possess the ability to think divergently will be more attracted to entrepreneurship than others. Although we are not aware of prior empirical testing of this specific relationship, there is substantial support for this idea. Innovation is argued to be a crucial ingredient to new venture creation (Baron & Tang, 2011), and an essential component of our definition of entrepreneurship. Others have gone as far as to state that divergent thinking is so closely related to entrepreneurship that the two concepts are synonymous (Day, Reynolds, & Lancaster, 2006).

Creativity and innovation are two closely related constructs that must coexist. Creativity is the generation of ideas and innovation is the exploitation of these ideas (Wilson & Stokes, 2006). Hence, creativity is, by necessity, a precondition for innovation. Because of the weak situations frequently encountered by entrepreneurs, creativity is essential for this type of employment because there is no organizational set of standard operating procedures to follow when problems arise, except for in commodity like ventures. Hence creativity is positively related to performance in this context of entrepreneurship (Baron & Tang, 2011). Thus it stands to reason that, on average, creative individuals should be more likely to become successful entrepreneurs and more attracted to the field than less creative individuals.

In general, individuals choose employment that places them in situations that are best suited for their personalities (Stewart & Roth, 2007). This is the basic premise of Person-organization Fit Theory which argues that individuals choose their line of work based on how their individual attitudes and abilities fit in with the culture and other attributes of an organization. Person-entrepreneur Fit Theory (Markman & Baron, 2003) is a variation of Person-organization Fit that proposes that some individuals will “fit” the role and responsibilities of an entrepreneur better than others and will be more likely to succeed and be attracted to the field of entrepreneurship. This is the impetus for our first hypothesis.

H1: Creativity is a positive predictor of entrepreneurial intentions.

We agree that one key aspect of “fitting” into the role of an entrepreneur is the ability to handle “weak” situations that require creative solutions. The central aspect of creativity is the ability to generate ideas. This “ideation” is consistent with our previous definition of divergent thinking and centers on one’s ability to generate appropriate answers to problems (McCrae, 1987). As our previous discussion on person-entrepreneur fit argued, people with the prerequisite abilities for entrepreneurship will be more attracted to it. We then argued that creativity is one of these abilities. Our next hypothesis drills down to test if this key aspect of creativity, the ability to generate ideas (divergent thinking), alone predicts entrepreneurial intentions. Thus, through the lens of Person-entrepreneur Fit Theory, we propose that creative individuals who possess the ability to think divergently will be more attracted to the field of entrepreneurship, because they possess the prerequisite abilities necessary to perform this role, as formally stated in the following hypotheses.

H2: Increased individual divergent thinking, and the dimensions of divergent thinking, positively predicts one’s entrepreneurial intentions.

Up to this point it is argued that creative individuals should be more attracted to entrepreneurship than others, and that divergent thinking is key to this process. But, there must be more to being creative than simply generating ideas. For this reason, we look to the personality component of creativity. For over thirty years, personality has been shown to be related to the creativity level of the individual (Gough, 1979; Oldham & Cumming, 1996). In general, industrial and organizational psychologists and management researchers think of personality in terms of the Big Five personality traits of openness to new experiences, conscientiousness, extraversion, agreeableness, and neuroticism (Costa & McCrae, 1992). But, meta-analysis has shown that there is a creative component of personality that is not captured by this conceptualization (Feist, 1998). Thus a personality trait of “creativity” is shown to have divergent validity from the Big Five components of personality, which means that creativity is substantiated as a personality trait in its own rite.

Although divergent thinking is paramount to entrepreneurial success, with reference to creativity, it may not capture all of what it means to be creative. There is evidence of a link between creativity and entrepreneurial intentions. For instance, Barth (1993) and Schein (1978) both suggest that creative individuals desire to create new things, which we extend to include new enterprises. Further, Feldman and Bolino (2000) suggest a link between creativity and self-employment. These assertions were tested by Zampetakis and Moustakis (2006) who found that creative self-perceptions and a creative environment predict entrepreneurial intentions. We extend this line of research by directly testing the link between individual creativity and entrepreneurial intentions. Thus, we propose that one's creative personality can increment divergent thinking in predicting one's entrepreneurial intentions, as stated in the following hypothesis.

- H3: Creative personality is positively related to entrepreneurial intentions and increments what is explained by divergent thinking.

METHODS

This study included 152 undergraduate respondents from a large southeastern public university. The students were a multidisciplinary group. They were obtained from classes housed in the schools of business, art, and engineering. The average age was 22.7 years and 31.6 percent of respondents were female. All respondents were given identical measures. The undergraduates in this study were given extra credit for their participation and were free to refuse participation without penalty.

DEPENDENT VARIABLE

The outcome variable of interest in this study is entrepreneurial intention; that is, the intent of one to start his or her own business one day. For this measure we used two questions from Crant (1996) and two questions from Luthje and Franke (2003) to comprise one four item scale. An example question is, "I will probably own my own business one day." The alpha reliability for this scale in this study is .90.

INDEPENDENT VARIABLES

In this study we are interested in how well one's creative personality and creative ability predict entrepreneurial intentions. Creative personality was measured using Gough's (1979) Creative Personality Scale (CPS). This scale is comprised of a list of 30 adjectives. Respondents are asked to check the adjectives that they believe describe them best. The reliability for this variable is reported at .70 (Oldham & Cummings, 1996).

The divergent thinking aspect of creativity, conceptualized in this study as creative ability, was measured using the Abbreviated Torrance Test for Adults (ATTA), which is a short form of the original Torrance Test of Creative Thinking (TTCT) (Torrance, 1966). These measures have successfully delivered consistent results when predicting creative performance for over four decades (Crammond, Matthews-Morgan, Bandalos, & Suo, 2005). The test consists of presenting respondents with three figures and asking them to create lists, produce figures, and/or provide titles. The ATTA used in this study was comprised of four components: fluency, originality, elaboration, and flexibility. The alpha reliabilities for these measures in this study were all high, .99, .97, .97, and .99 respectively.

CONTROL VARIABLES

To ensure that our results are not spurious, we included two controls to ensure that our concepts of interest (creative personality and divergent thinking) are truly responsible for our findings. First we control for the "Big Five" personality traits (openness to new experience, conscientiousness,

extraversion, agreeableness, neuroticism) most often investigated by management psychologists. The Big Five personality traits are shown to have a moderately high overall correlation (.41) with job satisfaction (Judge, Heller, & Mount, 2002). With regard to performance, Barrick, Mount, & Judge (2001) found several notable conclusions. They found conscientiousness to be a valid predictor for all occupations across performance measures. A link was found between low levels of neuroticism (emotional stability) and overall work performance. Low levels of extraversion, openness to new experience, and agreeableness did not predict overall work performance well but did predict for certain occupations. As a whole the Big Five personality traits are pervasive to managerial research and are shown to be valid predictors of overall performance and performance in specific contexts. For this reason, we believe that the influence of personality should be controlled for in this study to provide support that our results are not spurious and are indeed due to the independent variables of interest.

Although the discriminant validity of creative personality, from the “Big Five,” is established by meta-analysis (Feist, 1998), we included 20 items of the Mini-IPIP (Donnellan, Oswald, Baird, & Lucas, 2006) to ensure that our analysis is truly evaluating the creativity associated with one’s creative personality rather than other personality constructs. This measure is a shortened version of the original International Personality Item Pool (IPIP) developed by Goldberg (1999). The alpha reliabilities for openness, conscientiousness, extraversion, agreeableness, and neuroticism in this study are .75, .67, .82, .86, and .70 respectively.

ANALYSIS

Hierarchical regression analysis and correlations were used to test the hypotheses herein. In all, four models were tested: Model 1, a control model that included only the six control variables; Model 2, composed of the control variables in step 1 and CPS in step two; Model 3, composed of the control variables in step 1 and the ATTA components in step 2; and Model 4, composed of the control variables in step 1, CPS in step 2, and ATTA in step 3. For each model, a R^2 and R^2 change is reported.

Second we controlled for cognitive ability. Because of cognitive ability’s pervasive influence on life success (Schmidt, 2002) and its frequent use in psychological research, we believed that control of this variable was necessary to show that the variables in our study increments this construct. Cognitive ability was proxied with standardized test score averages for all available participants.

Table 1. *Correlations*

	Mean	Std. Dev.	1	2	3	4	5	6	7	8	9	10	11	12
1. Cognitive ability	15.290	3.858												
2. Conscientiousness	5.283	1.223	.087											
3. Agreeableness	5.313	.894	-.293***	.013										
4. Neuroticism	4.474	1.387	.192*	.329***	-.099									
5. Openness	5.408	1.071	-.130	.116	.490***	-.041								
6. Extraversion	4.829	1.464	-.318***	-.072	.501***	.145	.399***							
7. Fluency	16.787	2.377	.242***	-.280***	-.001	-.062	.115	-.268***						
8. Originality	16.711	2.070	.030	-.275***	.217**	-.196*	.107	-.250**	.641***					
9. Elaboration	15.842	3.636	-.146	-.165*	.296***	-.307***	.544***	.241**	.461***	.254**				
10. Flexibility	15.737	2.332	.167*	-.015	-.202**	-.225**	.070	-.250**	.599***	.204**	.489***			
11. ATTA avg.	65.026	7.975	.063	-.235***	.132	-.275***	.331***	-.108	.850***	.626***	.802***	.747***		
12. CPS	7.474	3.891	.148	-.037	.378***	-.100	.681***	.263***	.068	.103	.357***	.093	.237**	
13. Ent. intentions	4.509	1.972	.055	-.180*	-.015	-.213	.297***	.195**	.132+	.147+	.158*	.041	.161*	.348***

*p<.05

**p<.01

***p<.001

Table 2. *Models Predicting Entrepreneurship*

Variable	Model 1 Control Variables	Model 2 Control and ATTA	Model 3 Control, CPS, and ATTA	Model 4 Control and CPS
Conscientiousness	-.200	.003	.098	-.165
Agreeableness	-.689***	-1.00***	-1.00***	-.742***
Neuroticism	-.371**	-.556***	-	-.344**
Openness	.663***	.785***	.550***	.415*
Extraversion	.388**	.663***	.429+	.375**
Cognitive Ability	.083*	.066	.668***	.051
CPS			.139*	.104+
Fluency		.189+	.263*	
Originality		.177+	.154	
Elaboration		-.136*	-.130*	
Flexibility		-.102	-.150	
Model <i>df</i>	6	10	11	7
Model <i>R</i> ²	.255***	.332**	.363***	.273+
<i>R</i> ² Change		.077**	.108***	.018+

*Value in cells are unstandardized coefficients

+p<.10

* p<.05

** p<.01

***p<.001

RESULTS

Tables 1 and 2 summarize our findings. Table 1 presents the zero-order correlations between all variables in our study. Table 2 summarizes the results of the three primary models used to test our hypotheses and one post-hoc model. Hypothesis 1 asserted that creativity is a positive predictor of entrepreneurial intentions. Table 1 supports this hypothesis, showing a positive significant relationship between entrepreneurial intentions and both the divergent thinking (ATTA) (.161, $p < .05$) and creative personality (CPS) (.348, $p < .001$) aspects of creativity.

Hypothesis 2 is intended to further refine the findings of Hypothesis 1 by looking at how the individual dimensions of divergent thinking (ATTA components) predict entrepreneurial intentions. Table 1 seems to support this hypothesis, showing positive correlations for all four dimensions of the ATTA. However, only the correlation for elaboration (.158, $p < .05$) was significant at the .05 level. Fluency (.132) and originality (.147) had slightly lower correlations than elaboration and were significant at the $p < .10$ level. Since one of the goals of hypothesis 2 is to investigate how creativity predicts entrepreneurial intentions over and above cognitive ability and personality, hierarchical regression was performed and results reported in Table 2. These results clearly show that the introductions of the ATTA dimensions do increase the explained variance, over that of cognitive ability and personality, by significantly increasing the R^2 from .255 in the control model to .332 in Model 2. However, only one of the ATTA dimensions, elaboration (-.136, $p < .05$), in Model 2 is significant and it runs contrary to the proposed direction. Thus,

with reference to hypothesis 2, we can say that at a zero-order correlational level, divergent thinking is a positive predictor of entrepreneurial intentions for the dimension of elaboration, thus providing partial support for hypothesis two. However, our hierarchical regression results show that Hypothesis 2 is partially supported, in that one dimension (elaboration) significantly predicts entrepreneurial intentions, but the variable runs contrary to the predicted direction. One explanation for this result is the multicollinearity associated with the variables; multicollinearity has been shown in previous studies to cause regression coefficients to be altered both in magnitude and sign.

Both Tables 1 and 2 provide support of Hypothesis 3 which predicted that creative personality is positively related to entrepreneurial intentions and increments what is explained by divergent thinking. Table 1 shows a significant moderate correlation (.348, $p < .001$) between CPS and entrepreneurial intentions. The hierarchical regression results of Model 3 in Table 2 show that CPS is a significant positive predictor (.139, $p < .05$) of entrepreneurial intentions. Further, the introduction of the CPS variable significantly increased R^2 from .332 in Model 2 (control and ATTA dimensions) to .363 in Model 3, thus supporting the incremental aspect of Hypothesis 3.

Our findings that CPS was a positive predictor of entrepreneurial intentions lead us to run one additional post-hoc model to see how CPS predicted entrepreneurial intentions above cognitive ability and personality without the ATTA dimensions in the model. As the results of Model 4 in Table 2 show, this variable was of low magnitude and failed to reach significance and did not result in a significant increase in R^2 above that of the control model. Thus, the introduction of CPS did not significantly predict variance above that explained by cognitive ability and personality alone.

DISCUSSION AND PRACTICAL IMPLICATIONS

Our findings show that creativity can be used to predict one's intention to enter into entrepreneurship. Further, this construct is shown to predict entrepreneurial intentions over and above two of the most established predictors, cognitive ability and personality, of behavior in industrial and organization psychology and organizational behavior.

Further, our findings reveal that at a zero-order correlational level there is a positive relationship between the divergent thinking aspect of elaboration with creativity and entrepreneurial intentions; and that this relationship is reversed after controlling for cognitive ability and personality. Thus when the influence of personality and cognitive ability is removed, the ability to generate ideas may hinder the creative process. This implies that it may be useful to have one set of individuals generate ideas and another set focus on creative elaboration of those ideas.

It is interesting that elaboration has a significant and moderate to high correlation with all Big Five personality variables and creative personality. Elaboration, in this context, is the ability to add details to previously conceptualized ideas. This component of divergent thinking must, in part, be related to personality. The other part, we assume, is the creative component which produced a negative relationship after controlling for all Big Five personality variables. Thus, the creative ability that allows one to augment previously identified ideas or products decreases one's intentions to enter into entrepreneurship. We interpret this to signal that individuals who like to expound upon ideas, rather than generate new ideas on their own, may be less attracted to entrepreneurship because of the dynamic environment encountered by most entrepreneurs which requires rapid generation of ideas and does not allow time for extensive elaboration.

Finally, there is evidence that creativity is not merely a static personality trait that cannot be changed. Eisenberger and Armeli (1997) argue that creativity can indeed be fostered. Cropley and Cropley (2000) found that, with training, creativity ability can be increased on both pencil and paper tests and practical

applications. Hence there is hope, through training, for less creative individual interested in occupations, such as entrepreneurship, where creativity is valuable.

Our findings have implications for both practitioners and academics. In both areas, entrepreneurship and creativity are hot topics. For instance, those in the business world often speak of how important creativity is to success in business (IBM Global Business Services Survey, 2010) and Gallup recently released an article on how Singapore's growing economy is in desperate need of entrepreneurs (Tung & Wong, 2012). Institutions of higher learning highlight their creativity and innovation programs in an effort to appeal to businesses and prospective students alike (i.e. Virginia Commonwealth University da Vinci Center for Innovation). Thus this study encompasses all of these components simultaneously.

We provide and test a method of identifying creative individuals with the desire to become entrepreneurs in one survey. Academics can use this survey method to develop and test new models of entrepreneurship. This can also be used by universities to identify potential students for their innovation centers, by businesses as an employee selection tool, and by nations to identify potential entrepreneurs to nurture and incubate into thriving businesses.

Further, our results show that the best model for predicting entrepreneurial intentions included both the creative personality (CPS) and creative ability (ATTA). Together these measures predicted better than models with either construct alone; this has implications for practitioners and teachers alike. Because of the ease in administering the CPS, relative to the more extensive and time consuming ATTA; one is tempted to simply use the CPS when assessing creativity. Thus, we recommend that if one is interested in assessing a group of individual's creativity and entrepreneurial intentions, both measures of creativity should be used in concert. Up to this point, no study the researchers are aware of, has evaluated and recommended best practices for assessing creativity as a predictor of entrepreneurship.

This study provides empirical evidence to substantiate the idea that creativity and entrepreneurship are intertwined. Our findings that creative individuals are predisposed towards entrepreneurship should empower both practitioners and educators alike in their efforts to identify and foster the next generation of entrepreneurs.

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