

# **PREDICTING THE ENTREPRENEURIAL INTENTIONS OF NON-BUSINESS MAJORS: A PRELIMINARY INVESTIGATION**

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## **ABSTRACT**

This paper reports preliminary results of an ongoing project to profile entrepreneurial intentions of Family and Consumer Sciences (FCS) majors. The study used a self-administered questionnaire to explore the influence of vicarious experience, entrepreneurial orientation, image of entrepreneurship, and subjective norms on EI in a non business student sample. Students who expressed stronger interest in entrepreneurial careers are proactive, creative, opportunity seeking, confident, and have a positive image of entrepreneurship. Students' major, family occurrence of entrepreneurship, and internship experience influenced entrepreneurial intentions. Results can be applied to policy and curriculum development in efforts to disseminate enterprise education across the university.

## **EXECUTIVE SUMMARY**

This paper profiles antecedents of entrepreneurial intentions (EI) of Family and Consumer Sciences (FCS) majors. The study focuses on the influence of vicarious experience, entrepreneurial orientation, attitudes toward self employment and subjective norms on EI. The theory of planned behavior has been used successfully to predict entrepreneurial intentions (Krueger and Carsrud, 1993). The theory posits that intentions are an antecedent to entrepreneurial behavior. The model suggests that a person's attitude toward becoming an entrepreneur, subjective norms (perceptions of others), and behavioral control are antecedents of intention. The more favorable the attitudes and subjective norms, and the greater the perceived behavioral control, the stronger the intention to perform the behavior.

The study used a self-administered questionnaire to capture information from 129 undergraduate FCS students. Results showed that self efficacy and positive attitudes about entrepreneurship as a career choice are related to strong levels of entrepreneurial intention. Opportunity seeking behaviors, a creative mindset, and a proactive disposition also seem to predict stronger levels of entrepreneurial intention among FCS students. Students' choice of major influenced EI, with family studies and apparel majors showing the strongest intentions. Students with one or more self-employed family members were more likely to report weak EI compared to students with no self employed family members. Students who had completed an internship were less likely to look favorably at entrepreneurship as a career choice than those who had not completed an internship. Profiling the entrepreneurial attitudes of college students outside of traditional majors is an important step in the diffusion of entrepreneurship education on college campuses. The emphasis on university-wide programs that attract nontraditional audiences means that educators must have information that helps them to plan policy, curriculum and resources to best meet future entrepreneurs' needs.

## **INTRODUCTION**

This paper presents preliminary findings of an ongoing study of the entrepreneurship potential of Family and Consumer Science (FCS) students. As a discipline, FCS focuses on an integrative approach to the reciprocal relationships among individuals, families and communities, as well as the environments in which they function. The discipline focuses on addressing basic human needs in areas of health, nutrition, clothing and textiles, shelter, economics and management, social leadership and wellness (AAFCS) FCS students major in family studies, nutrition, interior design, apparel merchandising and design, and hospitality management. FCS students' career interests lie in areas where the majority of entrepreneurial start-up activities often occur, such as independent retail firms, restaurants, apparel and interior design firms, and childcare centers.

A number of studies have addressed entrepreneurial intentions on college campuses. The majority of these studies focus on predicting entrepreneurial behavior among business school students. The focus on business school students is appropriate for several reasons. College students are influenced to choose a major in part by their interest in a subject, their perception of availability of jobs, their aptitude for the subject, and the earnings potential related to a major (Mauldin et al., 2000; Pritchard, Potter & Saccucci, 2004), so it seems reasonable that someone with entrepreneurial aspirations might select a business major. The majority of entrepreneurship courses at U.S. universities are offered through business programs (Streeter, Jaquette & Hovis, 2002). According to the Global Entrepreneurship Monitor (Minniti & Bygrave, 2003), people with professional, technological, or business degrees exhibit the highest incidence of entrepreneurial activity (17.8% of business school graduates compared to 12.8% for all college graduates).

In the last decade, there has been an effort on university campuses to infuse entrepreneurship into curricula outside the business college (Streeter, Jaquette & Hovis, 2002). While examining the entrepreneurial intentions of college business majors is an important activity, non-business majors also demonstrate significant interest in self employment (Muske & Stanforth, 2000). Recent efforts in higher education seek to institutionalize entrepreneurial thinking across the campus by moving entrepreneurial education outside of the business school. Successfully disseminating entrepreneurial education beyond traditional boundaries means that university decision makers will need to know more about the nature of entrepreneurial intention in non-business majors in order to meet the learning needs of a broader number of their students.

## **THEORETICAL BACKGROUND**

The theory of planned behavior (Ajzen, 1991) posits that intention is an antecedent to behavior. In the case of entrepreneurial intention, the model uses a person's attitude toward the act of becoming an entrepreneur, subjective norms, and the person's perception of her ability to act to predict the intention to follow an entrepreneurial career. The theory of planned behavior has been used successfully to predict entrepreneurial intentions in various applications (Krueger and Carsrud, 1993). Studies have shown that attitudes explain about 50 % of the variance in intentions, and intentions explain approximately 30 % of the variance in behavior. Shapero & Sokol (1982) proposed a predictive model that derives from perceptions of both desirability and feasibility, as well as from a propensity to act upon opportunities. Krueger and Brazeal (1994)

presented a model that suggests that entrepreneurial intention is based on the interaction between personal characteristics, perceptions, values, beliefs, background and environment (situational context). Their model suggests that entrepreneurial characteristics not only can be learned, but vary across individuals and situations.

College students may not elect to become self employed immediately upon graduation. Reitan (1996) differentiated between short term and long term intentions, and found evidence that situational variables may be less important for long-term intentions than for short-term intentions. Long-term intentions seem to be a more appropriate measure of entrepreneurial intention among college students, as short term intent is indicative of imminent start-up activities, which is likely to be relatively rare in college students (Autio, Keeley, Klofsten & Ulfstedt, 1997).

### **THE CURRENT STUDY**

In this early stage of analysis, we focus on identifying personal and background characteristics that may influence long term EI in this population, and take initial steps to identify some of the general and domain specific attitudes that could explain EI among FCS students. We focused on long term EI, as we theorized that most FCS majors will probably not start a business immediately upon graduation, but may view entrepreneurship as a career path later in their careers.

An important construct in the overall model guiding this study focuses on the concept of entrepreneurial orientation (EO), as a general attitude with the potential to predict entrepreneurial intention. The concept refers to a person's decision activities, processes and practices with respect to innovativeness, risk propensity, proactiveness and competitiveness (Krueger, 2005; Lumpkin & Dess, 1996; Morris, 1998). EO has been shown to be an important factor in the success of active entrepreneurs (Lumpkin & Dess, 1996). Shephard and Douglas (1997) found that master's level business students who had a stronger intention to become an entrepreneur had a more positive attitude towards risk than those who had a weaker intention to become an entrepreneur. Hermansen-Kobulnicky and Moss (2004) examined the relationship between entrepreneurial orientation and interest in small business ownership of pharmacy students, and found that students who considered business ownership scored significantly higher on dimensions of EO than those who did not. Some argue that entrepreneurial experiences can develop entrepreneurial tendencies in individuals (Faris, 1999); Gatewood, Shaver and Gartner (1995) contend that individuals who elect an entrepreneurial career path are predisposed toward EO. In the case of FCS students, we hypothesize that:

H1: FCS students with higher levels on EO dimensions will report higher long-term entrepreneurial intentions.

Domain specific attitudes refer to attitudes that relate directly to a particular act, in this context, becoming an entrepreneur. These include a person's beliefs about the feasibility and desirability of entrepreneurship, as well as beliefs about how the important people in a person's life might view such a career decision. As previously discussed, a number of EI studies have found that attitudes are a reliable predictor of intentions in general, and Davidsson (1995) found that

positive domain specific attitudes toward becoming an entrepreneur were a good predictor of entrepreneurial intentions. The second hypothesis states that:

H2: FCS students having more positive attitudes relating to entrepreneurship will report higher long-term entrepreneurial intentions.

Career socialization theory proposes that the decision to initiate a career is influenced by many social factors including exposure to educational experiences (Dyer, 1994). Students' choice of major may indirectly influence intentions as a result of their coursework. Entrepreneurship courses (or absence of them) in a student's college program may influence the perception of the potential for success in an entrepreneurial career in the student's major. Entrepreneurship education can provide opportunities to simulate the start of a business and to observe role models. These experiences may influence a person's desire to pursue an entrepreneurial career (Kram 1983; Shapero & Sokol 1982). Peterman and Kennedy (2003) found that a positive prior work experience in a small business environment had an influence on attitudes toward entrepreneurship. In the same study, perceptions of desirability and feasibility increased as a result of enterprise education. Work experience in a family business has also been shown to have a positive impact on perceptions of new venture feasibility and desirability (Reitan, 1997). Students completing their last year of college education may differ from other undergraduate students in their perceptions, having reached a point in time when career decisions are imminent (Luthje & Franke, 2003; Shepherd & Douglas, 1997). The final hypothesis relates to the influence of such vicarious experiences on EI:

H3: Strength of entrepreneurial intentions of FCS students will depend on vicarious experiences relating to choice of major, family background, previous work experience, entrepreneurship-specific education and imminent graduation.

## **RESEARCH DESIGN**

The sample for this study included 129 undergraduate students enrolled in courses in the department of Family and Consumer Sciences at two large Midwestern universities. The study used a self-administered questionnaire to capture information relating to the study topic. The influence of vicarious experience, entrepreneurial orientation as a general attitude, domain specific attitudes relating to desirability and feasibility of an entrepreneurial career, and subjective norms on EI are the focus of this paper. Items to measure these concepts were adapted from the literature on entrepreneurial intention at the managerial and individual level. Attitudinal concepts used in previous EI studies were adapted to the FCS context. The instrument was refined after pre-testing in a small sample.

## **RESULTS**

The sample was comprised of students enrolled in Family and Consumer Science courses at two public universities. Subjects were proportionate across the two universities (50.0% versus 47.7%), predominately females ages 18-22. About one half of the respondents were family studies majors, one fourth were apparel majors. Nutrition, hospitality and other majors comprised the balance of the sample.

Factor analysis using principle components and varimax rotation was performed on scale items used to measure general and domain specific attitudes in order to reduce data. Items which loaded at less than .40 and cross loading items were eliminated from the analysis. Remaining scale items were evaluated for theoretical validity. Cronbach alpha tests of each scale were between .61 and .80, except for Feasibility, which was .44. Results of this phase of the analysis yielded 7 factors. The factors seemed to fit the general versus domain specific typology proposed by Davidsson (1995). Three factors relating to general attitudes of entrepreneurial orientation included Opportunity Seeking, Proactivity and Creativity. The Opportunity Seeking construct relates to a tendency to scan the environment for opportunities, and to use information to problem solve and plan for the future. Opportunity seeking behavior is a critical skill for entrepreneurs as they seek to innovate and find new ways to compete in the market (Hamel & Prahalad, 1994). Proactivity relates to Shapero & Sokol's (1982) propensity to act, and has been shown to play a role in predicting entrepreneurial intentions (Krueger, Reilly & Carsrud, 2000). Creativity is an essential ability for entrepreneurs as they look for new ways to use resources, compete and innovate. Each of these dispositions has been recognized as a driver of entrepreneurial behavior in the literature (Johnson & Ma, 1995).

Four domain specific factors were identified in the factor analysis. Self Efficacy refers to a judgment of one's capability to attain a certain level of performance or desired outcomes (Bandura, 1986). In the context of this study, Self Efficacy relates to an individual's belief that he or she has the ability and knowledge to successfully start a business. Social Desirability represents the social norm aspect found in TPB models, tapping into the concept of the importance of approval from important others about a person's career decisions. Personal Desirability measures the person's internal attitudes about the image of an entrepreneurial career, and Feasibility relates to the perceived ability to acquire resources necessary to complete the behavior. All of these constructs are similar to those found in the previously discussed predictive EI studies.

The influence of general and domain specific attitudes on EI was assessed using two multiple regression analyses. In the first analysis, general attitudes relating to entrepreneurial orientation were entered using a stepwise procedure. The final model indicated that all of the general attitudes, Opportunity Seeking ( $\beta = .198$ ,  $P = .028$ ), Proactivity ( $\beta = -.344$ ,  $P < .000$ ), and Creativity ( $\beta = .406$ ,  $P < .000$ ) significantly predicted EI. In the second regression equation, domain specific attitudes were entered using a stepwise procedure. The final model included Self Efficacy ( $\beta = .215$ ,  $P = .031$ ), and Personal Desirability ( $\beta = .406$ ,  $P < .000$ ) as predictors of EI. Social Desirability and Feasibility were not significant predictors in this model.

The effects of personal and background characteristics on subjects' entrepreneurial intentions were analyzed using the chi-square test of proportions. Subjects' estimate of the likelihood that they would start a business someday was computed as a dichotomous variable, with responses falling below the mean classified as low EI (not likely to start a business in the future), and those above the mean as high EI (likely to start a business in the future). The independent variables included subjects' major, small business work experience, entrepreneurship courses taken, internship experience and family occurrence of entrepreneurship. Results revealed that the strength of entrepreneurial intentions were dependent (statistically significant) upon subjects' major ( $n=111$ ,  $DF 3$ ,  $\chi^2 10.437$ ,  $p = .015$ ), internship completion, ( $n=90$ ,  $DF 1$ ,  $\chi^2 12.60$ ,  $p < .000$ ) and family entrepreneurship, ( $n=128$ ,  $DF 1$ ,  $\chi^2 11.168$ ,  $p = .001$ ). Family Studies majors were

most likely to express high entrepreneurial intentions (56.9%), followed by Apparel Studies majors (43.3%). Having completed an internship had a negative effect on entrepreneurial intention. Students who had completed an internship were much more likely to indicate weak entrepreneurial intentions when compare to those who had completed an internship (62.3% versus 24.3%). Students who reported family members with small business experience were about twice as likely to express weak entrepreneurial intentions as those with no entrepreneurs in the family (79.2% versus 41.3%). Entrepreneurial intention was independent (not statistically significant) of completing an entrepreneurship course, prior experience working in a small business, and subjects' imminent graduation.

## **DISCUSSION AND IMPLICATIONS**

These results confirm the established notion that attitudes can predict entrepreneurial intentions in an undergraduate student population. Positive attitudes relating to the desirability of entrepreneurship as a career choice, and confidence in the ability to succeed in creating a new venture appear to predict stronger levels of entrepreneurial intention in this sample. Self-efficacy is an important element in entrepreneurial success because starting a business requires unique skills and mind sets, which may be far different from those required in an established organization (Chen et al., 1998). Not surprisingly, support of family and a perception that entrepreneurship would be a gratifying and attractive career option is related to stronger entrepreneurial intentions.

An entrepreneurial orientation which includes frequent opportunity seeking behaviors, a creative mindset, and a proactive disposition also seem to predict stronger levels of entrepreneurial intention among students in this study. The opportunity recognition process is an important step in the entrepreneurial event, when opportunities to create future goods and services are discovered, evaluated, and exploited (Shane and Venkataraman, 2000). Entrepreneurially oriented individuals may be especially suited to new venture start-ups, although these attitudes are also increasingly valued in the corporate environment.

Results also validate the relationship between certain vicarious experiences and EI. Students in our sample who reported one or more self-employed family members were almost twice as likely to report weak EI when compared to students who had no self employed family members. Family involvement in a small business may allow students to see the less attractive side of being self employed, such as long hours and high stress, leading them to see entrepreneurship as less attractive than other employment options.

Students who had completed an internship were less likely to look favorably at entrepreneurship as a career choice than those who had not completed an internship. Perhaps this is because students who have completed internships tend to be in the upper classes, and may be considering a career in an organizational setting as a first career step, while under class students may be considering a broader array of career paths.

### **Implications**

Profiling the entrepreneurial attitudes and motivations of college students outside of the traditional realm of enterprise education is an important step in the diffusion of entrepreneurship

education on college campuses. The strong impetus toward university-wide programs that seek to attract nontraditional audiences means that educators must have information that helps them to plan policy, curriculum and resources to best meet future entrepreneurs' needs. Streeter et al (2002) identified several models of delivering entrepreneurship education to students outside of the business college. The magnet model makes entrepreneurship education available to students across campus by locating faculty and courses in the business college, while the radiant model diffuses these resources in programs across the campus. Understanding how students view entrepreneurship as a career path can assist faculty in magnet program in developing teaching approaches that address the diverse learning needs of their students. Faculty who teach entrepreneurship courses in non-business curricula need information that helps them tailor their courses to a specific context.

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