

THE FIRST STEP TOWARD A THEORY OF THE ENTREPRENEURIAL CAREER

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ACADEMIC ABSTRACT

Through the use of structural equation modeling (SEM), on data obtained from the Panel Study of Entrepreneurial Dynamics (PSED), this research takes the first step toward developing a theory of the entrepreneurial career. Building on research from the areas of entrepreneurial traits, career development, and occupational choice, a theoretically-based model is presented and tested. Results support the differentiation of entrepreneurs from those with no current entrepreneurial intentions, representing an important first step in defining the entrepreneurial career.

EXECUTIVE SUMMARY

Colleges and universities nation wide have been adding entrepreneurship classes, minors, majors and even degrees at a record pace, however, the career entrepreneurship is still conspicuously missing from established lists of career choices. Therefore, to support the continued growth of entrepreneurship in the academic arena, the legitimacy of the entrepreneurial career needs to be firmly established.

Through the use of appropriate research methodology, support for the differentiation of current entrepreneurs from those with no current entrepreneurial intentions is offered as an important first step in defining the entrepreneurial career. This research utilizes four commonly used measures, *need for control*, *need for approval*, *financial success* and *personal development*, to differentiate entrepreneurs from those with no current entrepreneurial intention in the reasons given for choosing their current career. The results show the concept “need for control” helps to explain why entrepreneurs choose to enter entrepreneurship and “need for approval” helps to explain why those with no current entrepreneurial intention choose not to enter. In addition, it has been shown that commonly used measures of “financial success” and “personal development” are not appropriate for measuring aspects of the entrepreneurial career research as they do not allow for differentiation between entrepreneurs and the general population. While these results alone are insufficient to suggest that entrepreneurship is a unique career, they do offer the first step toward such a theory.

This study supports the implication that individuals who choose to enter entrepreneurship differ in specific ways which are measurable from individuals with no current entrepreneurial intentions. Therefore, continuation of this stream of research will likely lead to a definition of, and support for, a theory of the entrepreneurial career, from which the necessary pedagogical tools and training specific to entrepreneurial career theory can then be created.

INTRODUCTION

For many researchers, the entrepreneurial career is considered a given (e.g. Bird, 1988; Brice, 2002; Chen, Greene & Crick, 1998; Katz & Gartner, 1988; Kirk & Belovics, 2006; Schmitt-Rodermund, 2004), however, support for this assumption has yet to be offered. The entrepreneurial career has been theoretically defined (e.g. Dyer, 1994). Differentiation between the entrepreneurial styles, specifically novice, serial, and parallel entrepreneurs, has been theorized and supported given (Alsos & Kolvereid, 1998; Kirschenhofer & Lechner, 2006; Westhead, Ucbasaran & Wright, 2003, 2005a, b; Westhead, Ucbasaran, Wright & Binks, 2005c; Westhead & Wright, 1998a, b, 1999; Wright, Robbie & Ennew, 1997) and even the conceptualization of differentiation between male and female entrepreneurs has been shown to have support (Carter, Gartner, Shaver & Gatewood, 2003; Chrisman, Carsrud, DeCastro & Herron, 1990). What has not received adequate investigation is the existence of entrepreneurship as a career, rather than simply a form of leadership or a method of venture creation.

Early research in the field of entrepreneurship focused heavily on the personal characteristics unique to the entrepreneur in an attempt to differentiate entrepreneurs from non-entrepreneurs. Viewing the ability to be an entrepreneur as something an individual is born with rather than a career choice, researchers looked for specific traits which “make” a person an entrepreneur, rather than focusing on the type of person that is best suited for a career in entrepreneurship. This is evidenced in the extensive exploration of entrepreneurial traits done in the 1960’s, 70’s and 80’s, seeking to determine why some people become entrepreneurs while others do not (e.g. Brockhaus, 1980; De Vries, 1977; DeCarlo & Lyons, 1980; Hornaday & Aboud, 1971; McClelland, 1961b; Shapero & Sokol, 1982; Smith, 1967; Swayne & Tucker, 1973; Webster, 1976, 1977). Although this stream of research has revealed few noteworthy results (Gartner, 1989), it has not been in vain. To the contrary, these studies provide value by showing that no specific entrepreneurial traits exist, thus entrepreneurs are essentially no different than anyone else. Therefore, the research infers that entrepreneurship is a career choice; open to anyone willing to commit the time, effort, and resources necessary to develop or acquire the appropriate skills.

Although a wealth of knowledge exists within the vocational and occupational literature (for notable examples see Brown, 2002; Brown & Lent, 2005), career choice researchers have all but ignored entrepreneurship. Researchers instead have chosen to focus on “careers that have clear career paths, roles, and socialization practices” (Dyer, 1994, p. 7). From this exclusion, one might infer that the entrepreneurial career represents an inconsequential anomaly. However, ever since the first class was held at Harvard in 1947, colleges and universities across the United States have added entrepreneurship classes, programs, and even degrees at an incredible pace (Finkle & Deeds, 2001; Katz, 2003). These programs have grown from a respectable 263 in 1979, to more than 1400 in 1998 (Katz, 2003), indicating the entrepreneurial career represents a rapidly and continuously growing segment of the career domain. Yet with all the attention given to entrepreneurship in the academic arena, it is still conspicuously missing from the reference lists of occupational career choices (based on a review of the 2006-7 Occupational Outlook Handbook from the Department of Labor: Bureau of Labor Statistics, 2006). Dyer (1994) suggests that such omissions are due to the absence of a comprehensive theory of the entrepreneurial career.

In much of the vocational and occupational literature, career choice is seen as an extension of the personality/interest of the individual (Savickas, 2005; Spokane & Cruza-Guet, 2005). Effectively, an individual's choice of career is an extension of who they are, and as such, is likely expressed in the reasons given for choosing that career (Savickas, 2005). In addition, it is known that only a small percentage of the general population, 7.5% in the United States (Bygrave, 2006), choose to become entrepreneurs. Therefore, if entrepreneurship is a career and only a small percentage of the population chooses to enter, it is reasonable to assume the reasons an entrepreneur gives for choosing this career will exhibit characteristics which differ from that of the general population. This poses the question: *Do entrepreneurs differ from the general population in the reasons they give for choosing a career?*

This research will proceed as follows. A review of the literature pertaining to vocational and occupational career choice, in addition to the previous research on the entrepreneurial career, acts to construct a theoretical foundation. This is followed by the advancement of theoretically based hypotheses. Next the research design and data gathering technique are discussed, followed by a description of the testing procedures used, including the analyses and important findings. Finally, implications to the fields of entrepreneurship, vocational and occupational psychology are offered.

THEORIES OF CAREER CHOICE

While a comprehensive theory of the entrepreneurial career has yet to be developed, initial components of the framework have begun to be posited (e.g. Dyer, 1994; Hayward, Shepherd & Griffin, 2006; Katz, 1994; Kirk et al., 2006; Newbert, 2003; Ronstadt, 1986, 1988; Scherer, Adams, Carley & Wiebe, 1989). Theories of a career typically begin with an explanation of why one chooses the career (Dyer, 1994). However, these theories implicitly assume the existence of the career. Because the existence of the entrepreneurial career is in question, it is logical to assume that before research can begin on why an individual chooses entrepreneurship, it is necessary to confirm the existence of a choice to be made. Effectively, before we can explain why someone chooses a career in entrepreneurship, it is necessary to demonstrate that, in fact, entrepreneurship is a career.

Defining the Term Career

Current career definitions are dependent on the vantage point used. Generally established definitions of the term career, those commonly found in dictionaries and encyclopedias, tend to focus on the accumulation of like experiences over time as the focal point (Arthur, Hall & Lawrence, 1989; Arthur & Rousseau, 1996b), essentially defining a career as the general course of a persons working or professional life. From this view point a career is the type of work that a person is and, for the most part, has been doing all their life. Under this definition, the entrepreneurial career would be limited to the serial entrepreneur, one who exits a venture before entering into a subsequent one when entrepreneurial opportunities are perceived to have been exhausted (Hall, 1995; Wright et al., 1997), and the parallel or portfolio entrepreneur, those who maintain ownership of one or more ventures (Hall, 1995; Kolvereid & Bullvag, 1993; Westhead & Birley, 1993). Therefore all other entrepreneurial activity, such as those preparing for entrepreneurship, those who are nascent or novice, part-time, and corporate entrepreneurs would not qualify as having an entrepreneurial career. This is far too narrow a view to be useful in

defining the entrepreneurial career; however, the term career has been shown to have two additional view points; that of the subjective and objective career (Arthur, Khapova & Wilderom, 2005).

A *subjective career view* is based on the individual's perspective. It is their own sense of what they are, or are becoming (Stebbins, 1969). Therefore the subjective definition of a career is based on the type of work that an individual chooses to do, if they are not already doing so, and is based on a self interpretation of abilities. It is not tied to the past or the present, but only to the individual's perceived potential and requires no previous experience or training. Thus, if the subjective definition is applied to the entrepreneurial career, anyone who is considering entrepreneurship, or feels they are entrepreneurial in nature, could claim the title of entrepreneur. While this view presents a greater degree of usefulness in defining the entrepreneurial career, it offers no controls, no guidelines, or boundaries of any kind. It allows self assessment without societal constraints. These limitations are necessary for adding legitimacy to the career claim. Without agreed upon basic requirements the career claim then loses all meaning.

On the other hand, the *objective career view* is the visible position, situation, or status held by an individual as seen from a societal view (Barley, 1989), and as such, the polar opposite of the subjective view. In this definition, it is how society views the type of work that an individual is suited for. In this definition past experience is only relevant if it is known. The determination of the individual's career is based primarily on the work they are currently engaged in. Thus an individual may have a lifetime of experience in a different field of work and only be seen for what they are doing in the present. In point of fact, the objective definition of a career then becomes the type of work that a person is currently doing and thus suffers, as a career definition for entrepreneurship, by offering a highly limited scope. That is, it limits the term career to only those currently engaged in entrepreneurship, more specifically, those starting a new business venture. In addition, it allows for inclusion of individuals for whom entrepreneurship was only a one time process leading to business ownership while excluding those currently preparing to enter.

While none of these definitions are truly capable of encompassing the entrepreneurial career, it has been suggested that a broader definition of career, one that embraces both the objective and subjective views, is needed (Adamson, Doherty & Viney, 1998; Arthur et al., 2005; Arthur & Rousseau, 1996a). To put it succinctly, it has been stated that "[t]raditional definitions of career...no longer provide us with the explanatory vocabulary to understand the apparently changing reality" of the modern career (Adamson et al., 1998, p. 252). This can be particularly true in the discussion of the entrepreneurial career. It is generally accepted that entrepreneurship is the creation of a new venture where none existed before. However, it has also been acknowledged to be a state of mind or a way of acting (McGrath & MacMillian, 2000). Therefore, an appropriate definition to be used for the entrepreneurial career must be broad enough to include both aspects while restrictive enough to make the term meaningful. It is therefore suggested that the modern meaning of the term career should be "the type of work that an individual chooses to do based on a self interpretation of abilities, which conforms to a societal interpretation of that form of work". Essentially, allowing society to define the career and the individual to determine if they meet those requirements.

General Perspectives on Career Choice

Numerous sociological- and psychologically-based theories of career choice exist within the fields of career development and occupational choice (Brown, 2002). Syntheses of these theories reveal the two distinct paradigms both offering viable perspectives for understanding the entrepreneurial career, however this research will limit the scope to the psychologically-based aspects relating to differentiating entrepreneurship from the general populace of careers.

Many career choice theories which are psychological in nature, such as Holland's Theory of Vocational Personalities in Work Environments (Spokane et al., 2005), Personality Development and Career Choice (Roe & Lunneborg, 1991), Psychodynamic Model of Career Choice and Satisfaction (Bordin, 1991), Trait and Factor Theory (Brown, 1991), and to some degree the Life-Span, Life-Space Approach to Career Development (Super, 1991) tend to share several basic themes: 1) an individual's environment, especially prior to adulthood, is a major contributing factor to personality development, 2) career choice is primarily psychologically based, and 3) career choice is seen as an extension of the individual's personality (Brown & Brooks, 1991). Effectively, these trait-based theories function, at least on some level, on the premise that a career is chosen as an extension of an individual's personality.

Based on such trait-based theories, it is reasonable to assume that if a career is an extension of an individual's personality, and these career personalities can be grouped into common types, then the reasons given for choosing a career should indicate differentiation in careers. Therefore, showing differentiation in the reason given for career choice between nascent entrepreneurs, those currently acting or attempting to act as entrepreneurs, and those in the general population should represent sufficient differentiation to support entrepreneurship as a career which is different from the general populace of careers. This statement is not intended to imply support for entrepreneurship as a unique career, only as a member of a group of unique careers. While the central purpose of this research is to show differentiation, and thus support for the existence of the entrepreneurial career, it is also important to address how they differ. To determine the constructs to be used, an evaluation of previous research was undertaken to establish the most commonly used factors for use in this study.

Factors of Entrepreneurial Career Choice

Many of the more recent studies on entrepreneurial career choice have been based on the research of SARIE, the Society of Associated Researchers of International Entrepreneurship (for notable examples see Birley & Westhead, 1994; Dubini, 1989; Scheinberg & MacMillan, 1988; Shane, Kolvereid & Westhead, 1991). SARIE is a cross-national research group interested in the reasons people offer for choosing to enter entrepreneurship. This work began with the generation of a theoretically based list of 38 reasons (Carter et al., 2003) and was intended to support a stream of research directed at discovering factors specifically relating to entrepreneurship, it is a derivative of these items which is ultimately used in this study.

These entrepreneurial career choice items were first used in the Scheinberg and MacMillan (1988) study of 1402 entrepreneurs to determine differences across countries in the reasons given for choosing to enter entrepreneurship. Through the use of factor analysis, they eliminated 17 of

the original 38 SARIE items which either demonstrated unacceptable cross-loadings or were single-item measures, leaving 21 items loading on six factors which they called, *Need for Independence*, *Instrumentality of Wealth*, *Need for Approval*, *Need for Personal Development*, *Degree of Communitarianism*, and *Need for Escape*. While the research did find support for variations in the reasons given for choosing a career in entrepreneurship across countries, thus lending support to the items used as appropriate indicators of entrepreneurship preference, it provides no support for the entrepreneurial career. This was due to the lack of a control group of individuals with no current entrepreneurial intentions.

In a 1991 study Shane, Kolvereid, and Westhead utilized the reduced list of 21 SARIE items used by Scheinberg and McMillan. Adding 2 additional items which relate to tax policies, they studied 597 entrepreneurs in 3 of the original 11 countries in an effort to evaluate the differences in the reasons given for choosing to enter entrepreneurship between gender and across nationality. This new study (again using factor analysis) found the SARIE items yield only four factors with the data used, *Independence*, *Recognition*, *Learning*, and *Roles*. Comparison of the item loadings between this study and the Scheinberg and MacMillan study show that, while the construct names differ, three of the four factors are shown to have similar factor item loadings and thus a commonality of factors between the two studies, see Table 1 for a comparison of factor items. As this study was a comparison between entrepreneurs and nationalities, it was not intended to address the issue of the entrepreneurial career.

Further research by Birley and Westhead (1994) studied 405 owner-managers of new independent businesses in the United Kingdom. The research found the same 23 items used in the Shane, Kolvereid, and Westhead 1991 study, 21 of which are SARIE items, produced seven factors with the study data. These factors are *Need for Independence*, *Perceived Instrumentality of Wealth*, *Need for Approval*, *Need for Personal Development*, *Welfare Considerations*, *Tax Reduction & Indirect Benefits* and *Follow Role Models*. The items comprising these factors were then compare to the previous two studies, see Table 1 for the comparisons. One factor, *Perceived Instrumentality of Wealth*, was found to match the Scheinberg & MacMillan study only, while three additional factors, *Need for Independence*, *Need for Approval* and *Need for Personal Development* found commonality throughout all three studies. Subsequent studies, utilizing different items in an attempt to locate factors related to the reasons given for choosing entrepreneurship, have met with similar results (e.g. Gatewood, Shaver & Gartner, 1995; Kolvereid, 1996), however, one study in particular was found to be especially noteworthy as it used most of the SARIE items on Panel Study of Entrepreneurial Dynamics (PSED) data, the dataset used in this research.

The 2003 study by Carter, Gartner, Shaver, and Gatewood evaluated 558 respondents to the PSED to determine similarities in the reasons given for choosing a career between entrepreneurs and individuals with no current entrepreneurial intentions, in addition to the differences in the reasons given between men and women. This research found that the 18 items in the PSED which address the reasons given for choosing the respondents current career yield six factors; these factors are called *Independence*, *Financial Success*, *Recognition*, *Self-Realization*, *Roles*, and *Innovation*. A comparison of these factors to the previously mentioned studies, see Table 1, again found commonality in four of the factors with virtually all the other studies. These are *Independence*, *Financial Success*, *Recognition*, and *Self-Realization*.

TABLE 1
Comparison of Factors from SARIE Career Reason Items

<i>Current Study</i>	<i>Need for Control</i>	<i>Financial Success</i>	<i>Need for Approval</i>	<i>Personal Development</i>
	<i>Need for Independence</i>	<i>Instrumentality of Wealth</i>	<i>Need for Approval</i>	<i>Need for Personal Development</i>
<p>Scheinberg & MacMillian (1988)</p> <p>Study Group: Entrepreneurs in 11 countries</p> <p>n = 1402</p>	<ul style="list-style-type: none"> • Control my own time • Have greater flexibility for private life • Freedom to adapt my own approach to work 	<ul style="list-style-type: none"> • Desire to have high earnings • Need more money to survive • Give self and family security • Access to indirect benefits 	<ul style="list-style-type: none"> • Be respected by friends • Achieve something and get recognition • Achieve position in society • Increase status of family • Have more influence in the community 	<ul style="list-style-type: none"> • Develop idea for product/businesses • To keep learning • To be innovative & in the forefront of new technology • Direct contribution to success of company
	<i>Independence</i>		<i>Recognition</i>	<i>Learning</i>
<p>Shane, Kolvereid & Westhead (1991)</p> <p>Study Group: Entrepreneurs in 3 countries</p> <p>n = 597</p>	<ul style="list-style-type: none"> • To control my own time • To have greater flexibility for my personal and family life • To have considerable freedom to adapt my own approach to work 		<ul style="list-style-type: none"> • To achieve a higher position for myself in society • To have more influence in my community • To be respected by friends • To achieve something and get recognition for it • To increase the status and prestige of my family 	<ul style="list-style-type: none"> • To develop an idea for a product • To be innovative & in the forefront of new technology • To continue learning

	<i>Need for Independence</i>	<i>Perceived Instrumentality of Wealth</i>	<i>Need for Approval</i>	<i>Need for Personal Development</i>
<p><i>Birley & Westhead (1994)</i></p> <p>Study Group: Owners- Managers</p> <p>n = 405</p>	<ul style="list-style-type: none"> • To have considerable freedom to adapt my own approach to work • To control my own time • To have greater flexibility for my personal and family life • To be challenged by the problems and opportunities of starting and growing a new business 	<ul style="list-style-type: none"> • To give myself, my spouse, and children security • To contribute to the welfare of my relatives 	<ul style="list-style-type: none"> • To achieve something and get recognition for it • To achieve a higher position for myself in society • To increase the status and prestige of my family • To be respected by friends 	<ul style="list-style-type: none"> • To continue learning • To be innovative & in the forefront of technology development • To be innovative & in the forefront of technology development • To develop an idea for a product
	<i>Independence</i>	<i>Financial Success</i>	<i>Recognition</i>	<i>Self-Realization</i>
<p><i>Carter, Gartner, Shaver & Gatewood (2003)</i></p> <p>Study Group: PSED (Partial)</p> <p>n = 558</p>	<ul style="list-style-type: none"> • To have greater flexibility for my personal and family life • To have considerable freedom to adapt my own approach to work 	<ul style="list-style-type: none"> • To earn a larger personal income • To give myself, my spouse and children financial security • To have a chance to build great wealth or a very high income • To build a business my children can inherit 	<ul style="list-style-type: none"> • To be respected by my friends • To achieve something and get recognition for it • To achieve a higher position for myself in society 	<ul style="list-style-type: none"> • To Challenge myself • To fulfill a personal vision • To continue to grow and learn as a person • To lead and motivate others • To have the power to greatly influence an organization

Based on the evaluation and comparison of the afore mentioned studies, it is expected that an assessment of differences in the reasons given for choosing a career are likely to be found using the four common factors, and the corresponding SARIE items, found in the previous research; however, one major concern is the wide variation of factors which was not found to have commonality between studies. Variations such as these may be related to issues of common method bias. Specifically, concerns relating to retrospection or hindsight and social desirability. Social desirability refers to the tendency of an individual to respond in a manner which they feel is socially acceptable. If a respondent feels a certain response may be socially unacceptable, they will tend to choose a more socially acceptable response regardless of their true feelings (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). Concerns of retrospection or hindsight bias center on the practice of obtaining these reasons long after the entrepreneur has started the venture (Carter et al., 2003). Such retrospection relies on the entrepreneur's memory and is thus subject to intentional or unintentional inaccuracies regarding the reasons stated (Davidsson, 2004).

A notable exception to this problem is the study by Carter et al. (2003) because the data were taken from the PSED, a database of individuals who have just started or are still in the process of starting a venture; the risk of hindsight bias is greatly reduced. It should be noted that the section of the PSED relating to career reasons utilized 18 items adapted from the SARIE based studies of Birley & Westhead (1994), Scheinberg & McMillan (1988) and Shane et al. (1991). Setting aside concerns of measurement bias for the moment, the four factors which were found to resonate throughout virtually all previous research on entrepreneurial career choice are called *Need for Control*, *Financial Success*, *Need for Approval*, and *Personal Development* for the purposes of this study. The following is an explanation of the terminology, an evaluation to determine if these factors are present in the PSED, and the expected outcome when used to differentiate between entrepreneurs and the general population.

Need for Control. This construct involves reasons relating to control. Statements such as “*to have control of my own time*”, “*to have greater flexibility over my private life*”, and “*to have the freedom to adapt my own approach*” have been used (e.g. Schein, 1978; Smith & Miner, 1983). These statements, typically categorized in previous research as some form of independence, center on the individuals need to control aspects of the work and personal environment. This category is unlikely to display similar importance for the general population as it will for the nascent entrepreneur, as it has been shown that entrepreneurs tend to take greater personal responsibility for their actions (Bird, 1988; Dyer, 1994). As a result, it is expected that individuals choosing entrepreneurship will place higher importance on these types of statements than will the general population.

Hypothesis 1a: Nascent entrepreneurs place significantly greater value on the need for control than does the general population, as it pertains to choosing a career.

Financial Success. A common theme among prior trait based research has been financial success. Statements relating to monetary issues center on “*a desire to have higher earning*” and “*concerns for family security and their financial future*” (e.g. Birley et al., 1994; Shane et al.,

1991). These forms of declarations are not unique to the entrepreneur or careers similar to entrepreneurship; everyone is concerned for the financial security of their family and self. Therefore, it is unlikely there will be any significant difference between nascent entrepreneurs and the general population in responses relating to financial success.

Hypothesis 1b: No significant difference exists between nascent entrepreneurs and the general population relating to financial success, when it comes to choosing a career.

While it is unpopular to hypothesize that no significant difference will be found between groups, because this study is in essence an evaluation of commonly used entrepreneurial constructs in addition to a differentiation between entrepreneurs and those with no current entrepreneurial intentions, it is necessary to posit such a relationship.

Need for Approval. This construct uses such statements as “to gain the respect of my friends”, “to gain a higher position for myself in society”, and “to have more influence in the community” to emote a need for approval (e.g. Birley et al., 1994; Maslow, 1943; McClelland, 1961a; Scheinberg et al., 1988; Shane et al., 1991; Vroom, 1964). These types of statements likely represent a divergence from the general population as few careers allow an individual the opportunity to gain the approval of the exterior environment for their accomplishments. Recognition for the general working population is usually limited to the confines of the internal work environment. Therefore, because most careers do not offer the ability to gain approval from family, friends, and the community, it is likely that entrepreneurs will place greater importance, on statements relating to need for approval, than will the general population.

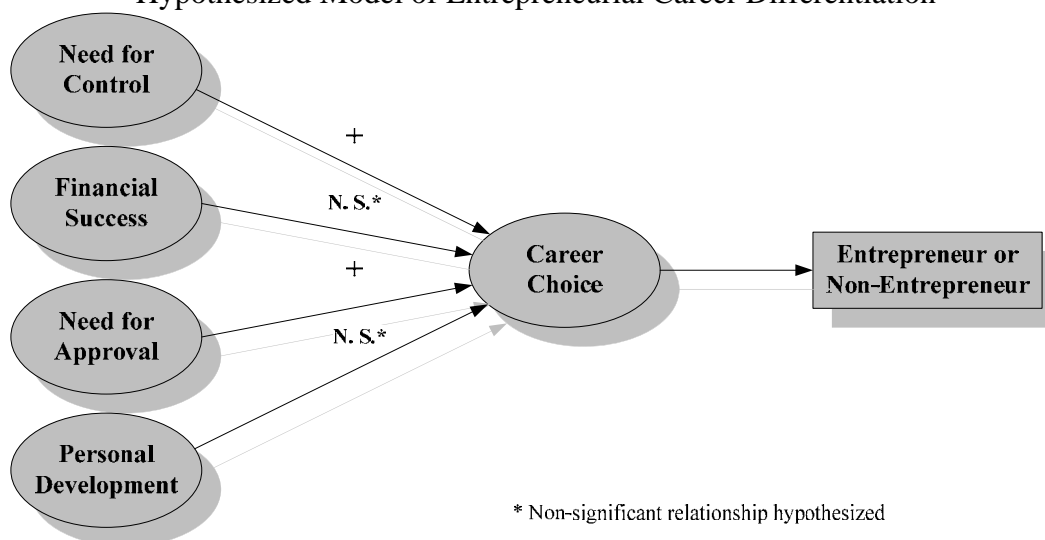
Hypothesis 1c: Nascent entrepreneurs place significantly greater value on reasons relating to need for approval than the general population, as it pertains to choosing a career.

Personal Development. Statements relating to personal development tend to focus on growing and learning within the work context. These are typically reasons such as “to keep learning”, “to be innovative”, and “to be creative” (e.g. Birley et al., 1994; Scheinberg et al., 1988; Shane et al., 1991). However, many careers offer the opportunity for an individual to express such aptitudes. In fact, most work environments highly encourage creativity and highly prize innovation. Individuals are supported in endeavors which increase both their formal and informal knowledge. Therefore, it is very unlikely there will be any significant difference between nascent entrepreneurs and the general population in responses relating to personal development.

Hypothesis 1d: No significant difference exists between nascent entrepreneurs and the general population in reasons relating to personal development, when it comes to choosing a career.

Using these four common factors from previous entrepreneurship research, a model of entrepreneurial career differentiation is hypothesized; see Figure 1, for a graphical representation.

FIGURE 1
Hypothesized Model of Entrepreneurial Career Differentiation



METHODS

Sample and Procedures

The data for this research were obtained from the Panel Study of Entrepreneurial Dynamics (PSED). The data are available through the Institute for Social Research at the University of Michigan (<http://projects.isr.umich.edu/psed/>) along with a detailed description of the methods and sampling procedure used. The PSED was a multi-year tracking of individuals starting new businesses—nascent entrepreneurs. The population of this study was the adult inhabitants of the United States, over 200 million people, and were identified through random-digit dialing (Reynolds, 2000). The study ultimately resulted in the identification and participation of 830 entrepreneurs and intrapreneurs, in addition to a control group¹ consisting of 431 individuals with no *current* entrepreneurial intentions, for a total of 1261 cases (Gartner, Shaver, Carter & Reynolds, 2004). To correct for known errors, the Shaver SPSS syntax was used to modify the PSED, the result was the removal of 45 misclassified participants, reducing the total sample number to 1216 (Shaver, 2006).

The PSED data set comes with “post-stratification weights for each respondent based on estimates from the U.S. Census Bureau’s Current Population Survey” (Reynolds, 2000, p. 177). Post-stratification was based on gender, age, race, household income, and the four National Census Regions (Northeast, South, Midwest, and West). These weights are essential for drawing conclusions intended to be generalizable to the population of the United States and thus any analysis of the PSED should include the appropriate weight for the sample (Reynolds, 2000). This research follows the recommendations of Shaver (2006) and Reynolds (2000) utilizing the corrected PSED data (n=1216) and the appropriate weight for the sample.

¹ Because the PSED makes the implicit assumption that entrepreneurship is a career, possible future aspirations to entrepreneurship are irrelevant in the control group. Respondents were asked questions pertaining to their current situation (e.g. reasons for choosing their current position) rather than their ideal or preferred career. Thus comparison of the two groups in this research is appropriate.

Measures

Career Reasons. As this study seeks to differentiate the reasons given for career choice between entrepreneurs and the general population, only fully autonomous entrepreneurs and the control group were utilized. With all other groups removed, and the use of the appropriate weight, the sample size for this study was reduced to 774.

As previously stated, within the PSED, 18 items relate to respondents reasons for choosing a career. These data were obtained for both entrepreneurs and the control group. In order to insure commonality of response, the root questions for each group were tailored to be appropriate for each specific group while the intended response was too remained unchanged. Both groups responded to each of the 18 items on a “5 point Likert type scale: 1, to no extent; 2, to a little extent; 3, to some extent; 4, to a great extent; 5, to a very great extent” (Gartner et. al., 2004; p. 147).

TABLE 2
Factor Analysis

Reason for Career Choice: Rotated Component Matrix^a

	Component			
	Need for Control	Need for Approval	Personal Development	Financial Success
(m) To develop an idea for a product:	.733			
(q) Power to influence an organization	.650			
(c) Innovative and in the forefront of	.619			
(p) To lead and motivate others:	.610			
(e) To be respected by my friends:		.825		
(d) To continue a family tradition:		.733		
(i) Follow example of person I admire		.700		
(a) Higher position for myself		.566		
(l) To achieve something and get recognition	.423	.488		
(h) Grow and learn as a person			.700	
(f) Freedom to adapt my approach to work			.698	
(b) Greater flexibility for personal life			.677	
(r) To challenge myself:			.630	
(o) To fulfill a personal vision:	.526		.562	
(k) To earn a larger personal income:				.847
(n) Build great wealth/high income				.739
(g) Financial security				.715
(j) Build business children can inherit				.462

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations.

Factor Analysis

Principal component analysis, with varimax rotation and listwise deletion, resulted in a Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) of .878. In addition, the items seem to load reasonably well on the four theorized constructs. For the sake of clarity, only loadings greater than .40 are reported in Table 2.

Two items demonstrated unacceptable cross-loadings. The first item, *recognition*, loaded on both Need for Control (.423) and Need for Approval (.488). The other item, *vision*, loaded on both Need for Control (.526) and Personal Development (.562). Because these items load almost

equally on each factor, and in an attempt to create a parsimonious model, these two items were removed from further analyses resulting in a reduction of the KMO to .863.

Need for Control. A comparison of the items which load on each factor, to the theorized constructs, found that four items appear to reasonably represent need for control (Cronbach's $\alpha = .79$). These are *new product, influence, innovation, and leadership*. All four items represented statements which are representative of an individual who has a high need to control the environment and as such were temporarily accepted as likely indicator variables for the need for control construct.

Financial Success. As with the first factor, four items were found to represent financial success (Cronbach's $\alpha = .74$). These items are *money, wealth, security, and legacy*. All four items clearly represent a goal of monetary enrichment, and as such, are acceptable indicator variables of the financial success construct.

Need for Approval. Four items were also found to represent need for approval (Cronbach's $\alpha = .76$). These items are *respect, tradition, follow example, and achievement*. These items all focus on the need to gain the approval of others, such as, friends, family, society, etc., and therefore are representative of the construct need for approval.

Personal Development. The final four items were found to reasonably represent personal development (Cronbach's $\alpha = .70$). These items are *growth, freedom, flexibility, and the challenge*. As all four items related to an attempt to gain personal enrichment, the items were accepted as indicator variables of the construct personal development.

These 16 items, along with the measure of career choice, were used to create a confirmatory factor analysis (CFA) to further explore the relationship between the variables of interest and to allow specification of the measurement model (Anderson & Gerbing, 1988). As the career choice construct had only a single item measure, the relationship between construct and measure was assumed to have a unitary relationship (loading = 1.0).

Confirmatory Factor Analyses

CFA was conducted on the hypothesized model using AMOS 6 (Arbuckle, 2006). Analyses revealed a high residual mean square error of approximation (RMSEA=.093) and lower than expected fit-indices (see Table 3 for comparisons). Thus the model, as initially hypothesized, did not represent a good fit.

TABLE 3

	Hypothesized Model	Final Model	Good* Model	Exceptional* Model
RMSEA	.093	.074	$\leq .08$	$\leq .05$
GFI	.885	.948	$\geq .90$	$\geq .95$
PGFI	.636	.524	$\geq .50$	
NFI	.827	.916	$\geq .90$	$\geq .95$
CFI	.845	.930	$\geq .90$	$\geq .95$
PCFI	.683	.620	$\geq .70$	
RFI	.786	.874	$\geq .90$	$\geq .95$

* (Criterion used for good and exceptional model fit comes from Byrne, 2001)

Model modifications. A review of the modification indices signified the variable *Legacy* had a high covariance between the constructs *Need for Control* (13.20) and *Need for Approval* (44.35); its removal would act to significantly reduce the χ^2 of the model. Therefore, the variable *Legacy* was temporally removed from the model. This resulted in a reduction of RMSEA to .090 and an increase to the fit-indices. Subsequent review of the modification indices revealed that *Flexibility* also had a high covariance between the constructs *Need for Control* (23.83) and *Financial Success* (17.264). Therefore *Flexibility* was also removed from the model, resulting in a RMSEA of .089 and an increase to the fit-indices. Next, the modification indices revealed the variable *Achievement* co-varied between *Need for Control* (10.59) and *Financial Success* (34.69) and was subsequently removed reducing the RMSEA to .088 and again increasing the fit-indices. A final review of the modification indices revealed the variable *Influence* co-varied with the construct *Personal Development* (18.09) and was removed reducing the RMSEA to .085 and increasing the fit-indices. Because these items each loaded on separate factors, thus meeting the minimum required of three items for stability in each factor, the model was revised and they were subsequently removed from further analyses. While these changes did represent a marked improvement to the model, it still did not represent a good fit.

To assess reliability, factor analysis was again run on the new measures. The retest showed a KMO of .821 which was an acceptable reduction from the initial KMO of .878, with reliabilities of the new measures showing non-significant changes; *Need for Control* ($\alpha = .73$, reduced from .79), *Financial Success* ($\alpha = .77$, increase from .74), *Need for Approval* ($\alpha = .73$, reduced from .76), and *Personal Development* ($\alpha = .66$, reduced from .70). Because there was no significant reduction in sampling adequacy, it is likely that common method variance does exist within the measures of the PSED. Therefore, further evaluation of the CFA was undertaken.

Next, because common method bias was suspected, an evaluation of the standard errors confirmed covariance between error terms was taking place. Covariance indices signified that a significant reduction in χ^2 would occur if several error terms were allowed to co-vary. Evaluation of these recommendation shows that following error terms were likely affected by common method bias and if allowed to co-vary, would allow significant improvement to the model. Therefore the error term for *New Product* was allowed to co-vary with the error term for *Innovation* (28.31), *Money* with *Security* (18.83), *Respect* with *Follow Example* (16.53), and *Freedom* with *The Challenge* (13.54). These changes were consequently made to the model. The final results of the modifications are displayed in table 3. While these do not represent an exceptional fit, they do fall within the parameters of a good fitting model.

RESULTS

Table 4 reports the descriptive statistics (means, standard deviations, and correlations) used in the study. It is important to note, that because the variable career choice is binary, point bi-serial correlations are shown for this item (Jöreskog & Sörbom, 2007).

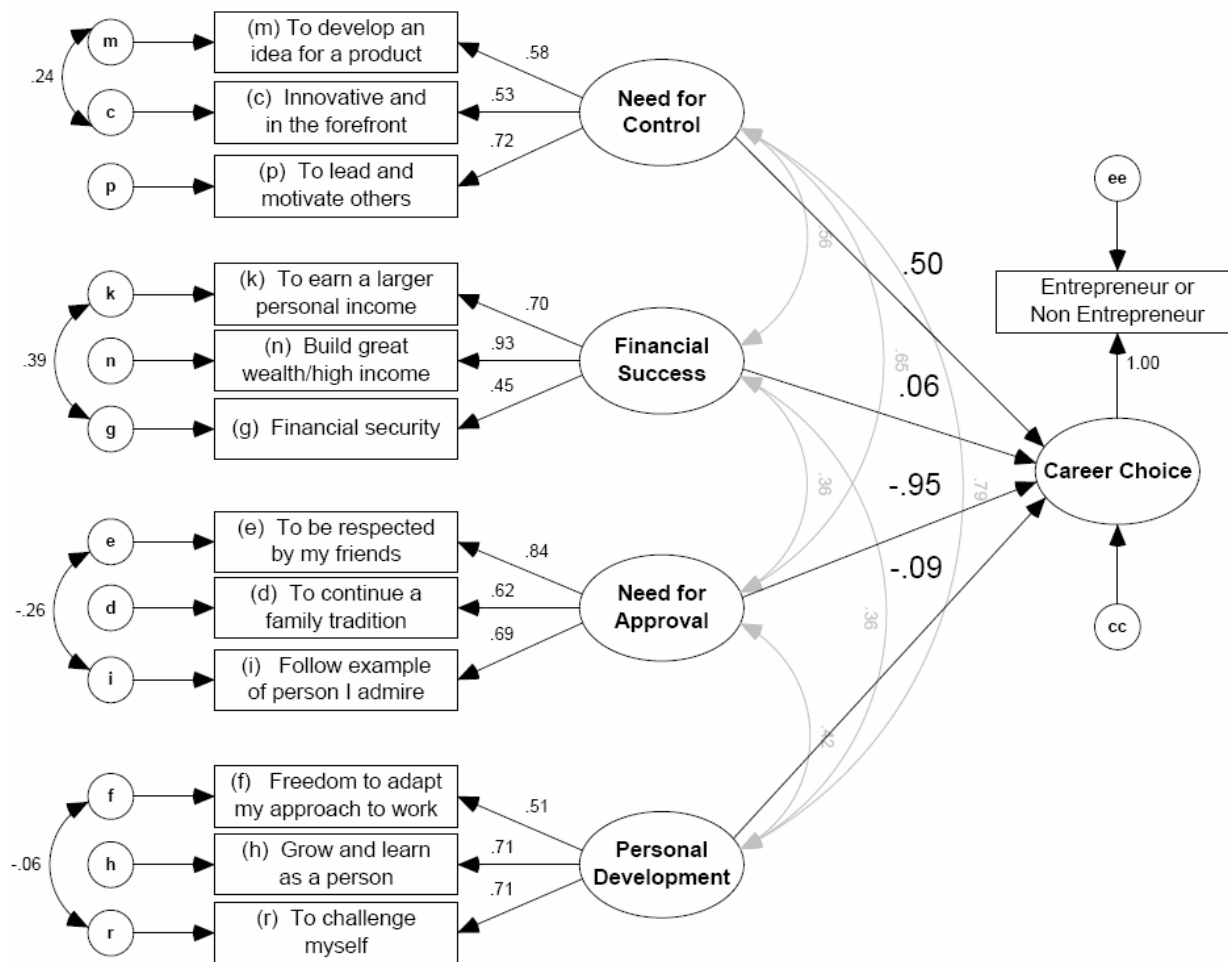
Structural Equation Model. A structural equation model (SEM) was created using AMOS 6.0 (the path model can be seen in Figure 2). As the career choice construct had only a single item measure, the relationship between construct and measure was assumed to have a unitary relationship (loading = 1.0).

Table 4
Correlation Matrix: Reasons for Career Choice

Correlation Matrix: Reasons for Career Choice.																					
Variable	MEAN	STDDEV	Choice	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Choice*	0.000	1.000	1.000																		
1 Achievement	2.826	1.344	0.221	1.000																	
2 Flexibility	4.236	0.934	0.379	0.200	1.000																
3 Innovation	2.917	1.267	0.365	0.139	0.293	1.000															
4 Tradition	1.974	1.330	0.516	0.157	0.234	0.523	1.000														
5 Respect	2.631	1.368	0.188	0.437	0.226	0.116	0.199	1.000													
6 Freedom	4.046	1.020	0.287	0.286	0.180	0.181	0.218	0.221	1.000												
7 Security	4.339	0.959	0.223	0.364	0.302	0.171	0.238	0.364	0.260	1.000											
8 Growth	4.298	0.925	0.340	0.139	0.208	0.430	0.480	0.116	0.180	0.313	1.000										
9 Follow Example	2.536	1.432	0.308	0.147	0.260	0.294	0.223	0.121	0.324	0.174	0.270	1.000									
10 Legacy	2.626	1.493	0.354	0.259	0.217	0.124	0.201	0.209	0.558	0.201	0.136	0.344	1.000								
11 Money	4.106	1.075	0.476	0.121	0.305	0.275	0.522	0.218	0.189	0.284	0.362	0.268	0.310	1.000							
12 Recognition	3.208	1.333	0.325	0.114	0.475	0.285	0.251	0.237	0.144	0.318	0.276	0.362	0.244	0.390	1.000						
13 New Product	2.657	1.430	0.432	0.227	0.339	0.233	0.301	0.233	0.412	0.226	0.183	0.393	0.650	0.407	0.385	1.000					
14 Wealth	3.302	1.391	0.182	0.239	0.320	0.138	0.194	0.397	0.166	0.438	0.226	0.264	0.219	0.317	0.375	0.280	1.000				
15 Vision	3.931	1.199	0.398	0.191	0.410	0.300	0.364	0.254	0.270	0.417	0.423	0.323	0.227	0.425	0.391	0.313	0.485	1.000			
16 Leadership	3.332	1.322	0.465	0.125	0.445	0.328	0.376	0.241	0.241	0.283	0.412	0.317	0.249	0.451	0.480	0.414	0.300	0.639	1.000		
17 Influence	4.212	1.424	0.247	0.248	0.242	0.131	0.192	0.330	0.194	0.510	0.260	0.163	0.213	0.268	0.290	0.197	0.478	0.445	0.339	1.000	
18 The Challenge	4.212	0.975	-0.343	-0.062	-0.117	-0.380	-0.575	0.061	-0.160	-0.155	-0.409	0.091	0.012	-0.209	-0.011	-0.036	0.154	-0.142	-0.229	-0.011	1.000

Note: For this analysis, the PSED database has been corrected for known errors changing the base sample size from n = 1261 to n = 1216. Working from the corrected database, full-time entrepreneurs and the control group were selected and the data were weighted using the appropriate variable to correct for the over sampling. Listwise deletion was utilized to remove any cases with missing data leaving n = 774. * Correlation, MEAN, and STDDEV for Choice were calculated by use of Point Biserial Correlation in PRELIS.

FIGURE 2
Structural Equation Model: Reasons for Career Choice



*Chi-Square = 274.0, df = 52; RMSEA = .074, GFI = .948, PGFI = .542, NFI = .916, CFI = .930, RFI = .874, PCFI = .620

As was hypothesized in 1a, the relationship between the two constructs, need for control and career choice, is significantly higher for entrepreneurs, than those with no current entrepreneurial intentions ($\beta = .50, p < .010$). This suggests that for entrepreneurs, the need for control helps to explain why one intends or attempts to enter entrepreneurship.

The relationship between the constructs financial success and career choice show no significant difference exists between entrepreneurs and those with no current entrepreneurial intentions in the reasons given for choosing their careers ($\beta = .06, p = .276$). This suggests that, as hypothesized in 1b, the prospect of financial success is a factor of no significance in distinguishing entrepreneurs from those with no current entrepreneurial intentions.

The relationship between the constructs need for approval and career choice show that need for approval is significantly higher for those with no current entrepreneurial intentions than for entrepreneurs ($\beta = -.95, p < .001$). Whereas the direction of the relationship was not as hypothesized in 1c, the results show there is a marked differentiation between entrepreneurs and those with no current entrepreneurial intentions in the need for approval as a factor of career

choice. While the directional aspect of this relationship was not as hypothesized, the ability to differentiate was. This suggests that for those with no current entrepreneurial intentions, the need for approval helps to explain why one does not choose to enter entrepreneurship.

The final relationship tested is between the constructs personal development and career choice. As hypothesized in 1d, there was no significant difference between entrepreneurs and those with no current entrepreneurial intentions in this relationship ($\beta = -.09$, $p = .413$). These results suggest that personal development is a factor of no significance in distinguishing entrepreneurs and those with no current entrepreneurial intentions.

CONCLUSIONS AND IMPLICATIONS

Making use of structural equation modeling, the results of this study support the premise that differentiation of entrepreneurs from those with no current entrepreneurial intentions, based on the reasons they give for choosing their current career is possible. Specifically, the results show the concept “need for control” helps to explain why entrepreneurs choose to enter entrepreneurship and “need for approval” helps to explain why those with no current entrepreneurial intentions choose not to enter. While these results alone are insufficient to suggest that entrepreneurship is a unique career, they do offer the first step in the process of creating a theory of the entrepreneurial career. The results suggest that individuals who choose to enter entrepreneurship differ in specific ways which are measureable from individuals with no current entrepreneurial intentions. In addition, it has been shown that commonly used measures of “financial success” and “personal development” are in appropriate for use in entrepreneurial career research as they do not allow for differentiation between entrepreneurs and the general population.

So What?

This research advances the practice of entrepreneurship by taking a first step toward the legitimization of entrepreneurship as a true career. The continuation of this stream will allow entrepreneurship to take its rightful place among the current career choices, not only adding support to the individual who decides to academically pursue the entrepreneurial career, but the researcher in search of the appropriate pedagogy to aid them.

Once the entrepreneurial career has been firmly established, the necessary pedagogical tools, based on the differing types of entrepreneurs and the generally accepted forms of entrepreneurship, can then be created, or tuned, to offer individuals the best support and training possible. For example, research into the differing types of entrepreneurship should lead to pedagogy on the appropriate methods and timing for an entrepreneur to exit a venture. It should distinguish the differences and challenges in a complete exit (serial entrepreneurship) verses partial exit (parallel entrepreneurship), better allowing the nascent entrepreneur to determine a preference and thus the appropriate exit strategy. Research on opportunity location, such as alertness, recognition or systematic search, will likely lead to a matching of the technique to type of entrepreneur; for example training individuals who might like to be an entrepreneur, if the right prospect came along, in opportunity alertness while training those who have already made the commitment to becoming an entrepreneur (those who have quit or lost their job) in

systematic search, thus increasing the both the number and the quality of their prospects (Fiet, 1996, 2002, 2006).

While this research is but a single step in the legitimization of the entrepreneurial career, it represents a crucial theoretical and empirical stepping stone toward that goal.

Limitations

This research has been limited by the use of secondary data. Whilst the dataset used has been effective, the data were not gathered for the specific purpose of testing the hypotheses presented. Therefore, an instrument specifically designed for this type of study, and administered for the sole purpose of differentiating the entrepreneurial career from the general populous of careers, would enhance the credibility of the results. In several instances it was necessary to presume how a statement might have been interpreted by respondents. The creation of an instrument specifically designed, and tested, for the express purpose of gathering the reasons individuals give for choosing a career in entrepreneurship, would allow for not only differentiation of the entrepreneurial career, but a comprehensive understanding of how and why it differs.

Future Research

This research is the first step in the creation of a comprehensive theory of the entrepreneurial career. The next step in the process is the determination of the qualities inherent to the career (Osipow & Fitzgerald, 1996). These qualities represent the aspects which have the greatest impact on the individual's choice to enter entrepreneurship. Such aspects are related to the individual (such as personality traits, economic issues, and motivations) and aspects relating to the effects that entrepreneurship has on society (for example the creation of jobs, industries, and markets). However, it has been posited that rather than focusing on a single aspect at a time, a more robust theory will require studying all factors in combination in order to truly understand the relationships between them (Dyer, 1994).

Additionally, prior research has suggested the existence of more than one type of entrepreneur (cf. Carter, 1999; Westhead et al., 2005b; Westhead et al., 2005c; Westhead et al., 1998b, 1999). Based on behavioral aspects, this work suggest the existence of entrepreneurial types such as the "Multiple" (or Habitual) entrepreneur, "someone who has had experience in multiple business startups, and simultaneously is involved in at least two businesses" (MacMillan, 1986). Later this category was divided into two subcategories. The "Serial" entrepreneur is one who exits a venture before entering into a subsequent one when entrepreneurial opportunities are perceived to have been exhausted (Hall, 1995; Wright et al., 1997) and the "Parallel" (or Portfolio) entrepreneur who maintains ownership of one or more ventures (Hall, 1995; Kolvereid et al., 1993; Westhead et al., 1993). These represent another challenge to the theory of the entrepreneurial career. If multiple types do exist, it is likely they will differ in the reasons for choosing entrepreneurship. Therefore, it is necessary to control for the differing types of entrepreneurs in future studies.

Based on these points, it is suggested that the next step in the process of creating a comprehensive theory of the entrepreneurial career is, the large scale study of nascent

entrepreneurs from the perspective of the existing vocational and occupational instruments. For example, the testing and evaluation of a large number of nascent entrepreneurs, on an instrument such as Holland's Vocational Personality scale, would allow for understanding of what type of personality is better suited for entrepreneurship. Such research could also prove valuable in determining the specific types of entrepreneurial personalities and ultimately support the previously mentioned behavioral based types of entrepreneurs. This is but an example of the benefits of evaluation of the entrepreneurial career with the existing vocational and occupational instrumentation.

In summary, it is suggested that the next step, in the process of creating a comprehensive theory of the entrepreneurial career, is the determination of the criterion which separates entrepreneurship from all other careers. And that such a descriptive step should proceed with the large scale testing of nascent entrepreneurs on all of the available vocational and occupational instrumentation. This would then be followed by a detailed analysis of the data, allowing for not only categorization, but an explanation of why one chooses the entrepreneurial career.

REFERENCE

- Adamson, S. J., Doherty, N., & Viney, C. 1998. The Meanings of Career Revisited: Implications for Theory and Practice. *British Journal of Management*, 9(4): 251.
- Alsos, G. A., & Kolvereid, L. 1998. The Business Gestation Process of Novice, Serial, and Parallel Business Founders. *Entrepreneurship Theory and Practice*, 22(4): 101.
- Anderson, J. C., & Gerbing, D. W. 1988. Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin*, 103(3): 411.
- Arbuckle, J. L. 2006. *AMOS 7.0 Programming Reference Guide*. Chicago, Illinois: AMOS Development Corporation.
- Arthur, M. B., Hall, D. T., & Lawrence, B. S. 1989. *Handbook of Career Theory* (1st ed.). New York, New York: Cambridge University Press.
- Arthur, M. B., Khapova, S. N., & Wilderom, C. P. M. 2005. Career Success in a Boundaryless Career World. *Journal of Organizational Behavior*, 26(2): 177.
- Arthur, M. B., & Rousseau, D. M. 1996a. *The Boundaryless Careers: A New Employment Principle for a New Organizational Era*. New York: Oxford University Press.
- Arthur, M. B., & Rousseau, D. M. 1996b. A Career Lexicon for the 21st Century. *The Academy of Management Executive*, 10(4): 28.
- Barley, S. R. 1989. *Careers, Identities, and Institutions: the Legacy of the Chicago School of Sociology* (1st ed.). New York, New York: Cambridge University Press.
- Bird, B. J. 1988. Implementing Entrepreneurial Ideas: The Case For Intention. *The Academy of Management Review*, 13(3): 442.
- Birley, S., & Westhead, P. 1994. A Taxonomy of Business Start-Up Reasons and their Impact on Firm Growth and Size. *Journal of Business Venturing*, 9(1): 7.
- Bordin, E. S. 1991. Psychodynamic Model of Career Choice and Satisfaction. In D. Brown, & L. Brooks (Eds.), *Career Choice and Development*: 102-144. San Francisco, California: Jossey-Bass Publishers.
- Brice, J., Jr. 2002. *The Role of Personality Dimensions and Occupational Preferences on the Formation of Entrepreneurial Intentions*. Unpublished Ph.D., Mississippi State University, United States -- Mississippi.
- Brockhaus, R. H. 1980. The Effect of Job Dissatisfaction on the Decision to Start a Business. *Journal of Small Business Management*, 18(1): 37.
- Brown, D. 1991. Trait and Factor Theory. In D. Brown, & L. Brooks (Eds.), *Career Choice and Development*: 13-36. San Francisco, California: Jossey-Bass Publishers.
- Brown, D. 2002. *Career Choice and Development* (4th ed.). San Francisco, California: Jossey-Bass Publishers.
- Brown, D., & Brooks, L. 1991. *Career Choice and Development* (2nd ed.). San Francisco, California: Jossey-Bass Publishers.
- Brown, S. D., & Lent, R. W. 2005. *Career Development and Counseling: Putting Theory and Research to Work* (1st ed.). Hoboken, New Jersey: John Wiley & Sons, Inc.
- Bygrave, W. 2006. Global Entrepreneurship Monitor: Summary 2006 - United States of America, www.gemconsortium.org.
- Byrne, B. M. 2001. *Structural Equation Modeling with AMOS: Basic Concepts, Applications and Programming*. Mahwah, New Jersey: Lawrence Erlbaum Associated, Publishers.
- Carter, N. M., Gartner, W. B., Shaver, K. G., & Gatewood, E. J. 2003. The Career Reasons of Nascent Entrepreneurs. *Journal of Business Venturing*, 18(1): 13.

- Carter, S. 1999. Habitual Entrepreneurs and Business Angels. *International Small Business Journal*, 17(3): 89.
- Chen, C. C., Greene, P. G., & Crick, A. 1998. Does Entrepreneurial Self-Efficacy Distinguish Entrepreneurs From Managers? *Journal of Business Venturing*, 13(4): 295.
- Chrisman, J. J., Carsrud, A. L., DeCastro, J., & Herron, L. 1990. A Comparison of Assistance Needs of Male and Female Pre-Venture Entrepreneurs. *Journal of Business Venturing*, 5(4): 235.
- Davidsson, P. 2004. *Researching Entrepreneurship*. New York: Springer Publishing.
- De Vries, M. F. R. K. 1977. The Entrepreneurial Personality: A Person at the Crossroads. *The Journal of Management Studies*, 14(1): 34.
- DeCarlo, J. F., & Lyons, P. R. 1980. Toward a Contingency Theory of Entrepreneurship. *Journal of Small Business Management*, 18(3): 37.
- Department of Labor: Bureau of Labor Statistics, U. S. 2006. Tomorrow's Jobs: <http://www.bls.gov/oco/home.htm>.
- Dubini, P. 1989. The Influence of Motivations and Environment on Business Start-Ups: Some Hints for Public Policies. *Journal of Business Venturing*, 4(1): 11.
- Dyer, W. G., Jr. 1994. Toward a Theory of Entrepreneurial Careers. *Entrepreneurship Theory and Practice*, 19(2): 7.
- Fiet, J. O. 1996. The Information Basis of Entrepreneurial Discovery. *Small Business Economics*, 8(6): 419-430.
- Fiet, J. O. 2002. *The Systematic Search for Entrepreneurial Discoveries* (1st ed.). Westport, Connecticut: Quorum Books.
- Fiet, J. O. 2006. A Prescriptive Analysis of Search and Discovery. *Journal of Management Studies*, Forthcoming.
- Finkle, T. A., & Deeds, D. 2001. Trends in the Market for Entrepreneurship Faculty, 1989-1998. *Journal of Business Venturing*, 16(6): 613.
- Gartner, W. B. 1989. "Who Is an Entrepreneur?" Is the Wrong Question. *Entrepreneurship Theory and Practice*, 13(4): 47-68.
- Gartner, W. B., Shaver, K. G., Carter, N. M., & Reynolds, P. D. 2004. *Handbook of Entrepreneurial Dynamics: The Process of Business Creation*. London: Sage Publications.
- Gatewood, E. J., Shaver, K. G., & Gartner, W. B. 1995. A Longitudinal Study of Cognitive Factors Influencing Start-Up Behaviors and Success at Venture Creation. *Journal of Business Venturing*, 10(5): 371.
- Hall, P. J. 1995. Habitual Owners of Small Businesses. In M. Robertson, & I. Marshall (Eds.), *Small Firms: Partnership for Growth*: 217-230. London: Paul Chapman Publishing.
- Hayward, M. L. A., Shepherd, D. A., & Griffin, D. 2006. A Hubris Theory of Entrepreneurship. *Management Science*, 52(2): 160.
- Hornaday, J. A., & Aboud, J. 1971. Characteristics of Successful Entrepreneurs. *Personnel Psychology*, 24(2): 141-153.
- Jöreskog, K. G., & Sörbom, D. 2007. LISREL 8.80. Lincolnwood, Illinois: Scientific Software International, Inc.: www.ssicentral.com.
- Katz, J., & Gartner, W. B. 1988. Properties of Emerging Organizations. *The Academy of Management Review*, 13(3): 429.
- Katz, J. A. 1994. Modeling Entrepreneurial Career Progressions: Concepts and Considerations. *Entrepreneurship Theory and Practice*, 19(2): 23.

- Katz, J. A. 2003. The Chronology and Intellectual Trajectory of American Entrepreneurship Education 1876-1999. *Journal of Business Venturing*, 18(2): 283.
- Kirk, J., & Belovics, R. 2006. Counseling Would-Be Entrepreneurs. *Journal of Employment Counseling*, 43(2): 50.
- Kirschenhofer, F., & Lechner, C. 2006. Long-Term Performance of Habitual Entrepreneurs – Which Direction to go?, *Workshop on Firm Exit and Serial Entrepreneurship*. Max Planck Institute (Jena, Germany).
- Kolvereid, L. 1996. Prediction of Employment Status Choice Intentions. *Entrepreneurship Theory and Practice*, 21(1): 47.
- Kolvereid, L., & Bullvag, E. 1993. Novices Versus Experienced Founders: An Exploratory Investigation. In S. Birley, & I. C. MacMillan (Eds.), *Entrepreneurship Research: Global Perspectives: 275-285*. Amsterdam: Elsevier Science.
- MacMillan, I. C. 1986. To really learn about entrepreneurship, let's study habitual entrepreneurs. *Journal of Business Venturing*, 1(3): 241-243.
- Maslow, A. H. 1943. A Theory of Human Motivation. *Psychological Review*, 50(4): 370-396.
- McClelland, D. C. 1961a. *The Achieving Society*. Princeton, New Jersey: Van Nostrand.
- McClelland, D. C. 1961b. *Characteristics of Entrepreneurs*. Princeton, New Jersey: Van Nostrand.
- McGrath, R. G., & MacMillan, I. 2000. *The Entrepreneurial Mindset*. Boston, Massachusetts: Harvard Business School Press.
- Newbert, S. L. 2003. Realizing the Spirit and Impact of Adam Smith's Capitalism through Entrepreneurship. *Journal of Business Ethics*, 46(3): 251.
- Osipow, S. H., & Fitzgerald, L. F. 1996. *Theories of Career Development* (4th ed.). Boston, Massachusetts: Allyn and Bacon.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. 2003. Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology*, 88(5): 879.
- Reynolds, P. D. 2000. National Panel Study of U.S. Business Startups: Background and Methodology. In J. A. Katz (Ed.), *Advances in Entrepreneurship, Firm Emergence, and Growth*, Vol. 4: 153-227. Stanford, Connecticut: JAI/Elsevier Inc.
- Roe, A., & Lunneborg, P. W. 1991. Personality Development and Career Choice. In D. Brown, & L. Brooks (Eds.), *Career Choice and Development*. San Francisco, California: Jossey-Bass Publishers.
- Ronstadt, R. 1986. Exit, Stage Left: Why Entrepreneurs End their Entrepreneurial Careers before Retirement. *Journal of Business Venturing*, 1(3): 323.
- Ronstadt, R. 1988. The Corridor Principle. *Journal of Business Venturing*, 3(1): 31.
- Savickas, M. L. 2005. The Theory and Practice of Career Construct. In S. D. Brown, & R. W. Lent (Eds.), *Career Development and Counseling*: 42-70. Hoboken, New Jersey: John Wiley & Sons, Inc.
- Schein, E. H. 1978. *Career Dynamics: Matching Individual and Organizational Needs*. Reading, Massachusetts: Addison - Wesley.
- Scheinberg, S., & MacMillan, I. C. 1988. An 11 Country Study of Motivations to Start a Business. In B. A. Kirchoff (Ed.), *Frontiers of Entrepreneurship Research*: 669-687. Wellesley, Massachusetts: Babson College.

- Scherer, R. F., Adams, J. S., Carley, S. S., & Wiebe, F. A. 1989. Role Model Performance Effects on Development of Entrepreneurial Career Preference. *Entrepreneurship Theory and Practice*, 13(3): 53.
- Schmitt-Rodermund, E. 2004. Pathways to Successful Entrepreneurship: Parenting, Personality, Early Entrepreneurial Competence, and Interests. *Journal of Vocational Behavior*, 65(3): 498.
- Shane, S., Kolvereid, L., & Westhead, P. 1991. An Exploratory Examination of the Reasons Leading to New Firm Formation Across Country and Gender (Part 1). *Journal of Business Venturing*, 6(6): 431.
- Shapiro, A., & Sokol, L. 1982. Social Dimensions of Entrepreneurship. In C. Kent, D. L. Sexton, & K. H. Vesper (Eds.), *The Encyclopedia of Entrepreneurship*: 72-90. Englewood Cliffs, New Jersey: Prentice-Hall.
- Shaver, K. 2006: Cleaning of ERC Data from ISR Website: Correct for known errors in the PSED, reduced to n = 1216: ShaverK@cofc.edu.
- Smith, N. R. 1967. *The Entrepreneur and his Firm: The Relationship between Type of Man and Type of Company*. East Lansing, Michigan: Michigan State University Press.
- Smith, N. R., & Miner, J. B. 1983. Type of Entrepreneur, Type of Firm, and Managerial Motivation: Implications for Organizational Life Cycle Theory. *Strategic Management Journal*, 4(4): 325.
- Spokane, A. R., & Cruza-Guet, M. C. 2005. Holland's Theory of Vocational Personalities in Work Environments. In S. D. Brown, & R. W. Lent (Eds.), *Career Development and Counseling*: 24-41. Hoboken, New Jersey: John Wiley & Sons, Inc.
- Stebbins, R. A. 1969. Career: The Subjective Approach. *Sociological Quarterly*, 11(1): 32-49.
- Super, D. E. 1991. A Life-Span, Life-Space Approach to Career Development. In D. Brown, & L. Brooks (Eds.), *Career Choice and Development*: 197-261. San Francisco, California: Jossey-Bass Publishers.
- Swayne, C. B., & Tucker, W. R. 1973. *The Effective Entrepreneur*. Morristown, New Jersey: General Learning Press.
- Vroom, V. H. 1964. *Work and Motivation*. New York, New York: John Wiley & Sons.
- Webster, F. A. 1976. A Model for New Venture Initiation: A Discourse on Rapacity and the Independent Entrepreneur. *The Academy of Management Review* 1(000001): 26.
- Webster, F. A. 1977. Entrepreneurs and Ventures: An Attempt at Classification and Clarification. *The Academy of Management Review*, 2(1): 54.
- Westhead, P., & Birley, S. 1993. A Comparison of New Businesses Established by 'Novice' and 'Habitual' Founders in Great Britain. *International Small Business Journal*, 12(1): 38.
- Westhead, P., Ucbasaran, D., & Wright, M. 2003. Differences between Private Firms Owned by Novice, Serial and Portfolio Entrepreneurs: Implications for Policy Makers and Practitioners. *Regional Studies*, 37(2): 187.
- Westhead, P., Ucbasaran, D., & Wright, M. 2005a. Decisions, Actions, and Performance: Do Novice, Serial, and Portfolio Entrepreneurs Differ? *Journal of Small Business Management*, 43(4): 393.
- Westhead, P., Ucbasaran, D., & Wright, M. 2005b. Experience and Cognition: Do Novice, Serial and Portfolio Entrepreneurs Differ? *International Small Business Journal*, 23(1): 72.
- Westhead, P., Ucbasaran, D., Wright, M., & Binks, M. 2005c. Novice, Serial and Portfolio Entrepreneur Behaviour and Contributions. *Small Business Economics*, 25(2): 109.

- Westhead, P., & Wright, M. 1998a. Novice, Portfolio, and Serial Founders in Rural and Urban Areas. *Entrepreneurship Theory and Practice*, 22(4): 63.
- Westhead, P., & Wright, M. 1998b. Novice, Portfolio, and Serial Founders: Are They Different? *Journal of Business Venturing*, 13(3): 173.
- Westhead, P., & Wright, M. 1999. Contributions of Novice, Portfolio and Serial Founders Located in Rural and Urban Areas. *Regional Studies*, 33(2): 157.
- Wright, M., Robbie, K., & Ennew, C. 1997. Serial Entrepreneurs. *British Journal of Management*, 8(3): 251.