

## **Entrepreneurial Characteristics, Education, and Firm Performance (A Working Paper)**

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### **Abstract**

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*This study seeks to replicate a study that assessed whether entrepreneurial characteristics when moderated by education, influence firm performance. An online survey will be utilized to target 500 Black and Latino entrepreneurs. The questionnaire items will consist of entrepreneurial characteristics, specifically the need for achievement, risk-taking propensity, and locus of control, in conjunction with the attained level of education, and firm performance when measured in terms of annual sales. Specifically, education will be examined as a potential moderator of the degree of risk propensity, need for achievement, and the locus of control in Black and Latino business settings. Moderated regression is the methodology utilized to ascertain these relationships.*

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**Keywords:** Entrepreneurial Characteristics, Education, Firm Performance, Need for Achievement, Locus of Control, Risk-taking Propensity

### **1. Introduction**

Why should entrepreneurship and entrepreneurs be studied? Because small business creation is on the rise (U.S. Small Business Administration, Office of Advocacy, 2019), it is increasingly important to understand factors, which explain successful participation in the ownership of businesses. Generally, 20 percent of businesses were at least 51 percent owned by minority entrepreneurs, employed 8.7 million employees with a total payroll of \$280 billion earning \$1.3 trillion in total annual receipts. Minority-owned businesses, on average, had \$1.2 million in annual sales and employed eight employees. The majority of these businesses are 99.9 percent minority-owned having fewer than 500 employees. One implication of the effects of education on firm performance points toward the facilitation of greater participation of Blacks and Latinos in the ownership of American businesses. Consequently, the primary research question is: “Does the educational level of Black and Latino entrepreneurs moderate the relationship between their entrepreneurial characteristics and the performance of their firms?”

Although the psychological entrepreneurial traits, need for achievement, locus of control, and risk propensity do not represent a comprehensive profile of the entrepreneur, they were chosen because they appear repeatedly in the entrepreneurship, psychology, economics, and sociology literature (Brockhaus, 1982; Cooper and Gimeno-Gascon, 1992; Krasner, 1982; Shapero and Sokol, 1982). However, few investigations of Black and Latino entrepreneurs and the traits previously listed have collected empirical evidence of education as a moderating variable of the relationship between these traits and firm performance (Parkinson, 1999). The goal of this study is to address a gap in the literature by evaluating these traits among Black and Latino ethnic groups under consideration. In performing this task, this investigation seeks to contribute to the growing body of academic literature on ethnic entrepreneurship in general, but Black entrepreneurship and Latino entrepreneurship specifically, and to underscore the importance of education as an impetus to new venture formation, job creation, and economic independence.

## 2. Literature Review

In a business context, the term “entrepreneurship” has been used for well over 200 years and its meaning is still in disagreement (Abu-Saifan, 2012; Amit, Glosten & Muller, 1993; Brazeal & Herbert, 1999). Several schools of thought offer an understanding of entrepreneurship and the entrepreneur. One school of thought looks at entrepreneurship as an attempt to create value through opportunity recognition as posited by Kao and Stevenson (1985). In reviewing the research literature, these schools of thought may be roughly separated into perspectives that view entrepreneurship as an economic function, perspectives that associate it with the individual, and perspectives that entail a view through a behavioral or psychological lens (Stevenson & Sahlman, 1986).

### 2.1 The Economic Perspective

Economists principally formulated early definitions of entrepreneurship. In the eighteenth century Richard Cantillon, an economist, coined the term entrepreneurship because he saw the risk-bearing function in terms of buying at certain prices and selling at future uncertain prices. (Stevenson & Sahlman, 1986). He defined the relationships between producers, suppliers, and consumers in the market and the components of trade as the entrepreneur, the village, the market–town, and the community. Thus, one must define entrepreneurship in conjunction with the term entrepreneur.

Joseph A. Schumpeter (1934) was one of the first economists to characterize business innovation as the *carrying out of new or unique combinations of resources*. Though broadly defined to cover virtually any kind of function that could affect the business enterprise, innovation encompasses new combinations of resources to create new products, services, processes, sources of supply, and markets (Livesay, 1982). Accordingly, the entrepreneur creates the wealth when change occurs, either by the introduction of a new production method, the creation of a new organization, the opening of a new market, or the provisioning of new sources of supply (Entrialgo, Fernandez, & Vasquez, 2000; Morris, 1998; Hisrich & Brush, 1986). Further, Schumpeter does not address two other aspects necessary for a true composite of the entrepreneur: the sociological and psychological perspectives.

### 2.2 The Sociological Perspective

The sociological perspective of entrepreneurship is concerned with groups and how norms, beliefs, and the impacts of societal effects such as war, migration, deprivation, invasion, and religious beliefs influence them (Vesper, 1977). Durkheim (1947) and Weber (1958) examined entrepreneurship from a sociological viewpoint. Durkheim (1947) viewed society as a distinct object that constrains and shapes individual actions. Weber’s work centered on how people use and create symbols to help guide their societal roles. Thornton (1999) focused on the individual traits of entrepreneurs whereas De Bruin and Dupuis (2018) portrayed a multi-perspective of groups such as families, communities, the elderly, and youth.

Durkheim and Weber both demonstrated the importance of the sociological perspective in entrepreneurship. More recent theories support the relevance of sociological factors in venture creation (Shane & Venkataraman, 2000). Education is an important sociological factor in promoting entrepreneurship. It becomes a salient issue when considering the role of education in the development of minority entrepreneurship. The sociological perspective, however, is not the only necessary condition in the development of small businesses. Psychological characteristics are also important and have often been researched as risk-taking propensity, need for achievement, and locus of control.

### 2.3 The Psychological Perspective

Moving toward a more contemporary micro view, a sizable amount of research arose in an attempt to distinguish entrepreneurship and focus on the entrepreneur. Earlier studies indicate significant conceptual contributions made by researchers investigating the individual characteristics and personality traits of entrepreneurs within the small business setting (Kerr, Kerr, & Xu, 2018; Auster, 1988). In the late 1970s and early 1980s research was conducted favoring the traits and characteristics that distinguish entrepreneurs from managers and other members of society. A viewpoint advanced by Hornaday (1982) included the need to achieve, ability to take calculated risks, creativity, foresight, and profit-orientation. The research of Hornaday focused on the application of behavioral sciences to problems of management. Another scholar, Brockhaus (1982), undertook a broad perspective of the psychology of the entrepreneur in his discussion of the need for achievement, locus-of-control, beliefs, risk-taking propensity, and personal values.

The broad view included the effects of personal characteristics as well as previous personal and business experiences. Considerations of age, education, and residency were also incorporated.

McClelland (1961) posited an additional perspective, which distinguished between entrepreneurial traits and those which characterize the general populace. He believed the differentiating factor was an individual's need for achievement (nAch). This psychological characteristic is regarded as a key entrepreneurial attribute denoting a person's inner motivation to strive hard to attain success or an individual's desire to accomplish difficult tasks. His comparative studies were conducted across cultures as well as across professions.

### **3. Model of the Research Constructs**

The ensuing model, Figure I, depicts the constructs of entrepreneurial characteristics, education, and firm performance. The model proposes the following: (1) There is a significant relationship between locus of control and firm performance. (2) There is a significant relationship between need for achievement and firm performance. (3) There is a significant relationship between risk-taking propensity and firm performance. (4) Education moderates the relationships between entrepreneurial characteristics and firm performance.

#### **3.1 Entrepreneurial Characteristics.**

From a trait-oriented approach, entrepreneurial characteristics will be operationalized as internal locus of control, need for achievement, and risk-taking propensity. Locus-of-control beliefs as another psychological characteristic point toward how much personal responsibility individuals take for their behavior and its consequences. J. B. Rotter (1966), a personality researcher, proposed that individuals either attributed outcomes in their behavior principally to either themselves or environmental factors. Thus, locus-of-control, as an attribute indicates the sense of control individuals have over their future, lies along a continuum from very internal to very external (Rotter, 1966).

Rotter (1966) believed the psychological trait, need for achievement(nAch) is related to the belief in one's internal locus-of-control. McClelland (1966) determined that individuals tend to put forth more effort when their actions will directly result in personal achievement. Consequently, the research of Rotter and McClelland indicates that entrepreneurs tend to believe that events are dependent on their behavior (Brockhaus, 1982).

David C. McClelland (1961) is credited for contributing to the literature in major efforts to determine whether entrepreneurs possess a particular psychological set of characteristics. The need for achievement (nAch) is regarded as a key entrepreneurial attribute denoting a person's need to strive hard to attain success or an individual's desire to accomplish difficult tasks. McClelland and Winter (1969), while connecting entrepreneurial activity to high nAch, surmised that entrepreneurs are interested in excellence for its own sake, rather than for the rewards of prestige, power, or money.

Virtually all definitions of entrepreneurship entail a discussion of risk-taking propensity or risk component in uniquely discussing entrepreneurs and is touted as one of the key attributes of entrepreneurship. It is equated with the idea of working for oneself assuming personal risk rather than working for someone else for wages (Lumpkin & Dess, 1996). The meanings of risk-taking propensity are varied, depending on the context in which it is applied. The evaluation of risk-taking propensity was utilized as an adapted set of scales derived from a study conducted by Kogan and Wallach (1960). Its emphasis rested upon an individual's evaluation or attitudes toward risk.

#### **3.2 Education.**

The level of formal education of the entrepreneur was used as the moderating variable of the entrepreneurial characteristics to performance relationship. It will be operationalized as varying levels of formal and informal education. Previous research, utilizing various methodologies, indicated a significant relationship between relative profitability and variability in performance taking into consideration the characteristics of the entrepreneur (Lee & Tsang, 2001; Robinson & Sexton, 1994). These studies suggest that there is a strong correlation between education and firm performance.

#### **3.3 Performance**

The performance of small businesses is the ability to contribute to job and wealth creation through business start-up, survival, and growth (Carter, 2000). The literature reveals a diversity of opinions on policy and academic debate on the measures of performance (Carter, 2000; Smallbone and Wyr, 2000; Kalleberg and Leicht, 1991). In that the small business is the focus of this study, a conservative approach is utilized. For this research study, performance is operationalized as the average annual sales for the period 2015 to 2020.

## 4. Methodology

### 4.1 Sample

This study will be conducted across the southern and southwestern regions of the United States. The list of entrepreneurs will be obtained from various sources including the National Black Chamber of Commerce and National Latino Chamber of Commerce. To minimize any bias, the subjects were selected across various industries.

### 4.2 Data Collection

Five hundred online surveys will be emailed to Black and Latino business owners and two appeals will be made for responses. The researcher will collect the data through the use of a questionnaire based on the work of Thomas and Mueller (2000). These scholars examined the relevance of culture across four personality characteristics, i.e., innovativeness, internal locus of control, risk-taking propensity, and energy level. The items and scales measuring innovativeness, risk-taking, and energy level were adapted from the Jackson Personality Inventory (Jackson, 1994). The Jackson Personality Inventory-Revised (JPI-R) assesses personality variables, which are relevant to the functioning of an individual in a variety of settings. These settings may range from work-related situations to those involving educational/organizational behavior (Jackson, 1994). The Thomas and Mueller (2000) study also utilized and adapted items for the internal locus of control scale from Rotter's I-E scale (Rotter, 1966).

### 4.3 Hypothesis Testing

Hair et al. (1998) denote simple regression analysis as the statistical methodology of choice when a single metric dependent variable is assumed related to one or more metric independent variables. Undertaking the regression analysis involves designating performance (annual sales) as the dependent variable and assigning the independent variables as internal locus of control, need for achievement (nAch), and risk-taking propensity, respectively. According to Hair et al. (1998), the regression procedures must be conducted in two stages. The first phase involved estimating the un-moderated equation

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \epsilon,$$

noting the  $R^2$ . The hypotheses tested in the first stage are indicated thusly:

Ha<sub>1</sub>: There is a significant relationship between internal locus of control and performance.

Ha<sub>2</sub>: There is a significant relationship between need for achievement and performance.

Ha<sub>3</sub>: There is a significant relationship between risk-taking propensity and performance.

The second phase involved estimating the moderated equation

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4X_1 + \beta_5X_4X_2 + \beta_6X_4X_3,$$

which includes the interaction or moderator variables. To examine and incorporate an interaction effect between two variables in a regression analysis, a cross-product or interaction variable is introduced in the model. The moderated variable results as a cross-product of education and the independent variables. According to Hair et al. (1998) and Gliner and Morgan (2000), it can be determined how each independent variable works by itself and determined how the independent variables work together or interact.

As an interaction or moderating variable, education will be introduced into the model because it is suspected that the effects of internal locus of control, need for achievement, and risk-taking propensity on firm performance are not separate (Shiffler & Adams, 1990; Gliner & Morgan, 2000). The change in the coefficient of determination,  $R^2$ , between the moderated and un-moderated equations will require a determination of the extent of the increase in  $R^2$  when these interaction variables are included in the model.

In terms of interpretation, it is suspected that there is a positive relationship between internal locus of control, risk-taking propensity, and need for achievement on performance. As such, the following hypotheses are advanced:

Ha<sub>4</sub>: Education moderates the relationship between internal locus of control and performance.

Ha<sub>5</sub>: Education moderates the relationship between need for achievement and performance.

Ha<sub>6</sub>: Education moderates the relationship between risk-taking propensity and performance.

Determining if an interaction exists is the first step in interpreting the interaction (Newton and Rudestam, 1999). This question would be answered by examining the statistical significance of the regression coefficients  $b_4$ ,  $b_5$ , and  $b_6$ . Secondly, the strength of the effect must also be ascertained by subtracting the change in  $R^2$  value obtained from the moderated and un-moderated equations. The difference can be attributed to the interaction terms. The statistical significance of this difference can be determined by the Partial F-test. The test statistic, known as the partial F-statistic, determines the extent of this increase. If the change in  $R^2$  is statistically significant, then a significant moderator effect is present.

## 5. Discussion

As outlined in this study, the objective is to empirically assess whether education moderates the relationship between the psychological entrepreneurial characteristics and performance of Black and Latino firms. Inherent in this study are certain limitations. Firstly, the scales for internal locus of control, need for achievement, and risk-taking propensity have been used in numerous studies, but they do not seem to adequately capture the essence of the psychological characteristics. Secondly, performance is defined as “Annual Sales”. Redefining performance according to industry standards may be a more appropriate measure of firm performance. This research investigation is designed to inform training programs in ensuring appropriate combinations of expertise when addressing the practitioner’s needs.

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**Figure 1**

Education moderates the relationships between entrepreneurial characteristics and firm performance.

