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Exploring Entrepreneurial Orientation in First- and Continuing- Generation College Graduates

Ryan D. Butt

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Risk Taking:
Exploring Entrepreneurial Orientation in
First- and Continuing-Generation College Graduates

Dissertation
Prepared in Partial Fulfillment for the
Doctor of Business Administration Program
At DePaul University

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Biography

The author currently holds the position of Dean of the College of Business and Graduate School of Management at Lewis University, located in Romeoville, Illinois. Since his arrival in July, 2017, he successfully led a reaffirmation of accreditation for ten undergraduate and five graduate programs, and gained first-time accreditation for new two new undergraduate and one graduate degrees with ACBSP. During the past several years he secured funding and governmental support in launching a regional business incubator serving the entrepreneurial community on and off campus, which in part supports an endowed business plan competition for students at Lewis. He continues to be a strong supporter for student experiences through securing mock interview rooms, creating private study/lounge spaces, development of active-learning classrooms and similar initiatives. The author has successfully led the College through both a first-time overall strategic planning process and collaboratively established the first College diversity, equity and inclusion mission statement and plan.

Previously, the author served as Dean of the College of Business and Leadership at Lourdes University from 2013-2017. There he was instrumental in leading the College through the reaccreditation of six undergraduate business programs and achieving initial accreditation for two graduate business degrees, including the MBA: leading the reorganization of College administrative structures and programs; growing the Business Leadership Advisory Council to strengthen connections for student success; developing a study abroad program for undergraduate business students in Italy and promoting international collaborative programs with institutions on four continents; and conducting international recruiting initiatives within China and India.

In the late 1990's, the author worked in Kenya for an NGO that provided training and resources to create sustainable business enterprises for street children. This experience was followed by a senior administrative position with a regional nonprofit organization in Northern Indiana, where he developed frameworks for social enterprises to be implemented within the organization. This passion for building social ventures led the author in 2004 to establish The Constare® Group, LLC, a consulting firm specializing in developing social ventures within and between the for-profit and nonprofit sectors both domestically and internationally.

The author is a frequent presenter at international, national and regional conferences on the topics of global and professional MBA programs; innovative 21st century business curriculum; trends in higher education; sustainability strategies and social entrepreneurship. He has served on several nonprofit boards, at the local, regional, state, and international levels and has traveled for business on five continents. He recently stepped down as President for the Mkombozi board of directors in Tanzania after nearly 12 years of service.

The author earned his Bachelor of Arts degree and Master of Science in Administration degree from the University of Notre Dame, located at Notre Dame, Indiana and his Juris Doctorate from Valparaiso University School of Law, located at Valparaiso, Indiana.

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Abstract

Numerous studies have explored first-generation college student experiences leading up to and throughout their time seeking a bachelor's degree. Other research has investigated the relationship between risk perception or self-efficacy traits and entrepreneurial orientation. The purpose of this study is to fill the gap between these two research streams by exploring the relationship of entrepreneurial orientation in, and between, first- and continuing-generation college graduates, specifically evaluating their post-graduation experience. This project explores entrepreneurial orientation, risk-taking, self-efficacy, and familial obligations to explore potential similarities and differences between first-and continuing-generation graduates. Specifically, this study hypothesized that first-generation college graduates would have greater entrepreneurial orientation, compared to continuing-generation graduates. Furthermore, the relationship between graduate type and entrepreneurship orientation was thought to be mediated by risk-taking. Results showed that, as predicted, risk-taking was positively correlated with entrepreneurial orientation but that graduate type predicted neither entrepreneurial orientation nor risk-taking.

Keywords: first-generation college graduate, continuing-generation college graduate, entrepreneurial orientation, risk-taking, self-efficacy, familial obligations, environmental turbulence

Chapter 1: Introduction

In the ever-changing landscape of higher education within the United States, first-generation college students represent an increasingly important student segment. However, Hirudayaraj & McLean (2018) stated that “first-generation college graduates are almost a forgotten group when it comes to research on post-degree employment outcomes” (p. 91). Despite this population’s importance, research to date has largely focused on its experiences while pursuing or enrolled in higher education, not its post-graduation success/failure.

However, there is reason to believe that exploring first-generation college students’ post-university experiences warrants attention. There are many hurdles that first-generation college students face, including more challenges in securing and maintaining employment, the idea that higher incomes are associated with earned degrees, and also bearing the financial stress of attending higher education due to soaring tuition and growing student loan debt (White, A. V., & Perrone-McGovern, K., 2017). The current research will look at the connections between first- and continuing-generation student graduates and their respective relationship to entrepreneurial orientation, which has not been explored previously. Do the same challenges and limitations first-generation college student graduates face impede their entrepreneurial pursuits, or is this group uniquely positioned to overcome the many risks and challenges entrepreneurs face in a way that continuing-generation college student graduates are not post-graduation? Scholars have suggested that, if first-generation students are able to persevere and complete their undergraduate degree, then they will ascend into and adjust to the middle and higher socio-economic classes (Phillips et al., 2020). However, due to the extra hurdles first-generation college student graduates must overcome, might they also be primed for entrepreneurial success?

Research Questions and Contributions

The intent of this work is to add to the small, but growing, field of study which focuses on first- and continuing-generation college student graduates and the entrepreneurial successes they have secured since their graduation from a four-year institution. The primary research goal of this dissertation is to explore differences in entrepreneurial orientation between first-generation and continuing-generation college students' post-graduation. The secondary research goal of this dissertation is to explore the mechanisms underlying the predicted difference between these types of students, specifically the notion of risk tolerance.

This study makes several important contributions concerning first-and continuing-generation student graduates, which include: (1) empirical evidence of differences in entrepreneurial orientation between two important student demographics, (2) the relationship between student type, propensity to risk, and entrepreneurial orientation, and (3) how higher education can pivot resources to strengthen and encourage administrations to leverage missing opportunities from their entrepreneurial oriented first- and continuing-generation alumni.

Chapter 2: Literature Review

The literature review begins by initial examination of first-generation college students, followed by continuing-generation college students. Then the focus shifts to entrepreneurial orientations, with additional research focusing on risk propensity. This review also incorporates research on familial obligations within first-generation college students. Self-efficacy is also highlighted to the extent that these secondary concepts are relevant to current research questions. Finally, familial/social turbulence within these graduate type's environments is noted as well.

The specific topics of first-generation, continuing-generation, entrepreneurship, and risk were examined separately. Initial searches focused on first-generation college graduates or

continuing-generation college graduates, with the inclusion of the word “entrepreneur*.”

Interestingly, results demonstrated that no substantive research has been carried out within the field of entrepreneurship on first-generation college graduates, whereas there exists a deep body of separate, general literature on college students who are first-generation. Additionally, there is very little research that pertains to graduates and their post-academic professional careers, as most of the seminal literature is centered on the student experience while currently enrolled and their interaction with career services, academic support services, etc. Continuing-generation students and graduates appear to be almost non-existent in these studies. Furthermore, there does not appear to be any significant scholarship directed at ‘graduates’ and their post-collegiate employment experiences and professional outcomes, especially when comparing experiences between first- and continuing-generation college graduates. Therefore, it is important to establish a baseline understanding of the differing characteristics between both demographics, since they are not homogenous groups, and even within their own groups, there are significant variances.

First-Generation College Graduates

There is abundant research available on first-generation college students, particularly the challenges and successes that form their journey leading up to and during their collegiate experiences (Froggé et al., 2018; Hirschman et al., 2016; Phillips et al., 2020; Stephens et al., 2012). The field becomes narrower and more limited when considering research focusing on first-generation college students *after* graduation from their college or university regarding employment, career satisfaction, and advanced degrees to name a few (Hirudayaraj & McLean, 2018; Tate et al., 2015).

An extensive array of options in defining this population exists. According to Tate et al. (2015), there are more than a dozen definitions of first-generation college students, from “students whose parents have had no college education...[to] some amount of college education short of a 4-year degree,” though within this demographic, individuals share a collective lack of knowledge and experience in attaining a college degree (p. 295). For the purposes of this study, first-generation college students are defined as “students who enrolled in postsecondary education and whose parents do not have any postsecondary education experience,” as held in Title IV of the Higher Education Act, TRIO Programs (Redford & Hoyer, 2017, p. 3). As a core demographic within this study, a first-generation college graduate is defined as someone who has earned a bachelor’s degree and whose parents have no post-secondary educational experience.

First, it should be noted that a graduate receiving the label of first-generation is purely a definition established by the government to identify someone who is the first to pursue a college education within their family. Second, many non-governmental organizations and institutions often establish their own definition as to what constitutes a first-generation college student. The label does not mean nor provide connotation that the individual is not academically successful and unable to rise to the challenges of attaining a college degree. In uncovering the research on first-generation college students, it is evident that this group does not represent a homogenous population. Instead, the term encompasses a wide spectrum of socio-economic classes, races, and ethnicities, as well as immigration statuses and geographic permanent residences of the United States.

Today in the United States, approximately 19.7 million individuals enrolled in colleges and universities during the fall 2020 semester, as substantiated by the National Center for Education Statistics (National Center for Education Statistics, 2021). Historically, first-

generation college students have been declining with some level of significance since the 1970's, but their impact post-graduation has not been measured despite the fact that, in the aggregate, this is an extremely significant population in our general society. It is important to measure this population's success because it represents more than half of all college students enrolled in a degree seeking program in our nation (Cataldi et al., 2018).

The exact percentage of first-generation college students as a total of all students ranges from as high as 77% in 1980 to the more recent 56% as of the 2015-16 academic year, depending on the definition used (Radwin et al., 2018). According to the Pell Institute, although there has been a downward trend over the last decade in the number of first-generation college students to a number of approximately 60% by 2016, this demographic still represents a significant number of all graduates from four-year institutions (*Factsheets, 2021*). From a purely demographic analysis per the Department of Education, it is evident that first-generation college students are largely White at 49%, with a significant representation of minorities reflected by 27% Hispanic or Latinx, 14% African-American, and 5% Asian. (Redford & Hoyer, 2017). This same population tended to be typically older and more often attending classes while having dependents in their lives (Redford & Hoyer, 2017). Whereas 70% of continuing-generation college students identified as White, the remaining segments were represented by 11% African-American, 9% Hispanic or Latinx, and 6% Asian (Redford & Hoyer, 2017) students. From an income perspective, there existed sharper contrasts, with 77% of first-generation college students' household incomes below \$50,000, while 71% of continuing-generation college students' household incomes were above \$50,000 (Redford & Hoyer, 2017).

The Pell Institute found that first-generation college students are “more likely to attend for-profit institutions, enroll part-time in their studies, [and/or] take more than six-years to

complete their degree” (*Factsheets*, 2021). Phillips et al. (2020) held that, “In the case of first-generation students, their motives for attending college often reflect interdependent cultural norms (e.g., to give back to their communities) that do not match the ideal cultural norms of independence that tend to be prioritized in higher education” (p. 1113).

According to Mendez et al. (2018), Latino/migrant students, are often marginalized and begin college at a disadvantage when evaluated by established factors that tend to predict academic success, “such as “precollege characteristics (i.e., gender, class rank, high school grade point average), academic perceptions (i.e., college academic self-efficacy, academic resilience, school connectedness), and environmental factors (i.e., living situation, employment, financial aid, family support, family responsibilities)” (p.175). No matter the demographical differences, it is well established that these first-generation college graduates face challenges while pursuing their degree. Therefore, “many colleges and universities offer student support services, retention and bridge programs, or first-year experience seminars, which are designed to help students adjust to campus life” (Mendez et al., 2018, p. 175).

Storlie et al. (2016), established that “for Latinas specifically, culture, values, and life roles are primary variables influencing the career decision-making process, including the pursuit of a college degree” (p. 304). As the first in their families to pursue a college degree, Latinas often struggle in identifying the “traditional life roles and values that compete with an individualistic higher education system,” according to Storlie et al. (p. 304, 2016). It appears that “Latina students, in particular, may be expected to fulfill family role obligations that conflict with the.... American education system [which] may include caretaking of dependent family members, emotional and financial support, and spending considerable time with primary and extended family members,” (Storlie et al., 2016, p. 305). Interestingly, whether it is Latinas or

other similarly situated culturally alike individuals, once they arrive at college, these students struggle to identify and excel in a setting that encourages individualism over familial and communitarian obligations. And for those students who are successful, it is often the case they have strong family support which alleviates familial obligations (Storlie et al., 2016).

It is critical to note that barriers facing first-generation students as a whole contribute to a higher likelihood of not completing a degree program; for individuals that do graduate, the degree program will take longer than the usual four-year timeframe. According to Storlie et al. (2016), a student's ethnicity was a significant factor in whether a student completed his/her degree. These factors would also extend into an individual's life after enrollment in the form of career challenges, especially for first-generation Latina students who were also balancing familial obligations.

It is important to recognize that first-generation college students face challenges that are not experienced by their counterparts. According to Swisher (2020), the challenges a first-generation student must overcome to attain their degree is often exacerbated by entering an unknown collegiate environment while balancing living with family and maintaining employment. The barriers for these students were identified as having originated before college, as evident in what is often a complete lack of knowledge surrounding the entire process from evaluating colleges, submitting applications, and moving throughout the admissions process (Swisher, 2020). The difference in challenges faced also manifested in graduation rates between first-generation – with 35% never earning a degree – and continuing-generation college students – 83% graduate – when measured over a span of six years after first entering postsecondary education (Cataldi et al., 2018).

Stephens et al. (2012) reaffirmed multiple factors that are widely acknowledged, which have impacted first-generation students' college experiences, such as being employed in one or more jobs and coming from families with little to no financial support to help off-set the cost of attaining higher education. Finally, it is important to understand, that the independent thinking and ideals that are the bedrock of a college experience run counter, perhaps, to the motives why a first-generation student may be pursuing a degree as a way to support his/her community thus representing a more interdependent mindset (Phillips et al., 2020).

Although the challenges faced by first-generation college students are evident leading up to and while enrolled in school, previous studies have not yet examined how this population adapts to careers post-graduation. These graduates' experiences are particularly significant given the context of the sheer number of first-generation individuals in the work world. Additionally, immigrants appear to enroll in a degree-seeking program, and their children often pursue an even more advanced degree than their parents (Baum & Flores, 2011).

Continuing-Generation College Graduates

The other student type, recognized as continuing-generation, has not benefitted from prior academic studies as often as first-generation students, therefore, a commonly accepted set of identifying characteristics for this population does not exist. Thus, for the purposes of this study, continuing-generation college students are defined as students who had *at least one* parent who attained a bachelor degree or higher (Redford & Hoyer, 2017). Further, this study will recognize continuing-generation *students*, under the same definition, as continuing-generation college *graduates*. A continuing-generation college graduate, for the purpose of this research, will be a second or greater generation graduate who attained a bachelor degree or higher.

Although there is very little research on this population as a whole, they can be easily described as not facing the challenges or sharing the same experiences as their first-generation counterparts. This population benefits from their parent(s)'s collegiate experience, which provides significant knowledge on how to navigate an often-complex world of admissions, understanding financial aid, identifying a specific major, accessing career services and even the more detailed areas such as understanding the terms in higher education as simple as “syllabus” (Frogg  & Woods, 2018).

By having this added benefit of strong family support and mentors in their lives who experienced college, continuing-generation college students will achieve higher graduation rates than their first-generation counterparts (Frogg  & Woods, 2018). According to Kouyoumdjian et al. (2017), continuing-generation college students hold a competitive advantage over their first-generation counterparts by being more established, more financially stable and starting as freshmen direct from high school, all elements that prepare these students to successfully navigate the collegiate experience. It is also understood that continuing-generation students tend to embrace the college experience and possess more evolved and structured educational goals than first-generation students (Frogg  & Woods, 2018). Additionally, continuing-generation graduates earn higher incomes than their counterparts, by nearly double the salary in some cases, which only continues to sustain differences between the two groups (Kouyoumdjian et al., 2017).

The key differences contributing to continuing-generation college students' success may lie within the fact that they are culturally and socially predisposed from their largely middle-class experiences. According to Stephens et al. (2012) these students have lived within an environment that exposes, fosters, and encourages independence and self-expression, as well as possessing greater material resources to enable more opportunities for mobility, both career to

geographic. It is worth noting that whether these students are first- second- or third- generation in attending college, the impact of these students' social origins and their parents' educational attainment serve as the most significant factors providing insights to the inequality of education through racial and ethnic lenses, particularly for immigrant families (Hirschmann, 2016).

Demographically speaking, 49% of first-generation college students, a slight minority, self-identified as White, whereas 70% of continuing-generation college students, or a sizable majority, self-identified as White (Redford & Hoyer, 2017). When looking at African-American and Hispanic students, they accounted for 14% and 27%, respectively of first-generation students and only 11% and 9%, respectively of continuing-generation students (Redford & Hoyer, 2017). It is no surprise that native English speakers represented 90% of continuing-generation students and only 78% of first-generation college students (Redford & Hoyer, 2017).

Over the past two decades, there has been a significant increase in the number of students attending college who are representative of immigrant families. According to U. S. Census data, in 2000, immigrant students enrolled in a degree-seeking program accounted for 20% of all college students, whereas by 2018, they reflected 28%, or nearly a third of all students (Batalova & Feldblum, 2020). With respect to continuing-generation graduates from immigrant families whose parents earned a degree in their home country, it should be understood that these graduates do not form a homogenous group. Thus, their experiences within the United States' system of higher education will be different from their parents' experiences and, more importantly, from the experiences of their domestic counterparts (Baum & Flores, 2011; Kouyoumdjian et al., 2017). It should be noted that the post-secondary academic experiences of immigrant-origin students, who would identify as continuing-generation college students, have

shown a demonstrable level of increased interest in pursuing advanced degrees when one of their parents have earned a degree prior to entering the United States (Baum & Flores, 2011).

Throughout the literature there exists a gap in work that specifically addresses continuing-generation college students, let alone those who graduate, since the negligible prevailing research largely addresses the collegiate experience while enrolled and focuses almost exclusively on first-generation college students or an aggregate student population as a whole. So continuing-generation is “there” but really just to serve as a benchmark or comparison standard while focusing on first-generation. When comparing the two demographics, it appears that the differences between first- and continuing-generation students are stark in terms of socio-economic status, ethnicity, and levels of independence. This study will attempt to measure if entrepreneurial orientations are as different between these two groups as the noted characteristics are above.

Entrepreneurial Orientation and College Graduates

Covin & Wales (2012) articulated that academics have not arrived upon a generally agreed upon definition of entrepreneurial orientation, hence the numerous definitions that are attached to this field of research. The majority of definitions related to "entrepreneur" stresses the level of risk propensity, or to what extent these individuals are comfortable in navigating through risk, as well as their ability to achieve success in both growth and higher profits (Palich & Bagby, 1995). Since there is no clear definition that is widely viewed as the standard within the literature, for the purpose of this study, entrepreneurs are defined as individuals within a business-oriented initiative who possess a need for achievement, accept a higher level of risk, and remain extremely competitive in their venture's activities.

From the earliest literature, Lachman (1980) noted that the one consistent trait within entrepreneurs was this need for achievement beyond just being characterized as risk takers in their drive for success. Entrepreneurs often are more hopeful of their potential successes with their venture(s), than those individuals who are not entrepreneurially oriented, since the latter envision a less successful venture and bleaker outlook (Palich & Bagby, 1995). Lee & Tsang (2001) noted that most entrepreneurs and academics when predicting the success of any venture, would say any outcome is completely dependent on the entrepreneur.

Interestingly, Palich & Bagby (1995) argued “that entrepreneurs may not actually *prefer* to take risks; rather, due to schema accessibility, they simply tend to associate business situations with cognitive categories that suggest more favorable attributes (greater strengths versus weaknesses, opportunities versus threats, and potential for future performance improvement versus deterioration)” (p. 433). In other words, when confronted with comparable risks associated with starting a business, entrepreneurs simply frame the situation differently, assigning more weight to positive attributes than their negative counterpart. This positive framing, coupled with the types of activities being carried out, help entrepreneurs create their identity when pursuing new business development (Cardon et al, 2013).

Other scholars have focused their research on personality traits, such as Lee & Tsang (2001) who focused on better understanding the following four behaviors: “(1) need for achievement, (2) internal locus of control, (3) self-reliance, and (4) extroversion” (p. 586). In this study, Lee & Tsang (2001) found that the most significant personality trait linked to venture growth was the need for achievement, with the internal locus of control having a secondary impact on overall success. Further, in their findings, it was noted that personality traits do not impact venture growth as significantly as entrepreneurial skills and that the previous literature

does not consider cultural effects, since most studies are based on Western economies, primarily the United States economy (Lee & Tsang, 2001).

According to Lüthje & Franke (2003), empirical research has continually demonstrated that a significant number of business students express an interest within the framework of an entrepreneurial orientation after graduation upwards of 50% in some studies whereas, in reality, less than 5% are found to actually carry out these stated ambitions. In their research, Lüthje & Franke (2003) also recognize the traits of risk-taking, need for achievement, and locus of control as antecedents for entrepreneurial orientation, but they propose that fostering environmental factors within higher education and addressing contextual factors could play a significant role in directing students within this field. Although, there exists research on entrepreneurial orientation or passion for enrolled students in colleges and universities (Mauer, 2009), there continues to be a lack of research comparing these same identified factors for entrepreneurship between first- and continuing-generation college graduates.

Covin & Wales (2012) cited Miller's earlier construct of identifying entrepreneurial orientation through the presence of an individual possessing the following three characteristics: risk taking, innovativeness, and proactiveness. The authors defined each of these three variables as follows:

“risk-taking refers to a willingness to commit resources to projects, ideas, or processes whose outcomes are uncertain and for which the cost of failure would be high. Innovativeness refers to the exhibition of experimentation, exploration, and creative acts as reflected in, for example, new products/services, new process technologies, new methods of operation, and new business strategies. Proactiveness refers to engaging in forward-looking actions targeted at the exploitation of opportunity in anticipation of future circumstances, as would be typical of firms that lead and/or pre-empt the actions of others (e.g., market pioneers, early adopters of new technologies).” (Covin & Wales, 2012, p. 694)

In their research, the scholars firmly believed that when measuring for entrepreneurial orientation via their scale, all three of the constructs must be evaluated collectively to ensure accuracy and consistency; otherwise, there would exist a substantial loss of identifying individuals with true entrepreneurial orientation (Covin & Wales, 2012). In the current study, these three characteristics will be measured and the results will be cross-examined against both first- and continuing-generation college graduates to see if any correlations exist between these two groups and entrepreneurial orientation.

Additional Factors that may impact Entrepreneurial Orientation

For the purpose of exploring some possible inferential factors inspired by the separate literatures regarding entrepreneurship and first-generation college graduates, this study will further evaluate risk perception, entrepreneurial and general self-efficacies, and familial obligations. The following paragraphs will provide substantive background on these factors and how they might differ or be similar between first- and continuing-generation college graduates and consider the extent to which they may have a modifying effect on entrepreneurial orientation.

Risk Perception

In its most elementary form, risk is defined by the Oxford English Dictionary as, “(a) the possibility of loss, injury, or other adverse or unwelcome circumstance and (b) a chance or situation involving such a possibility,” (Zhang et al., 2019, p. 153). According to Zhao et al. (2005) risk taking behaviors of individuals are often a result of “trait, task, cognitive, and situational factors” (p. 1267). From this baseline understanding of risk, entrepreneurs and entrepreneurially oriented firms are often associated with a more comfortable relationship or open embrace of a higher level of risk tolerance (Altinay, 2016). For the purposes of this study,

risk-taking propensity will be defined as an individual's level of acceptance to engage in behaviors that tend to have a higher-than-normal relationship to adverse consequences.

There is no absence of academic scales measuring risk taking and associated characteristics that have been successfully created and validated during the past seventy years (Meertens & Lion, 2008). Scholars have long recognized “the Sensation Seeking Scale...the Everyday Risk Inventory...the Tension Risk Adventure Inventory.... the Telic Dominance Scale...and the Arnett Inventory of Sensation Seeking,” as varying types of validated scales that strive to predict risk-taking behaviors (Meertens & Lion, 2008, p. 1507). The challenge with many of these scales, and specifically the Sensation Seeking Scale, is that they often measure risk with survey items where “risk taking is a side effect, rather than a defining characteristic” (Meertens & Lion, 2008, p. 1507). Therefore, Meertens & Lion (2008) developed a scale that shifted the focus away from personality traits as a measurement of risk-taking behavior towards an instrument that would intentionally measure every day, general risk-taking propensity. The Risk Propensity Scale, developed by Meertens & Lion (2008), is comprised of nine items that capture various aspects of risk taking, with higher scores reflecting that an individual possesses a higher threshold in accepting levels of risk. For the purposes of this study, the scale developed by Meertens will be included, as a validated scale within the survey, with an interest to see if there are any significant findings that may arise from the results because of a such a potentially large and non-homogenous population.

Whereas Meertens & Lion, focused on general risk propensity, Zhang et al. (2019), reiterated that risk taking, although situational, is prejudiced through a number of characteristics: individuals will be more open to risk when pursuing intended outcomes while avoiding risk when failure is imminent. In the same line of thought, Zhang et al. (2019) recognized that an

individual does not need to be risk-averse in all activities or endeavors. For example, someone may be open to a higher risk within fiduciary matters while avoiding risks associated with health-related domains. With respect to careers, it is often believed that entrepreneurs are naturally more tolerant of risk due to their need for a less structured and more dynamic working environment, which is a marked difference from those who are more comfortable in a stable or contractual employment relationship (Zhao et al., 2005). Squaring this relationship between risk perception and entrepreneurship orientation is important, then, as this more recent research conflicts, in part, with the prior work (Palich & Bagby, 1995) calling into question differences in risk-taking behaviors between entrepreneurs and non-entrepreneurs. This study will explore whether first- and continuing-generation college graduates differ in their risk-taking. In capturing this possibility, through the use of a risk-taking propensity scale, it is anticipated that any correlations between graduate type and entrepreneurial orientation will be predictable based on differing levels of acceptable attitudes towards risk behavior between the two groups.

Entrepreneurial & General Self-Efficacy

As a relatively new field, entrepreneurship had the ability to adopt the psychological tool of self-efficacy, which was borne out of career research into a mix of recognized entrepreneurial traits, thus creating this new measurement tool for entrepreneurial orientation (Mauer, 2009). Entrepreneurial self-efficacy, therefore, reflects a number of correlations as a result of its early origin within career self-efficacy. For example, the constructs share primary characteristics such as a strong desire of achievement, a desire for knowledge, and an ability to manage stress related decision-making activities (Kezar et al., 2020).

“Entrepreneurial self-efficacy...is a construct that measures a person’s belief in their ability to successfully launch an entrepreneurial venture...since it incorporates personality as

well as environmental factors, and is thought to be a strong predictor of entrepreneurial intentions and ultimately action” (McGee et al., 2009, p. 965). According to scholars, entrepreneurial self-efficacy over a period of time emerged as a viable alternative to risk-taking perceptions, but also provided insights to understand existing differences between genders in entrepreneurial endeavors (Mauer, 2009).

Established research has identified “a positive relationship between entrepreneurial self-efficacy and entrepreneurial intentions” (Zhao et al., 2005, p. 1267). Further, previous literature substantiated the fact that entrepreneurial self-efficacy is a strongly positioned method in identifying and evaluating career development outcomes for the population that would largely be aligned with first-generation college graduates, since it is widely believed that these differences between graduates’ experiences are directly linked to their social environments (Kezar, 2020). This area of entrepreneurial self-efficacy, linked to its origins in career development, has not been largely explored or developed in terms of its relationship with first-generation college graduates and those from disadvantaged socio-economic backgrounds (Kezar, 2020).

Based upon an extensive review of leading personality scales, which were designed to measure generalized risk propensity, Zhao et al. (2005) identified specific items that would have the ability to measure entrepreneurial self-efficacy and intentions. In developing this construct, individuals’ responses were collected from questions that asked them how successful they were in, “identifying new business opportunities, creating new products, thinking creatively, and commercializing an idea or new development” (Zhao et al., 2005, p. 1268). From this scale, the results supported that those individuals who were identified as entrepreneurs were more likely to choose that pathway because they possessed a high level of self-efficacy, knowing that they will be successful (Zhao et al., 2005). Although differences may exist between first-generation and

continuing-generation college graduates with respect to entrepreneurial self-efficacy, it is possible that overall general self-efficacy varies as a function of student type. To address this possibility, the current research will capture general self-efficacy to be more encompassing of the survey population.

Chen et al. (2001) drew from the seminal work of Bandura in defining self-efficacy as “beliefs in one’s capabilities to mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands” (p. 62). Based upon social cognitive theory, self-efficacy in its simplest explanation is the level of engagement and drive one possesses in completing a task, such that those with a high-level of self-efficacy will actively pursue an objective (and the inverse is true) whereas a lower level, the individual will attempt to avoid becoming engaged (Zhao et al., 2005). For this study, general self-efficacy will be defined as an individual’s ability to harness motivation along with cognitive and related resources that will influence and predict an individual’s capacity to achieve a task-specific goal and/or activity.

Based on previous research established by Bandura, “self-efficacy should be focused on a specific context and activity domain. The more task specific one can make the measurement of self-efficacy, the better the predictive role efficacy is likely to play in research on the task-specific outcomes of interest” (McGee et al., 2009, p. 969). Zhao et al. (2005) reiterated that “an individual’s sense of self-efficacy can be influenced through four processes: (a) enactive mastery, (b) role modeling and vicarious experience, (c) social persuasion, and (d) judgments of one’s own physiological states, such as arousal and anxiety,” which may play some role in college graduates’ level of entrepreneurial or general self-efficacies (p. 1266). It should be no surprise that first-generation college students, as a whole, trend towards lower self-efficacy measurements, which would subsequently reduce their motivation in pursuit of academic success

(Frogg , 2018). Some scholars have identified that the burden for first-generation college students' academic achievements has shifted to a belief that if these students would only work to improve their respective self-efficacy position, then their educational experiences would improve (Kezar et al., 2020). Whereas the burden has mistakenly been placed on this population, higher education institutions could actively engage with first-generation students' academic experiences in order to counter the existing inequities and gaps, while identifying and strengthening opportunities for this population to succeed while enrolled in a degree seeking program (Kezar et al., 2020).

This research will undertake the opportunity to measure general self-efficacy, using an eight-item validated scale constructed by Chen et al. (2001), which will provide research for future scholarship between first- and continuing-generation graduates and their correlation to career oriented successes. This validated scale, general self-efficacy, is included within this study because of the ability of this measurement to broadly evaluate individuals and their ability to ascertain their level of task achievement in a variety of activities (Chen et al. (2001).

Familial Obligations

A final exploratory area for future research will be to better understand the role of, and connection between, familial obligations and first- and continuing-generation graduates and their post-graduate experiences. For example, research notes that families from Asian and Latin American cultures often play a pivotal role within individuals' decision-making in a manner that exhibits a strong obligation of pursuing a collective objective, such as in how individuals from those families will approach and engage in attending a university (King & Ganotice, 2015).

First-generational college graduates, "without the aid of intergenerational information," were faced with a multitude of familial issues surrounding their decision to pursue a degree

including, but not limited to, “managing feelings of guilt and confusion related to surpassing the educational attainment of family members and friends...transition from communities and families that are directed by norms of interdependence” (Garriott et al., 2015, p. 254). At the same time, these same individuals have a sense of necessity to excel in their studies and become successful post-graduation as a method to show appreciation and respect for their familial sacrifices (King & Ganotice, 2015).

The influence of unique cultural and ancestral demographics varies greatly in the level of force exercised onto first-generation graduates, especially as it relates and impacts ones’ relationship to his/her attainment of a college degree and pursuing career aspirations (Tate et al., 2015). Studies have shown that familial associations do represent a critical role, for first-generation graduates, especially within disadvantaged economic units, as to the intentions and outcomes in professional and academic endeavors (Tate et al., 2015). Further familial involvement and engagement plays a crucial role in Latinx students to pursue college, especially as a result of their “cultural values and commitment to advance their family and community” (Dueñas et al., 2020, p. 97).

For these students and eventually graduates, their pursuit of a degree and a career is a way of recognizing familial values and goals (Tate et al., 2015). The existing literature, for example, discusses “the academic and social integration of Latinx students, which underscores the processes, connections, and affiliations that are relevant and meaningful, such as cultural orientation, ethnic identity, family relationships” that plays a significant role in pursuit of their academic endeavors (Dueñas et al., 2020, p. 96). Interestingly, when a family’s influence surrounding careers and employment is heightened, it has been shown to negatively impact a student’s drive to pursue graduate education, meaning that securing employment is more valued

than advanced degrees (Tate et al., 2015). As a result of the correlation between family career values and graduate education, it may very well, “be connected with previous research about this population that suggests they desire to honor their families through their career and educational aspirations, as well as to research that highlights their struggles with pursuit of a career track that requires a shift in values” (Tate et al., 2015, p. 435-36).

Phillips et al. (2020) noted that first-generation college students are constrained by a need for interdependence within their environment, which is reinforced through their cultural experiences or respect within their units. Continuing-generation students reflect a more independent drive and way of thought, helped largely in part by their middle- and upper-class environments. As of a result of these differences, first-generation college students are left largely reliant on familial units which reinforce the concepts that one needs to be conscious of others around them; thus, their ties to cultural and socialization practices within and outside their network are solidified (Stephens et al., 2012). It is important to note that it is far more often that familial obligations are significant barriers for first-generation college students to overcome in addition to economic or financial struggles (Stephens et al., 2012).

To collect data during this study for future research, a validated scale will be included, that captures familial obligations. In this measure, Fuligni et al. (1999) identified a 24-item validated scale that separated out familial obligations from the perspective of individuals and their families in respect to current assistance, respect, and future support.

Moderating Effect: Environmental Turbulence

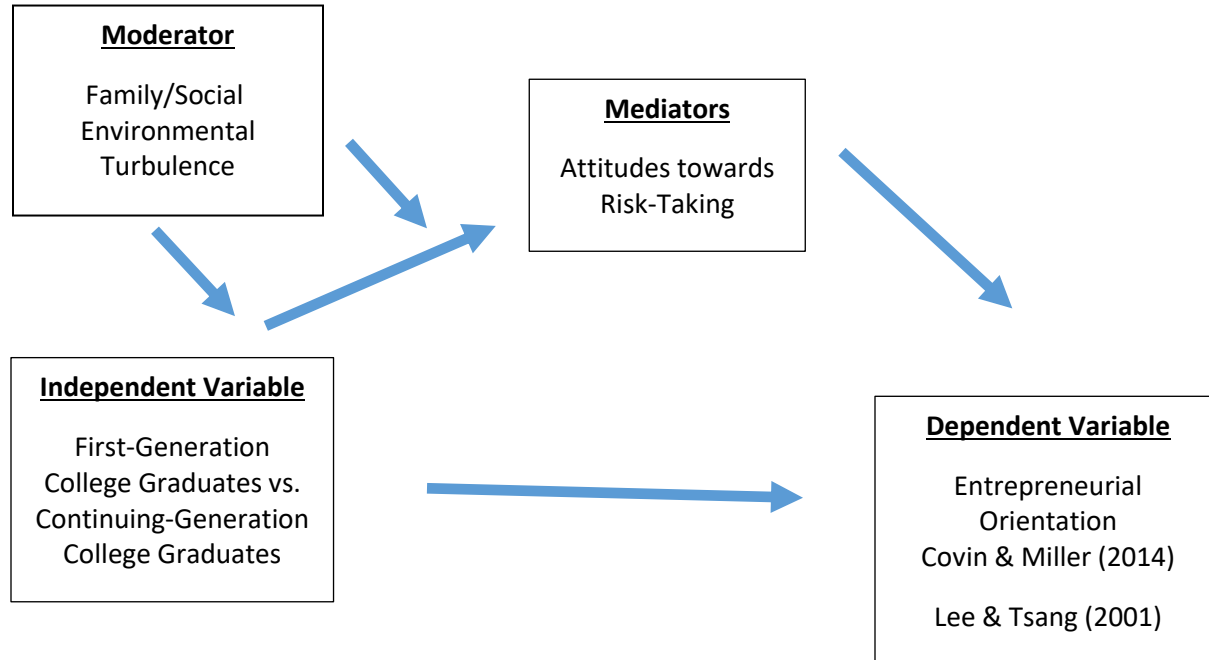
Finally, research has established that turbulence within marketing and/or technological environments can have a moderating influence on the effects of seemingly inflexible projects (Sethi & Iqbal, 2008). Turbulence, in the broadest sense, is understood to represent instability

and loss of control, which, when present, will have an impact on an environment's ability to adapt or perform based upon a project's rigidity or situation (Sethi & Iqbal, 2008). Further, by acknowledging how turbulence within these marketing and/or technological environments can adversely affect a project's outcome, it becomes more easily supported to draw correlations of similar experiences within an individual's collegiate or entrepreneurial pursuits. In Sethi & Iqbal's research, they found that greater turbulence within one's technological environments led to an increased impact on projects, which would result in harming the performance of teams in respect to product development through learning failure (2008). Therefore, this study adapted and significantly modified their seven-point validated scale on measuring environmental turbulence within technology to instead measure the moderating impact of familial/social turbulence on the relationship between college graduate's pursuit of educational and/or entrepreneurial pursuits.

Chapter 3: Hypothesis Development

There has been extensive research carried out separately on first-generation college students (while they are enrolled as students) and entrepreneurs, in general. However, the fields surveyed indicate that very little work exists with the aim of understanding connections between first-generation college *graduates* and their entrepreneurial ambitions in comparison to continuing-generation *graduates*. This section expands on the previously reviewed scholarly work in entrepreneurial orientation, risk-taking propensity, both entrepreneurial and general self-efficacies, and familial obligations while developing links between these factors for both first- and continuing-generation college graduates. Further, this study looks to see if there are differences between the two groups of college graduates that may influence their entrepreneurial ambitions, with special attention given to differences in risk propensity.

The research questions, as suggested by Figure 1, focus on whether first-generation college graduates, by nature of their unique experiences and challenges overcome in their lives, are more likely to pursue or possess entrepreneurial characteristics than their continuing-generation counterparts. Furthermore, potential differences in risk perceptions are also factored into this model. I take a twofold approach to my research. First, the entrepreneurial orientation between the two groups will be established; and second, the level of risk between the two groups will be evaluated. The remaining variables of general self-efficacy along with familial obligations are being collected to serve as controls, as well as for future scholarly analyses linking their measures to the student graduates. Applying a similar logic to the current context, I propose that the extent to which an individual interprets family/social turbulence in his/her environment as inspiring (v. debilitating) could moderate this person's entrepreneurial orientation. Specifically, I predict that this interpretation of environmental turbulence will impact the relationship between one's graduate status (first- versus continuing-generation) and his/her propensity toward risk taking such that first-generation graduates exhibit more extreme risk taking or risk aversion based on the presence of environmental turbulence and their interpretation of what that turbulence means. Whereas continuing-generation graduates, having historically benefitted from relatively more familial/social stability, are less affected by environmental turbulence.

Figure 1 Conceptual Model

Keeping the prior research cited in the literature review in mind, the current study proposes that first-generation college graduates, who are uniquely adapted to challenging environments and a desire for achievement, may exhibit shared traits with entrepreneurs, thus leading to the following hypotheses:

Hypothesis 1: First-generation college graduates are more likely to have an entrepreneurial orientation relative to continuing-generation college graduates.

Previous research has consistently provided mixed evidence in the literature for the past several decades between risk-taking and entrepreneurial orientation. Thus, it is anticipated that first-generation college graduates will tend to share similar attributes often associated with entrepreneurs.

Hypothesis 2: High risk-taking attitudes are positively correlated with entrepreneurial orientation.

The literature clearly establishes a close and easy association between entrepreneurial orientation and a higher level of risk acceptance. It is anticipated that results from this study will support the premise within hypothesis 2.

Hypothesis 3: Risk-taking attitudes mediate the relationship between graduate type and entrepreneurial orientation.

Hypothesis 3a: First-generation college graduates have greater risk-taking attitudes which elicit a stronger entrepreneurial orientation.

Hypothesis 3b: Continuing-generation college graduates have lower risk-taking attitudes which yield weaker entrepreneurial orientation.

Existing differences which range from socio-economic to familial associations, have been studied and validated between first- and continuing-generation college student graduates.

Therefore, it is anticipated that the mediator of risk-taking will be able to predict with similarity between the graduate types and their propensity to reflecting entrepreneurial orientation.

Hypotheses 3, 3a and 3b, will address and support these projected relationships between graduates and entrepreneurial orientation.

Hypothesis 4: The greater the environmental turbulence, in a first- or continuing-generation college graduate's social/familial experiences, the stronger the effect of diminished entrepreneurial orientation.

It is established that technological turbulence affects new product development, when there exists project inflexibility. In a slight adaptation from that premise, it is expected that when an individual experiences greater environmental turbulence, then their propensity to reflect an entrepreneurial orientation will diminish. This fourth hypothesis, representing environmental

turbulence within social/familial experiences, will serve as a moderating effect towards entrepreneurial orientation.

Chapter 4: Method

This research effort is descriptive in nature based on survey findings from several authors who developed and validated survey instruments that measured entrepreneurial orientation, risk-taking, general self-efficacy, familial obligations and environmental turbulence. The identification of multiple survey instruments within these categories was intentionally done in order to select widely accepted and validated scales that, through this new research lens, could successfully contribute to the body of scholarly works regarding first- and continuing-generation graduates. For the purposes of this study, the main analyses will address entrepreneurial orientation and propensity to risk-taking within first- and continuing-generation college graduates.

To assess entrepreneurial orientation, two distinct surveys were adopted for this study with only slight modifications through a reduction of their existing indicators. The first survey instrument used, the Miller/Covin and Slevin scale created in the late 1980's, identifies individuals' relationships with innovativeness, risk taking, and proactiveness and has been widely recognized as a standard in establishing entrepreneurial orientation (Covin & Wales, 2012; Covin & Miller, 2014; Altinay et al., 2016; Das & Sahu, 2018). These three characteristics will be measured in this study, and the results will be cross-examined against both first- and continuing-generation college graduates, to see if any correlations exist between these two groups and entrepreneurial orientation. A second instrument, developed by Lee & Tsang (2001), is comprised of four entrepreneurial personality traits; each segment of the survey asks

respondents three items, (collectively twelve total questions), and is also included within the survey.

A trait commonly associated with entrepreneurs is propensity to risk-taking. Therefore, the validated nine item scale developed by Meertens & Lion (2008) intentionally measures every day, general risk-taking propensity. In measuring self-efficacy, this study will collect data for future research by utilizing one, slightly modified, validated instrument that captures general self-efficacy intentions through a set of eight questions developed by Chen et al. (2001).

An additional scale that measures familial obligations will be included within this study for future exploratory purposes. The validated scale developed by Fuligni & Tseng (1999) will measure perceptions across three variables in respect to current assistance towards family, respect of family and future support provided to family. Finally, a scale developed by Sethi & Iqbal (2008), to assess the effect of turbulence within one's technological environments on projects, has been significantly altered in an attempt to capture and measure the moderating impact of familial/social turbulence on the relationship between college graduate's pursuit of educational and/or entrepreneurial pursuits.

Chapter 5: Measures

Unless otherwise noted, all measures use a five-point Likert scale. Additionally, any modifications to specified, validated surveys are noted within this section and in the appendices.

Academic Experience

To capture academic experiences, the survey asked typical questions like highest degree earned and employment status. More importantly, questions germane to discerning participants' first-generation connection were explored by asking if the survey participants were the first to graduate from college along with an additional question asking the highest education level

achieved in their families, excluding themselves. A large number of questions within this section were asked so that the data can be used for future studies that can analyze the impact of variables such as employment while in school, family, and financial support and identification of students' involvement within campus services and opportunities.

Entrepreneurial Orientation

There were two identified scales selected to identify entrepreneurial orientation from the sample population. The Miller/Covin and Slevin scale holds that its “first-order reflective construct” delivers stronger outcomes and data because the “conceptualization and measure are consistent with the exhibition of a phenomenon that is broadly recognized as a manifestation of entrepreneurship” (Covin & Wales, 2012, p. 693). In their original design, the three constructs of innovativeness, risk taking, and proactiveness each contained three individual items written within an entrepreneurial or business context. Often scholars start with the original Miller/Covin and Slevin scale and then make modifications by increasing or decreasing indicators, though even with slight modifications it continues to show strong alpha reliability scores such as in Altinay et al.'s (2016) study ($\alpha=.88$) or when evaluated within a global context in two separate studies that Covin & Miller (2014) cited ($\alpha=.70$ and $\alpha=.68$, respectively), and excellent reliability on each construct, innovativeness ($\alpha=.92$), proactiveness ($\alpha=.93$) and risk-taking ($\alpha=.95$) (Das & Sahu, 2018). Since this study is directed at identifying entrepreneurial orientation from college business graduates, the Miller/Covin and Slevin Entrepreneurial Orientation scale was reduced from three items to two per construct and the language was revised to be more inclusive of a broader and diverse sample of individuals, the majority of whom may not be entrepreneurs. Finally, the selected range within this scale was from 1=strongly disagree to 7=strongly agree.

The second validated scale used in identifying entrepreneurial orientation was developed by Lee & Tsang (2001) and covered the four personality traits: need for achievement ($\alpha=.81$), internal locus of control ($\alpha=.85$), self-reliance ($\alpha=.86$), and extroversion ($\alpha=.95$). From these four traits, the authors provided a sample of three indicators used within each construct that were measured on a seven-point scale. In their sample, the authors retained two of the questions within self-reliance as reversed scale, which this study did not modify. In modifying their instrument to the current survey, the range they established was retained, which was 1=strongly disagree to 7=strongly agree, again to remain consistent with the original developers' framework.

Propensity to Risk

Although the Miller/Covin and Slevin Entrepreneurial Orientation scale includes a risk-taking construct comprised of two questions, it was not a sufficient number of variables to ensure consistent or stable reliability and validity. Therefore, it was necessary to include the risk-propensity scale developed by Meertens & Lion, 2008. This scale was created to measure an individual's general tendencies to accept risks over seven items within a nine-point range; the scale exhibited strong Cronbach's alpha reliability ($\alpha= .80$). In using their scale, a measurement range from the 1 (totally disagree) to 9 (totally agree) was retained; however, their seventh question was dropped since it asked the participant directly whether they were a risk-seeker or risk-avoider.

Entrepreneurial & General Self-Efficacy

To measure general self-efficacy for exploratory purposes, the following scale was identified and included in the study without any changes to questions. In measuring general self-efficacy, this study is looking to understand a broader segment of the study's sample population. The eight-item general self-efficacy scale ($\alpha = .87$) selected for Chen et al. (2001) developed a

more concise new general self-efficacy scale, derived in part from the Sherer & Adams 17-item general self-efficacy scale. Chen et al. (2001) discovered that their new scale “consistently yielded appreciably higher content validity and somewhat higher predictive validity compared” to the more widely used scale developed by Sherer & Adams (p. 77). In implementing their scale, no changes were made to either the statements within the scale or their five-point Likert scale.

Familial Obligations

For exploratory purposes, I examined further latent variables within familial obligations through a scale that captured perceptions, values, and collective orientation. The scale utilized was developed by Fuligni & Tseng (1999) over a series of focus groups and a review of the literature on filial piety and family obligations” and offered three scales that were designed to measure adolescents’ views on “(1) current assistance to the family, (2) respect for the family, and (3) future support to the family as adults” (p. 1033). Although this survey was directed at a younger population, many of the items utilized in the scale were drawn from a broader construct with more connection to family collectivism. All three of Fuligni & Tseng (1999) family obligations scales exhibited strong reliability as follows: Current Assistance to the Family with eleven items ($\alpha=.87$); Respect for the Family with seven items ($\alpha=.82$); and Future Support to the Family as Adults with six items ($\alpha=.81$). There were slight revisions to some of the original wording and the number of items was reduced to 12, in total, with a Likert scale ranging from 1 to 5. The revisions to language were related to create broader references to family members, instead of stating specific groupings, such as brothers or sisters.

Moderating Effect: Environmental Turbulence

It is expected that environmental turbulence, specifically that involves familial/social challenges, will negatively moderate the influence of the relationship between first- and continuing-generational college graduates and entrepreneurial orientation. Identifying the seven-point scale, developed and validated by Sethi & Iqbal (2008), that measures technological turbulence provided the best framework from which to significantly modify their textual statements to reflect familial/social items. Sethi & Iqbal's technological turbulence scale, demonstrated strong reliability ($\alpha=.82$), with an anticipated expectation to achieve similar results with the revised statements in this study.

Development of Questionnaire

The survey questionnaire was developed on Qualtrics, a web-based survey tool to conduct survey research, evaluations, and data collection. The survey began with an information sheet that described the title of the study, purpose of the study, approximate time to complete the survey, confidentiality statement, voluntary participation statement, and contact information of the survey administrators. The survey consisted of 38 questions and took approximately 12 to 15 minutes to complete. The survey questions consisted of the following major sections: graduate demographics (appendix a); academic experience (appendix b); entrepreneurial orientation (appendix c), followed by three factors that may impact entrepreneurial orientation: propensity to risk (appendix d); entrepreneurial/self-efficacy (appendix e); familial obligations (appendix f); and environmental turbulence (appendix G). The questions within each of these seven sections can be found in appendices A thru G. Additionally, a question was asked between academic experience and entrepreneurial orientation whether the respondent had ever considered or successfully launched a business, which could be measured against first- and continuing-

generation graduates' propensity. Lastly, there was an open-ended question asking the participants to share any additional information and comments, in respect to any question asked within the survey, as well as their experiences as a graduate of their institutions. Once the participants agreed to take the survey they were directed to the Qualtrics platform to complete the survey.

Data Identification & Sample

In order to identify an institution that has a broad spectrum of graduates, from demographics to race, ethnicity, gender and, most importantly, a mission in serving first-generation college students, Lewis University in Romeoville, Illinois, was selected. Lewis University, founded in 1932, is a private, four-year university, sponsored by the Christian Brothers and is home to nearly 7,000 students in more than 80 undergraduate majors and 35 graduate majors. For the majority of its existence during the past 90 years, the university has served a majority of first-generation college students. It was not until the early 2000s, when that number dipped below a majority of the overall student population for the first time. In its most recent reporting, the university revealed the number of students who represent first generation at Lewis is around 30%, which is significantly less than the generally accepted national average of more than 55% of all students being first-generation.

Lewis University's College of Business has been awarding degrees for nearly seventy years, thus providing a significant sample size for this project, while understanding both first- and continuing-generation graduates and their experience with entrepreneurship and risk. To best address these questions, the study partnered with Lewis University's Office of Alumni Relations in order to survey a significant sampling of more than 8,000 out of 13,000 living alumni from their College of Business.

During the past few decades, the demographics of the graduates from the College of Business at Lewis University have shifted from largely white male to a much more diverse population increasingly representative of the surrounding communities, including nearly a quarter of the student population being Latino, a majority female graduate student population, and a significant increase in overall graduates that are minorities.

Data Collection

The participants were alumni from the College of Business at Lewis University. An email from the alumni office was sent to participants requesting them to complete the survey. Approximately 8,197 participants, of which males represented 4,579 and females 3,618, were directed to Qualtrics online to complete the survey. Data was collected from participants voluntarily taking the Qualtrics survey on-line. The data was collected confidentially. The IP address was not collected. No personal information capable of identifying any individual was collected unless the participant voluntarily included an email address to be entered into a drawing for one of five \$100 Amazon gift cards. The inclusion of these Amazon gift cards were offered as an incentive to increase participation in the sample size.

Chapter 6: Analysis

All statistical analyses utilized SPSS 27 and initial checks were performed to ensure internal consistency reliability (Cronbach's alpha) of the aforementioned scales. If the reliabilities were .70 or higher, additional analyses summarized the descriptive statistics, including means, frequency counts, and correlations, and present these descriptive statistics in a table. Given the predicted differences for first- and continuing-generation graduates, all means, frequency counts, and correlations will be presented both in aggregate (across both graduate types) and broken down by student type for the purpose of easy comparison. To explore the

proposed relationships among the variables as outlined in the hypotheses, a series of ANOVA analyses were conducted.

Hierarchical regression models were performed to statistically control between the variables and to better understand whether one variable has more of a moderating effect than another with respect to determining entrepreneurial orientation. Additionally, for all hypotheses both linear and multiple regression models were used to assess the structure of relationships between independent and dependent variables. Also, several fit indices were used to evaluate the soundness of the models measured. Specifically, I conducted the following tests:

Hypothesis 1: An ANOVA in which student graduate type was entered as the fixed factor and the entrepreneurial orientation scales, for both Miller/Covin & Slevin and Lee & Tsang, as the dependent measure.

Hypothesis 2: A correlation (or linear regression) analysis to observe whether a significant positive correlation emerged between risk-taking attitudes and entrepreneurial orientation.

Hypotheses 3, H3a, H3b: A mediation model (HAYES PROCESS Model 4) in which student graduate type was the independent variable, entrepreneurial orientation scale average was the dependent measure, and risk-taking attitudes score was the mediating variable.

Hypothesis 4: A moderation model (HAYES PROCESS Model 1) to see if greater environmental turbulence, in a first- or continuing-generation college graduate's social or familial experiences, bolstered the effect of diminished entrepreneurial orientation.

In addition to testing the focal model, the additional exploratory measures of self-efficacy and familial obligations were analyzed using the same ANOVA approach to see the extent to which

these measures varied as a function of student graduate type, as well as whether these measures predicted entrepreneurial orientation.

Chapter 7: Results

There were 351 unique respondents who started the survey, but only 257 participants completed the survey. Respondents who completed 75% or more of the survey represented 295 individuals. This number of respondents was important in that they answered the first 32 questions, with this last question asking if they ever expressed an interest in starting their own business. This stopping point was important as it meant participants provided the primary measures of interest including their level of interest in being an entrepreneur and whether they were a first- or continuing-generation graduate.

The respondents included alumni from every year between 1961 through 2021, were 65.4% male and 34.2% female, and were nearly evenly split between first- and continuing-generation college graduates at 50.9% to 49.1%, respectively (Table 1). Interestingly, male graduates reflected a higher percentage (55.5%) as self-identifying as a first-generation graduate, whereas 58.4% of females self-identified as continuing-generation graduates. The respondents were overwhelmingly white (81.4%), followed by those who self-identified as Hispanic, Latino or Spanish origin (7.5%) and African-American (7.1%). With respect to annual salaries, 47.5% identified as earning \$100,000 or more annually and 54% had earned a Master's degree or higher.

Table 1 Descriptive Statistics Gender & Graduate Type

Age	Male	Female	Frequency	First Gen Male	Cont. Gen Male	First Gen Female	Cont. Gen Female	Frequency
18-25	5	9	14	NA	5	1	8	14
26-35	29	26	55	13	16	12	14	55
36-45	27	19	46	12	15	9	10	46
46-55	22	24	46	10	12	7	17	46
56-65	37	16	53	18	19	9	7	53
66-75	56	5	61	41	15	3	2	61
76-older	15	2	17	12	3	1	1	17
Totals	191	101	292	106	85	42	59	292

This study's primary objective was to examine whether student graduate type predicted level of entrepreneurial orientation, and whether that relationship was mediated by risk-p propensity or moderated by turbulence. Interestingly, 15.9% of the respondents who were first-generation graduates indicated that they had launched their own business, whereas only 13.6% of continuing-generation graduates had started a business. Between the two graduate types, first-generation participants were more likely to indicate that they had either launched or desired to start their own business than continuing-generation graduates.

As noted earlier, it is suggested that first-generation graduates will reflect stronger tendencies toward entrepreneurial orientation over continuing-generation graduates. The subsequent analyses address graduate type and entrepreneurial orientation (test of hypothesis 1), as well as the potential for a positive correlation between risk-taking attitudes and entrepreneurial orientation (test of hypothesis 2). Then, the analyses are extended to explore whether risk-p propensity mediates the relationship between graduate type and entrepreneurial orientation (test of hypothesis 3). Finally, environmental turbulence in one's familial experiences as a potential moderator of the effect of student graduate type and entrepreneurial orientation is explored (test of hypothesis 4).

Descriptive Statistics

Although not all of the alpha reliabilities were .70 or higher, all analyses are included and show the descriptive statistics, including means, frequency counts, and correlations. These results are presented in Table 2 to provide a generalized overview of the study's results. Given the predicted differences for first- and continuing-generation graduates, all means, frequency counts, and correlations will be presented both in aggregate (across both student types) and broken down by student type for the purpose of easy comparison.

Table 2 Means, Standard Deviation, Reliabilities, and Correlation Matrix								
Variable	Mean	Std. Deviation	1	2	3	4	5	6
1. Entrepreneurial Orientation	3.31	0.66	.81 ¹					
2. Entrepreneurial Orientation Traits	5.14	0.59	.356**	.65				
3. Risk-Propensity	5.71	0.91	.313**	.202**	.64			
4. Self-Efficacy	4.36	0.47	.318**	.434**	.268**	.87		
5. Familial Obligations	4.23	0.59	0.123	.175**	.273**	.302**	.90	
6. Turbulence	4.14	1.00	-0.02	0.049	0.007	0.067	0.054	.51
Note: N=249								
¹ Alpha Reliability appears in the diagonal								
*p < .05 **p<.01								

Test of Hypothesis 1

The results from the first of two entrepreneurial orientation scales did not support the hypothesis that first-generation college graduates are more likely to have an entrepreneurial orientation relative to continuing-generation college graduates. When, these results were evaluated between the graduate types, for the Miller/Covin & Slevin scale (Covin & Miller,

2014), first-generation reflected a slighter higher means of identifying with entrepreneurial orientation ($M=3.34$, $SD=0.71$) whereas continuing-generation's mean was lower ($M=3.23$, $SD=0.66$) ($F(1, 259)=.58$, $p= .45$). Even with slight modifications, the results reflected a strong alpha reliability score ($\alpha=.81$) as well as when evaluated on each construct, innovativeness ($\alpha=.66$), proactiveness ($\alpha=.70$) and risk-taking ($\alpha=.74$). Participants selected their level of agreement between two statements like “typically seeks to avoid competitive clashes” to “typically adopts a very competitive posture.” The higher the score from the respondents, indicated a stronger orientation towards entrepreneurial intent.

Similar results were obtained when using the Lee & Tsang (2001) entrepreneurial orientation scale as a second analysis by identifying entrepreneurial orientation via four personality traits, whereas it did not support the hypothesis ($F(1,262)=.123$, $p=.73$). Again, first-generation reflected a slightly higher mean score ($M=5.15$) while continuing-generation was slightly lower ($M=5.13$). This study did not modify their scale and exhibited, after reverse coding two of the 12 questions, a slightly weaker alpha reliability ($\alpha=.65$). Interestingly, when all of the constructs were analyzed, without reverse coding questions seven and nine, the alpha reliability exhibited a stronger reliability ($\alpha= .76$). This may be attributed to respondents being inattentive to responding to each of the constructs.

Although, of the four constructs, three of the constructs reflected strong alphas: need for achievement ($\alpha=.73$), internal locus of control ($\alpha=.87$), and extroversion ($\alpha=.84$). The fourth construct, self-reliance, contained both reverse-coded questions, thereby when evaluated correctly with the reverse coding exhibited poor alpha ($\alpha=.27$), though did not fare much better when not reversed coded with still a weak alpha ($\alpha=.38$). A slightly stronger alpha reliability was attained when removing the three self-reliance questions ($\alpha=.70$). Participants responded to

statements such as “I look upon my work as simply a way to achieve my goals” and “I like to make my own decisions rather than being told what to do,” by stating their level of agreement from 1=strongly disagree to 7=strongly agree. Similar to the prior scale, the higher the score indicated a stronger orientation towards possessing the personality traits for entrepreneurial orientation. Regardless, need for achievement, internal locus of control, extroversion, and self-reliance did not differ as a function of student graduate type (all Fs > 1.43, ps > .23).

Table 3 Means, Standard Deviation & Standard Error – EO & EOTrait									
	EO					EOTrait			
	N	Mean	SD	SE		N	Mean	SD	SE
First Gen	138	3.34	0.71	0.06		139	5.15	0.6	0.05
Cont. Gen	123	3.28	0.66	0.06		125	5.13	0.56	0.05
Total	261	3.31	0.69	0.04		264	5.14	0.58	0.04

In sum, the results of these first analyses did not support the hypothesis that first generation graduates have a stronger tendency to exhibit entrepreneurial orientation. On average, neither group was overwhelming high on entrepreneurial orientation, but first-generation graduates did reflect a slightly higher mean towards reflecting entrepreneurial orientation, relative to continuing-generation graduates.

Test of Hypothesis 2

In evaluating hypothesis 2, the results supported that high risk-taking attitudes are positively correlated with entrepreneurial orientation. The literature, often reflects, that there is a close relationship between entrepreneurial orientation and a willingness to accept a higher level of risk so these findings replicate that prior work. In applying the seven items risk-propensity scale developed by Meertens & Lion, (2008), the results revealed a significant positive

correlation between risk-taking attitudes and entrepreneurial orientation ($r(255)=.29, p<.001$) (Table 4). It is worth noting that the alpha reliability was just under the standard of .70, as it exhibited a slightly weaker alpha reliability ($\alpha=.64$). This scale, included two out of the six questions as reverse coded, which may have contributed to the weaker alpha similar to the EOTrait scale on the four constructs noted above. When both reverse-coded questions were removed, alpha remained weak ($\alpha=.57$). Although, the alpha is lower than accepted, the scale was still used in running the remaining analyses, because of the importance of evaluating the other variables.

Respondents addressed their level of comfort and/or agreement, on a scale of 1=very strongly disagree to 9=very strongly agree, with statements such as “I do not take risks with my health” to “I prefer to avoid risks.” Question six, “I usually view risks as a challenge” may have been confusing to respondents, since it is a reverse-coded question and, if not read carefully, may have impacted the results. The literature is mixed in the relationship between risk-taking and entrepreneurial orientation, though in running a bivariate correlation analysis, the results reflected a positive correlation between risk-taking attitudes and entrepreneurial orientation thereby supporting the relationship. For completeness, a correlation analysis was conducted for risk and the Lee & Tsang scale, as well, which revealed comparable results ($r(255)=.19, p<.002$).

Table 4 Means, Standard Deviation, Reliabilities, and Correlation Matrix				
Variable	Mean	Std. Deviation	1	2
1. Risk	5.71	0.91	.64 ¹	
2. Entrepreneurial Orientation	3.30	0.68	.286 ^{**}	.81
Note: N=257				
¹ Alpha Reliability appears in the diagonal				
*p < .05 **p<.01				

Test of Hypotheses 3a-3b

Although risk and entrepreneurial orientation are positively correlated it is unlikely that the relationship between graduate type and entrepreneurial orientation could be predicted by risk propensity since graduate type did not predict entrepreneurial orientation (H1). This premise was confirmed in the results of Hayes Process Model 4. In evaluating hypothesis 3, Hayes Process Model 4 was used and the results suggested that risk-propensity did not mediate the relationship between graduate type and entrepreneurial orientation. It is worth noting that the risk-propensity scale reliability was less than .70; still, the analysis is included here as a test of the proposed hypothesis.

Closer inspection of the results showed that the direct effect of first- and continuing generation graduate type on risk is statistically not significant ($b = -.06$, $s.e. = .11$, $p = .62$). Furthermore, when the effect of the independent variable (FCGEN) is examined on the mediator (RCRISK), there is a negative effect (-0.06) but it is not significant ($p = .62$).

The path, or direct effect from first- and continuing-generation graduate type to risk is

negative and not statistically significant ($b = -.08$, $s.e. = .08$, $p = .30$), indicating that neither type of graduate is more or less likely to exhibit entrepreneurial orientation. The independent variable (FCGEN) has a negative effect on the dependent variable (EO) (-0.08) but it is not significant because $p = .30$.

The direct effect of risk, on entrepreneurial orientation, is positive and statistically significant ($b = .21$, $SE = .05$, $P < .01$, 95% C.I. (.12, .30)), which indicates that individuals whom score lower on risk propensity will more than likely exhibit higher tendencies towards entrepreneurial orientation. Thereby the mediator has a positive effect on the dependent variable. It appears that in the testing of this hypothesis that when risk propensity goes down, entrepreneurial orientation increases, and the inverse that when risk propensity goes up, entrepreneurial orientation decreases. This interpretation holds that the higher the scale numbered responses, for risk-propensity, then the more risk averse the individual is, which leads to weaker entrepreneurial orientation.

When the direct effect between the independent and the dependent variables is examined, the results reveal no significant relationship: (95% CI [-.25, .08]). When the indirect effect is examined, the results suggest that risk propensity does not mediate the relationship between graduate type and entrepreneurial orientation (95% CI [-.09, .06]). Simply stated, these results confirm that risk propensity does not significantly mediate the relationship between graduate type and entrepreneurial orientation. Further, these results were true regardless of whether the Miller/Covin & Slevin or Lee & Tsang, measures for entrepreneurial orientation were utilized.

Test of Hypothesis 4

The final hypothesis tested whether greater environmental turbulence, in a first- or continuing-generation college graduate's social or familial experiences, bolstered the effect of

diminished entrepreneurial orientation. The adapted scaled had lower reliability ($\alpha=.51$), which could be due to a number of reasons, including sample size, respondents not fully reading and/or understanding the statements to having not fully completed the survey. Further, of the five constructs, statement number four was reversed coded, but even when that was removed, the alpha reliability significantly decreased even more ($\alpha=.13$). For the purpose of testing the fourth hypothesis, however, the scale was used in a moderator model (Hayes Model 1) to test for the moderating role of turbulence. Although the lower alpha make interpretation difficult, the analyses were conducted as an exercise in process.

Respondents, on a scale of 1= strongly disagree to 7= strongly agree addressed their level of comfort and/or agreement with five statements such as “My familial (and/or social) environment changed rapidly throughout the time that I was enrolled as a college student or shortly thereafter.” Question four, “Changes in my familial (and/or social) environment were rather minor while I was enrolled in college or shortly thereafter,” was the only reverse-coded question for this scale and if not read carefully may have impacted the results.

To investigate the moderating role of turbulence a “simple” moderation analysis was performed using Hayes Process Model 1, where the dependent variable was entrepreneurial orientation, the independent variable was graduate type, familial turbulence was the moderator. The interaction term was statistically not significant ($b= -.13$, $s.e.=.09$, $p= .13$) in this model, which indicated that turbulence was not a significant moderator of the effect of graduate type on entrepreneurial orientation. When interpreting the effects of turbulence and graduate type, it is noted that the effect of first- and continuing-generation graduates on entrepreneurial orientation was negative and not significant ($b= -.10$, $p=.22$). The effect of familial turbulence on entrepreneurial orientation was also not significant ($b=-.01$, $p=.74$). Finally, the results did not

allow for interpretation of whether one's family/social turbulence served as inspiring (or debilitating) and therefore could moderate entrepreneurial orientation on graduate type.

Additional Exploratory Analyses

Since the study captured self-efficacy and familial obligations measures for future research, both scales were analyzed using the same ANOVA approach to see the extent to which these measures vary as a function of student graduate type, as well as the possibility that these measures predict entrepreneurial orientation.

In using the Chen et al. (2001) validated scale for self-efficacy, the alpha reliability was strong ($\alpha=.87$). There were eight statements, none of which were revised, where respondents selected their relation to the statement from 1=strongly disagree to 5=strongly agree. Examples of these statements included, "I believe I can succeed at most any endeavor to which I set my mind," and "I am confident that I can perform effectively on many different tasks."

Similarly, the familial obligations scale, which was slightly modified from the Fuligni & Tseng (1999) validated scale, reflected a strong alpha as well ($\alpha=.90$). Respondents, on a scale of 1= Not at all Important to 5= Extremely Important, addressed their level of comfort and/or agreement with twelve statements, which included "Help take care of your family members" to "Help take care of your family members in the future." An ANOVA demonstrated that graduate type did not predict self-efficacy ($F(1,258)=.01, p=.91$) or familial obligation ($F(1,252)=.42, p=.52$) differences. With respect to self-efficacy, both graduate types reflected the same mean ($M=4.34$), which warrants future research to understand why there was no difference between these populations.

Most interesting for future research is where continuing-generation graduates reflected a directionally higher mean in respect to familial obligations ($M=4.26$) over first-generation

graduates ($M=4.21$). This is surprising, since the literature provides evidence of the strong familial ties and obligations between specific first-generation populations, especially with respect to higher education pursuits. While the difference was not significant, future research may want to explore which student-related variables do, in fact, predict differences in familial obligations. This is particularly important given that both self-efficacy and familial obligations were positively correlated with both measures of entrepreneurial orientation: self-efficacy & Miller/Covin & Slevin EO ($r(252)=.27, p<.001$), self-efficacy & Lee & Tsang EO Trait ($r(258)=.42, p<.001$); familial obligations & Miller/Covin & Slevin EO ($r(247)=.21, p<.001$), familial obligations & Lee & Tsang EO Trait ($r(253)=.17, p<.009$). Although student graduate type did not predict these differences, knowing that differences in self-efficacy and familial obligations relate to entrepreneurial orientation suggests future opportunities to explore these relationships.

Chapter 8: Discussion

In the literature, first-generation college graduates have often faced a path of adversity in achieving their degree completion, let alone being forced to navigate the world of higher education without guidance from family. It would seem that first-generation graduates and entrepreneurs share many similarities with respect to risk-taking, innovativeness, and proactiveness as established by Covin & Wales (2012). First-generation graduates approached their educational pursuits, knowing the rate of failure was both high and costly, and through their tenacity were able to attain their end goal of achieving a degree because they had this innate desire to succeed. Similarly, entrepreneurs, too, are viewed as possessing an innate desire to succeed, knowing all too well the challenges ahead that may test their resolve.

However, when testing the first hypothesis with the Miller/Covin and Slevin entrepreneurial scale, the results did not support that first-generation college graduates may possess more tendencies to be entrepreneurial, relative to continuing-generation graduates. The Miller/Covin and Slevin scale was selected because, in previous research, the strong outcomes achieved were due to the researchers' approach in capturing the "manifestation of entrepreneurship" through the three constructs of innovativeness, proactiveness, and risk-taking (Covin & Wales, 2012, p. 693). Interestingly, none of the three constructs had a significant impact on determining whether one graduate type over the other would exhibit stronger entrepreneurial tendencies.

When each construct is broken apart to compare the means between the two graduate types, only in the area of proactiveness do continuing-generation graduates slightly edge out first-generation graduates but not in a statistically significant way. Interestingly, in both innovativeness and risk-taking, it is the first-generation graduate who indicated a slightly higher mean. One can speculate from this initial analysis that these results would be expected when thinking of a demographic that would exhibit innovative approaches in their pursuit of life goals, as well as open to more risk, to advance themselves within society. Whereas a continuing-generation graduate might be afforded more security, he/she may avoid taking big risks and not see a need to pursue innovative pathways, since their future appears strong without needing to exert additional efforts. Given that Hypothesis 1 was not supported, one can imagine that similar to continuing-generation graduates, first-generation graduates who have experienced less risk-filled pathway to their educational attainment, may also possess this innate desire for entrepreneurship.

It is worth noting that the scale developed by Lee & Tsang (2001) that predicts entrepreneurial orientation by way of personality traits was incorporated into this study as a secondary analysis to offer an alternative assessment as to whether graduate type can determine entrepreneurial orientation. In this case, similar results were noted, and they were not statistically significant. Although neither entrepreneurial orientation scale was statistically significant, both reflected higher means for first-generation graduates, indicating a directionally stronger tendency towards entrepreneurial orientation. In further comparison of the analyses of the means of subcomponents within the four constructs, the results were inconclusive in determining whether one graduate type over the other appeared more likely to reflect self-reliance or need for achievement.

It is widely held in the literature that high risk-taking attitudes are positively correlated with entrepreneurial orientation, which was affirmed in the results of testing hypothesis 2 (albeit with a noted lower than generally accepted alpha reliability.) When evaluating the level of risk-propensity between both graduate types, it was first-generation graduates that held a slight edge over their counterparts, which could lead someone to prematurely draw a correlation to a stronger tendency towards entrepreneurial orientation. This line of thinking may be further supported when looking at the survey results, where respondents answered if they had ever launched or desired to start a business. In it is noteworthy that 56.4% of first-generation graduates indicated affirmatively to this question, with more than a quarter of them having successfully launched their business, whereas only 54.9% of continuing-generation graduates acknowledged affirmatively that they considered or did indeed launch a business.

However, risk-propensity did not mediate the relationship between graduate type and entrepreneurial orientation, even though risk and entrepreneurial orientation were shown to be

positively correlated. As such, Hypothesis 3 was not supported. The direct effects of either graduate type on risk was statistically not significant which indicated that entrepreneurial orientation could not be predicted from either first- or continuing-generation graduates as a function of risk. As expected, the direct effect of risk on entrepreneurial orientation was positive and statistically significant, which is supported by the literature.

Even though the results did not support the hypothesized relationship between graduate type and entrepreneurial orientation, the open-ended comments of the survey shed some light into these graduate types and their connection to entrepreneurial endeavors. A few of the specific comments included, “I started my business eight months after starting graduate studies at Lewis University. It has continued to grow. I have the opportunity to ramp up and take on more business when I want and, when I want more free time, I can scale back on my workload,” or, “I didn't know it at the time, but I do believe what I learned at Lewis contributed to my success when I did run my own business for 23 years.” Or more simply put, one respondent shared “My philosophy on Entrepreneurship: If you obtain expert-level knowledge, you can either find people who will pay you for it, or take advantage of opportunities (inefficiencies) in the marketplace to make money directly.”

Recalling from the descriptive demographics, of the approximately 295 respondents, 55.3%, indicated that they had either launched or expressed a desire to start their own business. This percentage, without comparison to the literature, appears to be a significantly higher when compared to the general population, especially since 29.5% of all respondents had actually launched their own business. According to Babson College’s Global Entrepreneurship Monitor, in 2020, total entrepreneurial activity represented 15.4% of the United States’ workforce and 9.9% of the workforce population reflects an established business ownership (Kelley et al. 2021).

In reviewing the follow-up question to those who indicated that they had either launched or expressed a desire to start their own business, only 12% had done so while enrolled as a Lewis student. Instead, 26.7% had done so before entering Lewis, while the overwhelming majority commenced their entrepreneurial endeavors after graduating from Lewis (61.3%). These comments and the higher-than-normal experienced percentages of entrepreneurs from this survey provides strong evidence that additional research should be explored, not only with respect to graduate type, but also to other attributes towards entrepreneurial orientation.

As noted earlier, the lower reliability alpha within Hypothesis 4 made the analyses more difficult and, thus, less able to accurately predict the effect that environmental turbulence might have on diminished entrepreneurial orientation in a first- or continuing-generation college graduate's familial/social experiences. One significant obstacle in achieving a stronger alpha may have been that the seven-point scale, developed and validated by Sethi & Iqbal (2008), measured technological turbulence. This scale was identified as potentially providing the best framework to then modify their textual statements to be in more alignment with familial/social elements, which in the end most likely affected the alpha reliability. This is an area that may have provided significant insight as to how familial/social environments impact not only entrepreneurial orientation, but also post-graduate experiences. Future research could explore this further.

Finally, in reviewing the exploratory analyses of self-efficacy and familial obligations measures exhibited similar results as the other measures, which indicated that graduate type did not predict entrepreneurial orientation. Although the findings were not statistically significant, the two measures did exhibit strong alpha reliabilities, which would support further analyses as to how they vary as a function of other variables captured within this study, if at all.

It seems reasonable, when drawing correlations between first- and continuing-generation graduates that the latter would possess a higher propensity towards risk and thus more oriented towards entrepreneurial endeavors. This is in part because continuing-generation graduates seem more likely to take on these risks since the literature holds that they are afforded more resources thus serving as safety nets. The evidence within this study reflected that continuing generation graduates are slightly less risk-averse than their counterparts, which would support this line of thinking. Additionally, it would seem, from the literature that first-generation graduates would hold a stronger connection to familial obligations, based on their more recent experiences as immigrants or the fact that they are the first in the family to pursue a degree. Interestingly, the results of this study contradicted this position, whereas first-generation graduates indicated a slightly less affinity towards familial obligations. Further research should tease these areas of interest out as it might explain why we don't see differences between first- and continuing-generation graduates. It is quite possible that both graduate types do indeed take risks, but for different reasons.

Chapter 9: Limitations

According to Hirschmann (2016), research within the realm of the student collegiate experience from high school through college graduation either looks at a specific instance during that timeline or the totality of the process. In either case, whether that is a singular event or the entire process, it can lead researchers to potentially record incongruent responses which may skew future predictions because the reasons during one period may not be the same reasons later on (Hirschmann, 2016). This rationale proffered by Hirschmann is important to note, especially within this study, since a deeper analysis would need to be undertaken with respect to the respondents and their associated responses to the measures of self-efficacy, familial obligations,

and turbulence. For example, there were several responses where participants indicated in the open comments section specific examples where, say, Vietnam impacted their educational and/or post-graduate pathways, so of course life-changing events may have impacted their decision-making at the time.

Additionally, this study focused on a medium-size, midwestern private religious university and alumni from the school's College of Business. From a historical perspective, the faculty during a significant portion of the past 50 years at this college were largely faculty-practitioners, who were themselves entrepreneurs and self-employed. The presence of a large faculty roster who were entrepreneurs may have influenced these graduates to chart similar paths. This study did not ask respondents if faculty members had influenced their decision to pursue or not pursue an entrepreneurial endeavor, which could have helped to better understand these graduates' experiences.

Finally, although the scales in their original form and intention were validated with strong alpha reliabilities, their application to this study may have skewed the results, especially those statements which were revised for the survey. Lacking measures that were specifically written and presented to a population of first- and continuing-generation graduates may have affected the results as well. To minimize lower than generally accepted alpha reliabilities, the ability to revise scales to be in better alignment to capture the data from this population may have led to clearer results.

Chapter 10: Implications and Future Research

It is noted that there does not exist substantial work carried out on this study's research question, so there are several opportunities to explore this idea. Although this current study attempted to understand if graduate type could predict entrepreneurial orientation, future research

could focus on any number of variables from common demographical items to more specific domains such as student-athlete, traditional v. transfer student, and even veteran status. The implications in understanding more specific factors that can predict entrepreneurial orientation can help to drive academic administrators to provide more resources to those populations to spur start-ups and innovation. Beyond entrepreneurial orientation, the data collected within this study could provide fresh insights into graduate type and their relationship to academic degree earned as mediated by self-efficacy or familial obligations to even exploring the factors that may influence the pursuit of advanced degrees within graduate type. Equally interesting for future research would be to ascertain whether self-efficacy or familial obligations, within graduate type may predict entrepreneurial orientation or actual entrepreneurship.

Future research could dive more deeply into the characteristics between first- and continuing-generation college graduates from the perspective of their in-school experiences. This might address whether one group is more likely to have worked part or full-time time, which could impact entrepreneurial orientation, as well as the identification of factors that may have impacted or predicted academic success. The data collected within this study included factors that could be measured against entrepreneurial orientation as well as whether a student, beyond being first- or continuing-generation, were also student-athletes, employed while in school, or any number of additional data points. According to the literature, there were significant contrasts of household incomes between the student types, therefore future research could explore whether finances predict entrepreneurial orientation.

As the alpha reliabilities were relatively low within turbulence, risk-propensity and entrepreneurial orientation traits, future research could explore these areas with particular emphasis on scale reliability. For example, a revised and tested turbulence scale, more aligned to

capture the familial/social elements within a graduates' lived experience, may provide better insights. Finally, as the literature noted, the need for achievement was a consistent trait identified with entrepreneurs, therefore, future research could explore if the need for achievement is a more accurate predictor of entrepreneurial orientation.

In conclusion, although entrepreneurial orientation and risk-taking could not be predicted by graduate type, the evidence did support an existence of a relationship between entrepreneurial orientation and risk-taking. With respect to familial/social turbulence, the evidence was inconclusive as to whether greater environmental turbulence would bolster or diminish entrepreneurial orientation, possibly due to significant textual revision to the original scale, which resulted in lower alpha reliability. Finally, graduate type did not predict a statistically significant relationship between self-efficacy and familial obligations, but these constructs were positively correlated with entrepreneurial orientation. Although those relationships were correlational and not causal, these findings suggest that future research may want to explore the extent to which students who differ on perceptions of self-efficacy and familial obligations may be driven to pursue entrepreneurial ambitions and why that might be the case.

References

- Altinay, L., Madanoglu, M., De Vita, G., Arasli, H., & Ekinici, Y. (2016). The interface between organizational learning capability, entrepreneurial orientation, and SME growth. *Journal of Small Business Management*, 54(3), 871–891. <https://doi-org.ezproxy.depaul.edu/10.1111/jsbm.12219>
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191–215.
- Batalova J., Feldblum, M. (2020) Immigrant-Origin Students in U.S. Higher Education, A Data Profile. *Migration Policy Institute – Presidentsalliance.org*. Retrieved: https://www.presidentsalliance.org/wp-content/uploads/2020/10/immigrant-origin-students-postsecondary-ed_final-1.pdf
- Baum, S., & Flores, S. M. (2011). Higher Education and Children in Immigrant Families. *Future of Children*, 21(1), 171–193. <https://doi-org.ezproxy.depaul.edu/10.1353/foc.2011.0000>
- Cardon, M. S., Gregoire, D. A., Stevens, C. E., & Patel, P. C. (2013). Measuring entrepreneurial passion: Conceptual foundations and scale validation. *Journal of Business Venturing*, 28(3), 373–396. <https://doi-org.ezproxy.depaul.edu/10.1016/j.jbusvent.2012.03.003>
- Cataldi, E. F., Bennett, C. T., Chen, X., National Center for Education Statistics (ED), & RTI International. (2018). *First-Generation Students: College Access, Persistence, and Postbachelor's Outcomes*. National Center for Education Statistics. U.S. Department of Education. <https://ezproxy.depaul.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=ED580935&site=ehost-live&scope=site>
- Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a New General Self-Efficacy Scale. *Organizational Research Methods*, 4(1), 62–83. <https://doi-org.ezproxy.depaul.edu/10.1177/109442810141004>
- Clark, M. S., Ouellette, R., & Powell, M. C. (1987). Recipient's mood, relationship type, and helping. *Journal of Personality & Social Psychology*, 53, 94–103. <https://doi-org.ezproxy.depaul.edu/10.1037/0022-3514.53.1.94>
- Covin, J. G., & Miller, D. (2014). International Entrepreneurial Orientation: Conceptual Considerations, Research Themes, Measurement Issues, and Future Research Directions. *Entrepreneurship: Theory & Practice*, 38(1), 11–44. <https://doi-org.ezproxy.depaul.edu/10.1111/etap.12027>
- Covin, J. G., & Wales, W. J. (2012). The Measurement of Entrepreneurial Orientation. *Entrepreneurship Theory and Practice*, 36(4), 677–702. <https://doi.org/10.1111/j.1540-6520.2010.00432.x>

Das, S., & Sahu, M. K. (2018). Measuring and Validating the Scale of Entrepreneurial Orientation: A Confirmatory Factor Analysis Approach. *Journal of Entrepreneurship & Management*, 7(3), 42–47.

Dueñas, M., & Gloria, A. M. (2020). “¡Perteneceemos y Tenemos Importancia Aquí!” Exploring Sense of Belonging and Mattering for First-Generation and Continuing-Generation Latinx Undergraduates. *Hispanic Journal of Behavioral Sciences*, 42(1), 95–116.

Factsheets. PNPI. (2021, February 1). <https://pnpi.org/first-generation-students/>.

Froggé, G. M., & Woods, K. H. (2018). Characteristics and Tendencies of First and Second-Generation University Students. *College Quarterly*, 21(2). ERIC. <https://ezproxy.depaul.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1180306&site=ehost-live&scope=site>

Fulgini, A. J., & Tseng, V. (1999). Attitudes toward Family Obligations among American Adolescents with Asian.. *Child Development*, 70(4), 1030. <https://doi-org.ezproxy.depaul.edu/10.1111/1467-8624.00075>

Garriott, P. O., Hudyma, A., Keene, C., & Santiago, D. (2015). Social cognitive predictors of first- and non-first-generation college students’ academic and life satisfaction. *Journal of Counseling Psychology*, 62(2), 253–263. <https://doi-org.ezproxy.depaul.edu/10.1037/cou0000066.supp> (Supplemental)

Hirschman, C. (2016). *From high school to college: gender, immigrant generation, and race-ethnicity*. Russell Sage Foundation. <https://ezproxy.depaul.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=ED585265&site=ehost-live&scope=site>

Hirudayaraj, M., & McLean, G. N. (2018). First-Generation College Graduates: A Phenomenological Exploration of Their Transition Experiences into the Corporate Sector.. *European Journal of Training & Development*, 42(1/2), 91–109. Professional Development Collection.

Kelley, Donna J.; Jeffrey Shay; Mahdi Majbouri; Candida G. Brush; and Andrew C. Corbett. (2021). *Global Entrepreneurship Monitor, 2020/2021, United States Report*. Babson College. <https://www.gemconsortium.org/file/open?fileId=50896>

Kezar, A., Kitchen, J. A., & Hypolite, L. (2020). Career Self-Efficacy: A Mixed-Methods Study of an Underexplored Research Area for First-Generation, Low-Income, and Underrepresented College Students in a Comprehensive College Transition Program. *American Behavioral Scientist*, 64(3), 298–324. <https://doi-org.ezproxy.depaul.edu/10.1177/0002764219869409>

King, R. B., & Ganotice, F. A., Jr. (2015). Does family obligation matter for students’ motivation, engagement, and well-being?: It depends on your self-construal. *Personality and*

Individual Differences, 86, 243–248. <https://doi-org.ezproxy.depaul.edu/10.1016/j.paid.2015.06.027>

Kouyoumdjian, C., Guzmán, B. L., Garcia, N. M., & Talavera-Bustillos, V. (2017). A Community Cultural Wealth Examination of Sources of Support and Challenges among Latino First- and Second-Generation College Students at a Hispanic Serving Institution. *Journal of Hispanic Higher Education*, 16(1), 61–76. ERIC.

Lachman, R. (1980). Toward Measurement of Entrepreneurial Tendencies. *Management International Review*, 20(2), 108-116. Retrieved March 27, 2021, from <http://www.jstor.org/stable/40227523>

Lee, D. Y., & Tsang, E. W. K. (2001). The Effects of Entrepreneurial Personality, Background and Network Activities on Venture Growth. *Journal of Management Studies (Wiley-Blackwell)*, 38(4), 583–602. <https://doi-org.ezproxy.depaul.edu/10.1111/1467-6486.00250>

Lüthje, C., & Franke, N. (2003). the ‘making’ of an entrepreneur: testing a model of entrepreneurial intent among engineering students at MIT. *R&D Management*, 33(2), 135. <https://doi-org.ezproxy.depaul.edu/10.1111/1467-9310.00288>

Mauer, René & Neergaard, Helle & Kirketerp, Anne. (2009). *Self-Efficacy: Conditioning the Entrepreneurial Mindset*. 10.1007/978-1-4419-0443-0_11.

Meertens, Ree M.; Lion, R. (2008). Measuring an Individual’s Tendency to Take Risks: The Risk Propensity Scale. *Journal of Applied Social Psychology*, 38(6), 1506–1520. <https://doi.org/10.1111/j.1559-1816.2008.00357.x>

McGee, J. E., Peterson, M., Mueller, S. L., & Sequeira, J. M. (2009). Entrepreneurial Self-Efficacy: Refining the Measure. *Entrepreneurship: Theory & Practice*, 33(4), 965–988. <https://doi-org.ezproxy.depaul.edu/10.1111/j.1540-6520.2009.00304.x>

Mendez, J. J., & Bauman, S. (2018). From Migrant Farmworkers to First Generation Latina/o Students: Factors Predicting College Outcomes for Students Participating in the College Assistance Migrant Program. *Review of Higher Education*, 42(1), 173–208. ERIC.

The NCES Fast Facts Tool provides quick answers to many education questions (National Center for Education Statistics). (2021). National Center for Education Statistics (NCES). Retrieved from: <https://nces.ed.gov/fastfacts/display.asp?id=372>.

Palich, L. E., & Bagby, D. R. (1995). Using Cognitive Theory to Explain Entrepreneurial Risk-Taking: Challenging Conventional Wisdom. *Journal of Business Venturing*, 10(6), 425. [https://doi-org.ezproxy.depaul.edu/10.1016/0883-9026\(95\)00082-J](https://doi-org.ezproxy.depaul.edu/10.1016/0883-9026(95)00082-J)

Phillips, L. T., Stephens, N. M., Townsend, S. S. M., & Goudeau, S. (2020). Access is not enough: Cultural mismatch persists to limit first-generation students’ opportunities for

achievement throughout college. *Journal of Personality and Social Psychology*, 119(5), 1112–1131. <https://doi-org.ezproxy.depaul.edu/10.1037/pspi0000234.supp> (Supplemental)

Radwin, D., Conzelmann, J. G., Nunnery, A., Lacy, T. A., Wu, J., Lew, S., Wine, J., Seigel, P., (2018) *2015-16 National Postsecondary Student Aid Study (NPSAS:16)*. National Center for Education Statistics. U.S. Department of Education. <https://nces.ed.gov/pubs2018/2018466.pdf>

Redford, J., & Hoyer, K. M. (2017). *First-Generation and Continuing-Generation College Students: A Comparison of High School and Postsecondary Experiences*. National Center for Education Statistics. U.S. Department of Education. <https://nces.ed.gov/pubs2018/2018009.pdf>

Sethi, R., & Iqbal, Z. (2008). Stage-Gate Controls, Learning Failure, and Adverse Effect on Novel New Products. *Journal of Marketing*, 72(1), 118–134. <https://doi-org.ezproxy.depaul.edu/10.1509/jmkg.72.1.118>

Stephens, N. M., Fryberg, S. A., Markus, H. R., Johnson, C. S., & Covarrubias, R. (2012). Unseen disadvantage: How American universities' focus on independence undermines the academic performance of first-generation college students. *Journal of Personality and Social Psychology*, 102(6), 1178–1197. <https://doi-org.ezproxy.depaul.edu/10.1037/a0027143>

Storlie, C. A., Mostade, S. J., & Duenyas, D. (2016). Cultural Trailblazers: Exploring the Career Development of Latina First-Generation College Students. *Career Development Quarterly*, 64(4), 304–317. <https://doi-org.ezproxy.depaul.edu/10.1002/cdq.12067>

Swisher, R. R., & Dennison, C. R. (2020). First- and Continuing-Generation Students, Substance Use, and College Graduation. *Social Forces*, 98(4), 1636–1668. <https://doi-org.ezproxy.depaul.edu/10.1093/sf/soz066>

Tate, K. A., Fouad, N. A., Marks, L. R., Young, G., Guzman, E., & Williams, E. G. (2015). Underrepresented first-generation, low-income college students' pursuit of a graduate education: Investigating the influence of self-efficacy, coping efficacy, and family influence. *Journal of Career Assessment*, 23(3), 427–441. <https://doi-org.ezproxy.depaul.edu/10.1177/1069072714547498>

White, A. V., & Perrone-McGovern, K. (2017). Influence of Generational Status and Financial Stress on Academic and Career Self-Efficacy. *Journal of Employment Counseling*, 54(1), 38–46. Professional Development Collection.

Zhang, D. C., Highhouse, S., & Nye, C. D. (2019). Development and validation of the General Risk Propensity Scale (GRiPS). *Journal of Behavioral Decision Making*, 32(2), 152–167. <https://doi-org.ezproxy.depaul.edu/10.1002/bdm.2102>

Zhao, H., Seibert, S. E., Hills, G. E. (2005). Entrepreneurial Intention Measure. *Journal of Applied Psychology*, 90(6), 1265–1272.

Appendices

Appendix A – Demographical Survey Questions

The following questions were included as a part of the demographic portion of this study's survey.

Q3 *What is your age?*

▼ 18 - 25 years (1) ... 76 years or older (7)

Q4 *What is your current 5 digit zip code for your primary residence (if outside the U.S., please leave blank)?*

5 digit zip code (1)

Q5 *What is your gender?*

Male (1)

Prefer to Self Describe: (4)

Female (2)

Prefer not to answer (5)

Non-Binary/Third Gender (3)

Q6 *What is your marital status?*

Single, Never Married (1)

Widowed (4)

Married/Domestic Partnership (2)

Other, please specify: (5)

Separated (3)

Prefer not to answer (6)

Divorced (7)

Q7A *Which category best describes your race/ethnicity? Please select only one.*

American Indian or Alaska Native(3)

White, Anglo, or Caucasian (1)

Asian (4)

Other Race/Ethnicity, please specify:
(8)

Black or African American (2)

A combination of two or more,
please specify: (6)

Hispanic, Latino, or Spanish Origin
(7)

Prefer not to answer (9)

Native Hawaiian or Other Pacific
Islander (5)

Skip To: Q7B If Q7A = Hispanic, Latino, or Spanish Origin

- Display This Question:*
- If Q7A = Hispanic, Latino, or Spanish Origin*
- Or Or Which category best describes your race/ethnicity? Please select only one.*
- Or Or Which category best describes your race/ethnicity? Please select only one.*

Q7B *Are you Spanish, Hispanic, or Latino?*

- Spanish (1)
- Hispanic (2)
- Latino (3)
- Prefer to not Answer (4)
- Other, Please Explain (5)

Q8 *Please select your native language spoken at home.*

- English (1)
- Spanish (2)
- Polish (3)
- Chinese (4)
- Arabic (5)
- Other - please list (6)

Q9 *What selection below, best describes your most recent annual salary?*

- Less than \$20,000 (1)
- \$20,000 - \$39,999 (2)
- \$40,000 - \$59,999 (3)
- \$60,000 - \$79,999 (4)
- \$80,000 - \$99,999 (5)
- \$100,000 - \$119,999 (6)
- \$120,000 - \$149,999 (7)
- \$150,000 - 199,999 (8)
- More than \$200,000 (9)

Q10 *Please select the appropriate response below (e.g. Armed Forces includes all branches of the United States Military and the National Guard)*

- Active Duty Armed Forces (1)
- Reserve Member Armed Forces (2)
- Veteran Armed Forces (3)
- Did not Serve in the Armed Forces (4)
- Prefer not to answer (5)

Q11 *When did you or your family first arrive in the United States? Please select the earliest date of arrival.*

- | | |
|---|--|
| <input type="radio"/> Before 1880 (1) | <input type="radio"/> Between 1971 and 1980 (7) |
| <input type="radio"/> Between 1880 and 1920 (2) | <input type="radio"/> Between 1981 and 1990 (8) |
| <input type="radio"/> Between 1921 and 1940 (3) | <input type="radio"/> Between 1991 and 2000 (9) |
| <input type="radio"/> Between 1941 and 1950 (4) | <input type="radio"/> Between 2001 and 2010 (10) |
| <input type="radio"/> Between 1951 and 1960 (5) | <input type="radio"/> Between 2011 and 2021 (11) |
| <input type="radio"/> Between 1961 and 1970 (6) | <input type="radio"/> Indigenous (12) |

Appendix B – Academic Experience Survey Questions

The following are the questions that were included within the academic experiences section of the survey.

Q12 *What is the highest degree or level of school you have completed? If currently enrolled, please select the highest degree you have received so far.*

- Associate degree (for example: AA, AS) (7)
- Bachelor's degree (for example: BA, BS) (8)
- Master's degree (for example: MA, MS, MEng, MEd, MSW, MBA) (9)
- Professional degree (for example MD, DDS, DVM, LLB, JD) (10)
- Doctorate degree (for example PhD, EdD, DBA) (11)
- Other, please specify: (1)
- Prefer not to answer (3)

Q13 *Please Select your primary/first Business Degree that you earned at Lewis University.*

- | | |
|--|--|
| <input type="radio"/> B.S. Accounting (1) | <input type="radio"/> B.S. Information Systems Security (5) |
| <input type="radio"/> B.S. Business Administration (2) | <input type="radio"/> B.S. Information Technology Management (6) |
| <input type="radio"/> B.S. Economics (3) | <input type="radio"/> B.S. International Business (7) |
| <input type="radio"/> B.S. Finance (4) | |

- | | |
|--|--|
| <input type="radio"/> B.S. Management (8) | <input type="radio"/> Master Business Administration (14) |
| <input type="radio"/> B.S. Management Information Systems (9) | <input type="radio"/> M.S. Business Analytics (15) |
| <input type="radio"/> B.S. Marketing (10) | <input type="radio"/> M.S. Finance (16) |
| <input type="radio"/> B.A. Organizational Leadership (11) | <input type="radio"/> M.S. Information Systems/Security (17) |
| <input type="radio"/> B.S. Social Media/Digital Marketing (12) | <input type="radio"/> M.S. Organizational Leadership (18) |
| <input type="radio"/> B.A. Sport Management (13) | <input type="radio"/> M.S. Project Management (19) |
| | <input type="radio"/> Other, Please Provide (20) |

Q14 *In what year did you graduate from Lewis University. In answering this question, please select the year that corresponds to your first degree earned at Lewis.*

Q15 *Please select any of the following professional credentials that you may possess:*

- Certified Public Accountant - CPA (1)
- Certified Management Accountant - CMA (2)
- Chartered Financial Analysts - CFA (3)
- Project Management Professional - PMP (4)
- Other, Please Write (5)
- Other, Please Write (6)

Q16 *Were you the first person within your immediate family to have graduated from College/University?*

- Yes (1) No (2)

Q17 *Based on your previous response, and excluding yourself, what was the highest education attained within your immediate family?*

- High school graduate, diploma or the equivalent (for example: GED) (4)
- Some college credit, but less than one year of earned college credit (5)
- One or more years of college credit, but no degree (2)
- Trade/technical/vocational training (6)

- Associate degree (for example: AA, AS) (7)
- Bachelor's degree (for example: BA, BS) (8)
- Master's degree (for example: MA, MS, MEng, MEd, MSW, MBA) (9)
- Professional degree (for example MD, DDS, DVM, LLB, JD) (10)
- Doctorate degree (for example PhD, EdD, DBA) (11)
- Other, please specify: (1)
- Prefer not to answer (3)

Q18 *When you were attending Lewis University for your degree, what was your student enrollment status?*

- Full-time student (1)
- Part-time student (2)
- Both Full and Part Time student (3)
- I don't remember (4)

Q19 *How many years did it take you to complete your bachelors degree?*

- 4 years or less (1)
- 5 to 6 years (2)
- 7 to 8 years (3)
- 9 to 10 years (4)
- 11 to 15 years (5)
- more than 15 years (6)
- I don't remember (7)

Q20 *What was your age when you completed your bachelors degree?*

- ▼ 18 - 25 years (1) ... 76 years or older (7)

Q21 *When you were attending Lewis University, were you also employed?*

- Did not work while attending school (1)
- Part-time employment (2)
- Full-time employment (3)
- On-Campus employment only (4)
- I don't remember (5)

Q22 *How many hours on average, each week, were you employed during college?*

- less than 10 hours weekly (1)
- between 11 to 20 hours weekly (2)
- between 21 to 30 hours weekly (3)
- between 31 to 40 hours weekly (4)
- More than 41 hours weekly (5)
- I don't remember (6)

Q23 Please select any of the academic services that you may have utilized during your time while an enrolled student:

- Meeting with Professors after class (1)
- Utilized Tutoring Assistance (2)
- Library Services (3)
- Student Clubs & Greek Life (4)
- Internships (5)
- Study Abroad (6)
- Career Services (7)
- Disability Support Services (8)
- Other, Please Provide Descriptive Answer (9)
- Other, Please Provide Descriptive Answer (10)

Q24 While enrolled as a student at Lewis University, were you a student-athlete?

- Yes (1)
- No (2)

Q25 Which option best describes your pathway to starting your education at Lewis

- Directly from High School (1)
- Transferred from a Community College (2)
- Transferred from a 4-year College/University (3)
- Directly from completion of military service (4)
- Other, Please Explain (5)

Q26 How did you pay for the entire cost of attendance at Lewis?

- I self-financed/paid my entire way through school (1)
- My family financially supported me (2)
- Scholarships and Grants (3)
- Student Loans (4)
- A combination, of the above, as a source of financial support (5)

Q27 While attending Lewis University did you live on campus in the residential dorms?

- Yes (1)
- No (2)

Q28 *In your decision to attend College, what level of encouragement and support did you receive from the following people:*

	Extremely negative (1)	Somewhat negative (2)	Neither positive nor negative (3)	Somewhat positive (4)	Extremely positive (5)
Immediate Family (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extended Family (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friends (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High Teachers/Counselors (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High School Coaches (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q29 *Have you ever wanted to start your own business?*

- Yes, I did start my own business (1)
- Definitely yes, I wanted to start my own business (2)
- Definitely no, I have never wanted to start my own business (3)
- I have never considered the option either way (4)

Skip To: Q30 If Have you ever wanted to start your own business? = Definitely no, I have never wanted to start my own business

Display This Question:

If Have you ever wanted to start your own business? = Yes, I did start my own business

Or Have you ever wanted to start your own business? = Definitely yes, I wanted to start my own business

Q29.1 *In answering that you did start your own business or expressed a strong desire to start your own business, how soon did that realization or aspiration come to you?*

- Before enrolling at Lewis University (1)
- While a student at Lewis University (2)
- Within five years of graduating from Lewis University (3)
- Between six and ten years of graduating from Lewis University (4)
- More than eleven years from graduating Lewis University (5)
- Unsure (6)

Appendix E – Entrepreneurial and General Self-Efficacy Survey Questions

The survey within this section, developed by Chen et al. (2001), will measure general self-efficacy.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I will be able to achieve most of the goals that I have set for myself. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When facing difficult tasks, I am certain that I will accomplish them. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, I think that I can obtain outcomes that are important to me. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe I can succeed at most any endeavor to which I set my mind. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will be able to successfully overcome many challenges. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident that I can perform effectively on many different tasks (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compared to other people, I can do most tasks very well. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even when things are tough, I can perform quite well. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix F – Familial Obligations Survey Questions

The scale within this section was included within this study for exploratory purposes. The scale developed by Fuligni & Tseng (1999) was originally comprised of 24 questions and were written for an audience of adolescent, primarily. Therefore, some revision was undertaken through eliminating statements that would not be relevant to adults and/or some statements were revised to be more inclusive of a broader audience. The number of questions were reduced by half, to reflecting twelve questions within this study.

	Not at all important (1)	Slightly important (2)	Moderately important (3)	Very important (4)	Extremely important (5)
Spend time at home with your family (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Run errands that the family needs done (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help take care of your family members (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do things together with your family (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Treat your parents with great respect (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do well for the sake of your family (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respect your family elders (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make sacrifices for your family (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help your family financially in the future (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help take care of your family members in the future (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spend time with your parents even after you no longer live with them (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have your parents live with you when you get older (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix H - Selected Demographic Data Results

Race & Ethnicity	Frequency	Percent	Valid Percent	Cumulative Percent
White, Anglo, or Caucasian	240	81.1	81.4	81.4
Hispanic, Latino, or Spanish Origin	22	7.4	7.5	88.9
Black or African American	21	7.1	7.1	96
Prefer not to answer	5	1.7	1.7	97.7
Mixed Race/Ethnicity	3	1	1	98.7
Asian	2	0.7	0.7	99.4
Native Hawaiian or Other Pacific Islander	1	0.3	0.3	99.7
Other Race/Ethnicity	1	0.3	0.3	100
Total	295			100
Spanish, Hispanic, or Latino	Frequency	Percent	Valid Percent	Cumulative Percent
Hispanic	11	3.7	42.3	42.3
Latino	10	3.4	38.5	80.8
Spanish	2	0.7	7.7	88.5
Other - Self-Described	2	0.7	7.7	96.2
Prefer not to answer	1	0.3	3.8	100
Total	26			100

Language Spoken at Home	Frequency	Percent	Valid Percent	Cumulative Percent
English	286	96.6	96.9	96.9
Spanish	6	2.0	2.0	99.0
Polish	1	0.3	0.3	99.3
Other	2	0.7	0.7	100.0
Total	295	99.7	100.0	
Missing	1	0.3		
Total	296	100.0		

Armed Forces Status	Frequency	Percent	Valid Percent	Cumulative Percent
Did not Serve in the Armed Forces	265	89.5	91.1	91.1
Veteran Armed Forces	22	7.4	7.6	98.6
Reserve Member Armed Forces	2	0.7	0.7	99.3
Prefer not to answer	2	0.7	0.7	100.0
Total	291	98.3	100.0	
Missing	5	1.7		
Total	296	100.0		

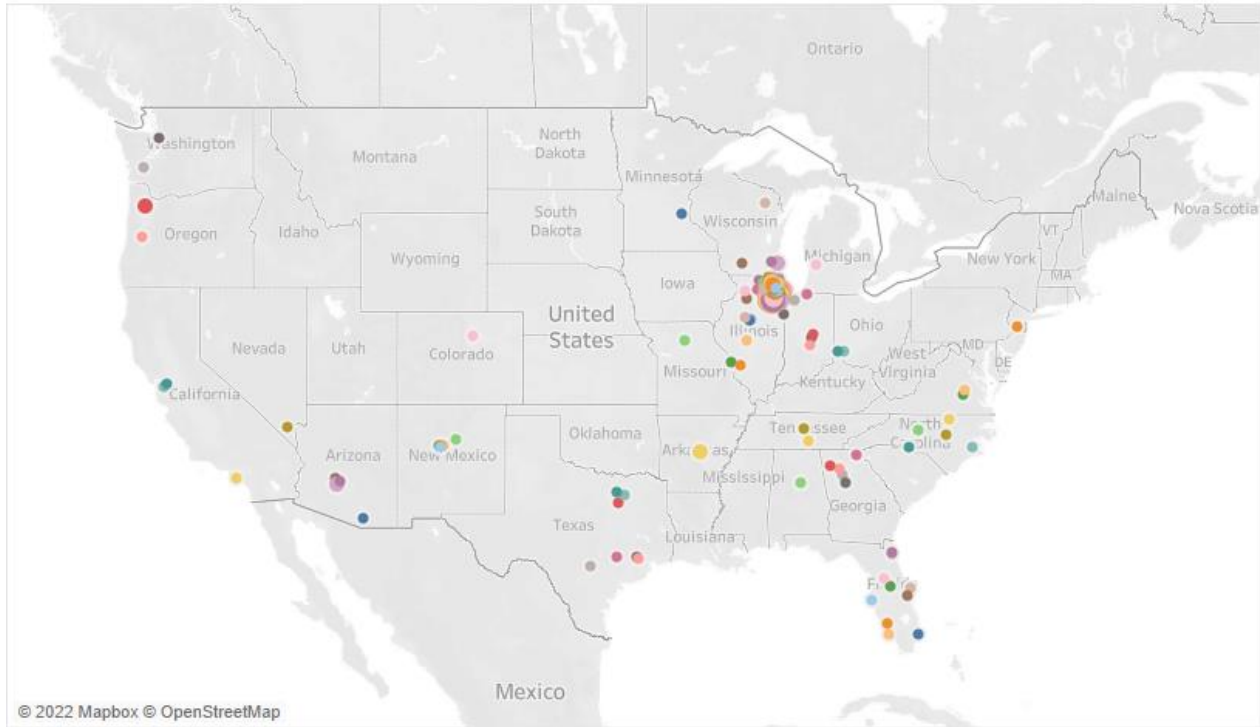
Most Recent Annual Salary	Frequency	Percent	Valid Percent	Cumulative Percent
Less than \$20,000	8	2.7	2.8	2.8
\$20,000 - \$39,999	14	4.7	4.9	7.7
\$40,000 - \$59,999	41	13.9	14.3	22.0
\$60,000 - \$79,999	47	15.9	16.4	38.5
\$80,000 - \$99,999	40	13.5	14.0	52.4
\$100,000 - \$119,999	28	9.5	9.8	62.2
\$120,000 - \$149,999	39	13.2	13.6	75.9
\$150,000 - 199,999	22	7.4	7.7	83.6
More than \$200,000	47	15.9	16.4	100.0
Total	286	96.6	100.0	
Missing	10	3.4		
Total	296	100.0		

Highest Level of Education Attained	Frequency	Percent	Valid Percent	Cumulative Percent
Other	4	1.4	1.4	1.4
Associate degree	1	0.3	0.3	1.7
Bachelor's degree	131	44.3	44.4	46.1
Master's degree	146	49.3	49.5	95.6
Professional degree	9	3	3.1	98.6
Doctorate degree	4	1.4	1.4	100
Total	295	99.7	100	
Missing	1	0.3		
Total	296	100		

Highest Education Attained in Family (excluding respondent)	Frequency	Percent	Valid Percent	Cumulative Percent
Other, please specify	6	2.0	2.0	2.0
One or more years of college credit, but no degree	14	4.7	4.7	6.8
Prefer not to answer	2	0.7	0.7	7.5
High school graduate, diploma or the equivalent (for example: GED)	57	19.3	19.3	26.8
Some college credit, but less than one year of earned college credit	19	6.4	6.4	33.2
Trade/technical/vocational training	9	3.0	3.1	36.3
Associate degree (for example: AA, AS)	14	4.7	4.7	41.0
Bachelor's degree (for example: BA, BS)	71	24.0	24.1	65.1
Master's degree (for example: MA, MS, MEng, MEd, MSW, MBA)	72	24.3	24.4	89.5
Professional degree (for example MD, DDS, DVM, LLB, JD)	21	7.1	7.1	96.6
Doctorate degree (for example PhD, EdD, DBA)	10	3.4	3.4	100.0
Total	295	99.7	100.0	
Missing	1	0.3		
Total	296	100.0		

Student-Athlete at Lewis	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	45	15.2	15.3	15.3
No	250	84.5	84.7	100
Total	295	99.7	100	
Missing	1	0.3		
Total	296	100		

Participant’s Self-Identified Primary Residence



Map based on Longitude (generated) and Latitude (generated). Color shows details about What is your current 5 digit zip code for your primary residence (if outside the U.S., please leave blank)? - 5 digit zip code. Size shows count of Additional Demographic Data. The view is filtered on What is your current 5 digit zip code for your primary residence (if outside the U.S., please leave blank)? - 5 digit zip code, which keeps 196 of 196 members.

Have you ever wanted to start your own business?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes - Launched	87	29.4	29.5	29.5
	Desired to Start	76	25.7	25.8	55.3
	No Desire to Start	58	19.6	19.7	74.9
	Never Considered	74	25.0	25.1	100.0
	Total	295	99.7	100.0	
Missing	System	1	0.3		
Total		296	100.0		

In answering that you did start your own business or expressed a strong desire to start your own business, how soon did that realization or aspiration come to you?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Before Enrolling at Lewis	40	13.5	26.7	26.7
	While a Lewis Student	18	6.1	12.0	38.7
	Within 5 year of graduating from Lewis	31	10.5	20.7	59.3
	Between 6 to 10 years of graduating from Lewis	19	6.4	12.7	72.0
	More than 11 years from graduating from Lewis	33	11.1	22.0	94.0
	Unsure	9	3.0	6.0	100.0
	Total	150	50.7	100.0	
Missing	System	146	49.3		
Total		296	100.0		

Have you ever wanted to start your own business?						
	FirstGen	Percent	Cumulative Percent	ContGen	Percent	Cumulative Percent
Yes-Launched	47	31.54%	31.54%	40	27.40%	27.40%
Desired to Start	37	24.83%	56.38%	39	26.71%	54.11%
No Desire to Start	32	21.48%	77.85%	26	17.81%	71.92%
Never Considered	33	22.15%	100.00%	41	28.08%	100.00%
	149			146		

Appendix I – Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
EO	262	1.00	5.00	3.31	0.68
RC-EOTRAIT	265	2.75	6.36	5.14	0.58
RC-RISK	264	2.17	8.00	5.70	0.93
SELFE	262	2.88	5.00	4.34	0.48
FAM	256	1.50	5.00	4.23	0.59
RCTURB	257	1.60	6.40	4.13	0.99
Valid N (listwise)	249				

		Correlations					
		EO	RC- EOTRAIT	RC- RISK	SELFE	FAM	RCTURB
EO	Pearson Correlation	1	.325**	.286**	.289**	.123	-.021
	Sig. (2-tailed)		<.001	<.001	<.001	.052	.741
	N	262	261	257	254	249	250
RC- EOTRAIT	Pearson Correlation	.325**	1	.205**	.424**	.174**	.052
	Sig. (2-tailed)	<.001		<.001	<.001	.006	.410
	N	261	265	261	258	252	253
RC-RISK	Pearson Correlation	.286**	.205**	1	.293**	.273**	.015
	Sig. (2-tailed)	<.001	<.001		<.001	<.001	.809
	N	257	261	264	261	255	256
SELFE	Pearson Correlation	.289**	.424**	.293**	1	.298**	.064
	Sig. (2-tailed)	<.001	<.001	<.001		<.001	.309
	N	254	258	261	262	256	257
FAM	Pearson Correlation	.123	.174**	.273**	.298**	1	.054
	Sig. (2-tailed)	.052	.006	<.001	<.001		.388
	N	249	252	255	256	256	256
RCTURB	Pearson Correlation	-.021	.052	.015	.064	.054	1
	Sig. (2-tailed)	.741	.410	.809	.309	.388	
	N	250	253	256	257	256	257

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

Appendix J – Hypothesis 1 Test Results

Descriptives

EO	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
FirstGen	138	3.34	0.71	0.06	3.22	3.46	1.00	5.00
ContGen	123	3.28	0.66	0.06	3.16	3.40	1.33	5.00
Total	261	3.31	0.69	0.04	3.23	3.40	1.00	5.00

ANOVA

EO	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.271	1	.271	.576	.448
Within Groups	121.945	259	.471		
Total	122.216	260			

Group Statistics

	FCGEN	N	Mean	Std. Deviation	Std. Error Mean
proactiveness	FirstGen	136	3.3603	.83819	.07187
	ContGen	122	3.4180	.84882	.07685
innovativeness	FirstGen	137	3.4781	.87630	.07487
	ContGen	123	3.3374	.82357	.07426
Risk-taking	FirstGen	137	3.1752	.87572	.07482
	ContGen	122	3.0738	.78380	.07096

Group Statistics

FCGEN		N	Mean	Std. Deviation	Std. Error Mean
proactiveness	FirstGen	136	3.36	0.84	0.07
	ContGen	122	3.42	0.85	0.08
innovativeness	FirstGen	137	3.48	0.88	0.07
	ContGen	123	3.34	0.82	0.07
risk-taking	FirstGen	137	3.18	0.88	0.07
	ContGen	122	3.07	0.78	0.07

Independent Samples Test

		Levene's Test for Equality of Variances		t	df	t-test for Equality of Means					
		F	Sig.			Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						One-Sided p	Two-Sided p			Lower	Upper
proactiveness	Equal variances assumed	0.32	0.57	-0.55	256.00	0.29	0.58	-0.06	0.11	-0.26	0.15
	Equal variances not assumed			-0.55	252.26	0.29	0.58	-0.06	0.11	-0.26	0.15
innovativeness	Equal variances assumed	0.00	0.99	1.33	258.00	0.09	0.18	0.14	0.11	-0.07	0.35
	Equal variances not assumed			1.33	257.45	0.09	0.18	0.14	0.11	-0.07	0.35
risk-taking	Equal variances assumed	1.11	0.29	0.98	257.00	0.16	0.33	0.10	0.10	-0.10	0.31
	Equal variances not assumed			0.98	256.99	0.16	0.33	0.10	0.10	-0.10	0.30

Descriptives

RC-EOTRAIT

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
FirstGen	139	5.15	0.60	0.05	5.05	5.25	2.75	6.33
ContGen	125	5.13	0.56	0.05	5.03	5.23	3.83	6.36
Total	264	5.14	0.58	0.04	5.07	5.21	2.75	6.36

ANOVA

RC-EOTRAIT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.041	1	.041	.123	.726
Within Groups	88.630	262	.338		
Total	88.671	263			

Appendix K – Hypothesis 2 Test Results

Descriptive Statistics

	Mean	Std. Deviation	N
EO	3.31	0.68	262
RC-RISK	5.70	0.93	264

Correlations

		EO	RC-RISK
EO	Pearson Correlation	1	.286**
	Sig. (2-tailed)		<.001
	N	262	257
RC-RISK	Pearson Correlation	.286**	1
	Sig. (2-tailed)	<.001	
	N	257	264

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

Appendix L—Hypothesis 3 Test Results

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
 Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 4
 Y : EO
 X : FCGEN
 M : RCRISK

Sample
 Size: 256

OUTCOME VARIABLE:
 RCRISK

Model Summary

R	R-sq	MSE	F	df1	df2	p
.03	.00	.81	.25	1.00	254.00	.62

Model

	coeff	se	t	p	LLCI	ULCI
constant	5.79	.17	33.10	.00	5.44	6.13
FCGEN	-.06	.11	-.50	.62	-.28	.17

Standardized coefficients

	coeff
FCGEN	-.06

Covariance matrix of regression parameter estimates:

	constant	FCGEN
constant	.03	-.02
FCGEN	-.02	.01

OUTCOME VARIABLE:
 EO

Model Summary

R	R-sq	MSE	F	df1	df2	p
.29	.08	.42	11.72	2.00	253.00	.00

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.21	.29	7.61	.00	1.64	2.79
FCGEN	-.08	.08	-1.04	.30	-.25	.08
RCRISK	.21	.05	4.69	.00	.12	.30

Standardized coefficients

	coeff
FCGEN	-.13
RCRISK	.28

Covariance matrix of regression parameter estimates:

	constant	FCGEN	RCRISK
constant	.08	-.01	-.01
FCGEN	-.01	.01	.00
RCRISK	-.01	.00	.00

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI	c'_ps
-.08	.08	-1.04	.30	-.25	.08	-.13

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
RCRISK	-.01	.03	-.06	.04

Partially standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
RCRISK	-.02	.04	-.09	.06

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

NOTE: Standardized coefficients for dichotomous or multicategorical X are in partially standardized form.

----- END MATRIX -----

Appendix M – Hypothesis 4 Test Results

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
 Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 1
 Y : EO
 X : FCGEN
 W : RCTURB

Sample
 Size: 249

OUTCOME VARIABLE:
 EO

Model Summary

R	R-sq	MSE	F	df1	df2	p
.13	.02	.44	1.31	3.00	245.00	.27

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.30	.04	78.21	.00	3.22	3.38
FCGEN	-.10	.08	-1.23	.22	-.27	.06
RCTURB	-.01	.04	-.33	.74	-.10	.07
Int_1	-.13	.09	-1.51	.13	-.30	.04

Product terms key:

Int_1 : FCGEN x RCTURB

Test(s) of highest order unconditional interaction(s):

R2-chng	F	df1	df2	p	
X*W	.01	2.28	1.00	245.00	.13

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
 95.0000

NOTE: The following variables were mean centered prior to analysis:
 RCTURB FCGEN

----- END MATRIX -----

Appendix N – Additional Exploratory Analyses

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
SELFE	FirstGen	138	4.34	0.50	0.04	4.25	4.42	2.88	5.00
	ContGen	122	4.34	0.45	0.04	4.26	4.42	3.13	5.00
	Total	260	4.34	0.48	0.03	4.28	4.40	2.88	5.00
FAM	FirstGen	135	4.21	0.67	0.06	4.09	4.32	1.50	5.00
	ContGen	119	4.26	0.49	0.04	4.17	4.34	2.42	5.00
	Total	254	4.23	0.59	0.04	4.16	4.30	1.50	5.00

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
SELFE	Between Groups	.003	1	.003	.014	.905
	Within Groups	58.761	258	.228		
	Total	58.765	259			
FAM	Between Groups	.147	1	.147	.422	.517
	Within Groups	87.724	252	.348		
	Total	87.871	253			