

THE IMPACT OF INFORMATIONAL INTERVIEWING ON OCCUPATIONAL
ENGAGEMENT AND CAREER DEVELOPMENT OF COLLEGE FRESHMEN

BY

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Daddy is done working now, so how about we go for a hike?

Abstract

Occupational engagement, a component of the trilateral model for adaptive career decision, is an important construct for the modern world of work where job change is the norm and career paths are nonlinear. Since institutions of higher education dedicate significant resources to facilitate the career development of their students, it is also important to develop and evaluate cost-effective career development interventions that reflect modern career development theory and the current economic climate. The present study had the following two general research questions: Does informational interviewing have a significant impact on the career development of first year college students (i.e. occupational engagement, career decision self-efficacy, career maturity)? and Does informational interviewing lead to greater life satisfaction, satisfaction with major, and generalized higher education gains? To address these two questions, 29 college students enrolled in a first-year orientation seminar were given the task of completing eight informational interviews over the course of the spring 2011 semester and blogging about their experience, as well as completing an online questionnaire assessing their career decision self-efficacy, occupational engagement, generalized higher education gains, life satisfaction, and academic major satisfaction. Their responses were then compared to a control group of students enrolled in the same course during the spring 2011 and summer 2011 semesters, who did not complete any informational interviews. While the intervention group showed greater gains on all dependent variables compared to the control group, the results were not statistically significant. An examination of the current research design and suggestions for future research are explored.

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Chapter I

Introduction

College students have three basic tasks related to work: declare a major, graduate in four years, and find a job. For their part, colleges and universities have dedicated substantial amounts of time, money, and human resources toward helping students successfully complete these tasks. Some examples include career and advising centers, orientation and career planning seminars, and specially commissioned retention task forces (e.g. Childress, 1998; Korschgen & Hageseth, 1997; McDaniels, Carter, Heinzen, Candrl, & Wieberg, 1994).

Over the past decade, accountability of higher education with respect to student career advancement has come to the forefront and has significantly impacted college and university policy, from the number and types of majors offered to money back guarantees for post graduation job success (Zernike, 2009). As tuition costs soar and the unemployment rate hovers around 10%, parents and students have become increasingly concerned with timely graduation and job placement (Bureau of Labor Statistics, 2009). To wit, there has been a shift in what students want from their college experience. In 1971, UCLA's survey of incoming freshman found that 37% of them thought it was essential or very important to be "very well-off financially," while 73% placed the same intensity of importance on "developing a meaningful philosophy of life." Conversely, the percentages were nearly perfectly reversed in 2009, when 78% identified wealth as their goal and 48% were after a meaningful philosophy of life (Zernike, 2009).

Before students can graduate on time and find gainful employment, they must pick a major and learn how to secure a job upon graduation. However, choosing a major is a

significant stumbling block for college students, and a source of significant anxiety (Gordon & Steele, 2003). Moreover, the correlation between academic major and career path is much weaker than in previous generations, and the average worker between the ages of 18 and 38 will change jobs an average of 10 times (BLS, 2009). Consequently, it is more important to help students be more comfortable and proficient in the process of career decision rather than to help them declare a particular major or find a job. Indeed, many experts contend that you can really get any job with any major (Asher, 2009).

The traditional model of career counseling is the matching model, which relies on rational thought to make decisions (Parsons, 1909). However, contemporary researchers argue that rational decision-making is flawed and often inappropriate for complex decisions (Bargh, 1990; Kahneman & Klein, 2009; Krieshok, 1998; Tversky & Kahneman, 1974), and that intuition is a critical tool for optimal decision-making (Krieshok, Black, & McKay, 2009). With the changing world of work and the increased understanding of decision making, Krieshok et al. (2009) argued for a trilateral model of adaptive career decision making: (a) occupational engagement, (b) rationality, and (c) intuition. According to this model, decision makers use behavioral experiences (i.e. occupational engagement; including informational interviewing, job shadowing, career fairs) to supply their fund of information about themselves and the world of work. Decision makers then draw upon this fund and apply that knowledge using both intuitive and rational decision-making processes. Krieshok posits that intuitive decision-making should play a significant role in vocational decisions, a stark departure from the rational decision-making historically promoted by traditional career theory (Savickas & Baker, 2005).

In recent years there has been some empirical support for the benefits of occupational engagement in its own right. For example, it has been shown to correlate significantly with several measures of being “better off” among college students (Cox, 2008). College students likely have more opportunities to be engaged and are constantly in the process of career decision more so than most other populations. Consequently, college students are one of the most important populations regarding the cultivation of occupational engagement.

Occupational engagement consists of behaviors that inform decision makers about themselves and/or the world of work (Krieshok et al., 2009). Within occupational engagement, the concern is for adaptive career decision (Krieshok et al., 2009). By having many different experiences, people create more relationships and have more knowledge to draw from in order to optimize their experience of life.

The informational interview is a primary example of occupational engagement. It provides a unique opportunity for individuals to fund their intuition with rich information about the world of work and their relationship with it. Moreover, it has the potential to increase career decision self-efficacy and the ability to capitalize on happenstance (Krumboltz, 2009). The purpose of an informational interview is to get information about a field of work from someone who has some first-hand knowledge. In addition to helping one learn about a particular career, the informational interview is a way to start building a network of contacts that will facilitate success in getting a job later on. This study was designed to increase student occupational engagement via informational interviews with faculty, upper-class students, and working professionals.

To that end, the present study sought to increase students’ occupational fund of

information, as well as increase their career decision self-efficacy via informational interviewing. The present study assessed the impact of occupational engagement via informational interviewing on traditional measures of career development (i.e. career decision self-efficacy and vocational identity), as well as some more recent markers of career development and academic satisfaction (i.e. occupational engagement and academic major satisfaction). This study measured the impact of informational interviewing on occupational engagement as measured by the Occupational Engagement Scale – Student (OES-S), a valid and reliable measure of the engagement construct for the college student population (Cox, 2008). As part of an orientation seminar, students completed a series of eight informational interviews over the course of a semester and wrote a reflective online blog chronicling each interview.

Overall the current project had the following two general research questions:

1. Does informational interviewing have a significant impact on the career development of first year college students (e.g. occupational engagement, career decision self-efficacy, career maturity)?
2. Does informational interviewing lead to greater life satisfaction, satisfaction with major, and generalized higher education gains?

Definition of Terms

- Occupational engagement: Occupational engagement is the foundation for accurate decision-making and is the theoretical lens through which this project was conceived. Krieshok et al. (2009, p. 284) describe it as, “Taking part in behaviors that contribute to the career decision-maker’s fund of information and

experience of the larger world, not just the world as processed when a career decision is imminent.”

- Informational interview: A conversation where one person seeks knowledge about something (e.g., occupation, major, living in Spain) from someone who has first-hand knowledge and experience.
- Vocational identity: “The integration and crystallization of an individual’s energy, aptitudes, and opportunities into a consistent sense of the uniqueness of self and fit with the vocational world” (Holland, 1997). Vondracek and Skorikov (1997, p. 322) offer this further description, “A representation of the vocational self as an active agent in the process of career development, including self-perceived vocational interests, values, abilities, self-efficacy beliefs, and aspirations.”
- Career decision self-efficacy: The individual's belief that he or she can successfully complete tasks necessary to making career decisions (Taylor & Betz, 1983). Career decision self-efficacy has been measured using the task domains of accurate self-appraisal, gathering occupational information, goal selection, planning, and problem solving.

Chapter II

Literature Review

This chapter is divided into four main sections designed to provide a firm foundation for the four pillars of the theoretical framework upon which the current project is built: (1) desired outcomes for college students, (2) occupational engagement, (3) career decision self-efficacy, and (4) career-decision making. At the end of this chapter are the six research hypotheses the current project was designed to test.

Desired Outcomes for College Students

Several researchers have established expansive articulations of desired student experiences. Kuh, Kinzie, Buckley, Bridges, & Hayek (2007) took a broad stance toward student success saying it consists of, “academic achievement, engagement in educationally purposeful activities, satisfaction, acquisition of desired knowledge, skills, and competencies, persistence, and attainment of educational objectives” (p. vii). Tinto adds that the social and intellectual development of students should be the goal of institutions of higher education (1975, 1987). Furthermore, when an institution reflects a genuine concern for students' social and intellectual development, retention of those students in that institution should follow. Thus, according to Tinto, retention is not the goal of the institution, but rather a desired outcome (1987).

Chickering and Reisser (1993) presented their own model of successful college student development, using what they call vectors to describe the direction and inertia of development. The seven general vectors that college students move through during the course of successful development are: (1) developing competence, (2) managing emotions, (3) moving through autonomy toward interdependence, (4) developing mature

interpersonal relationships, (5) establishing identity, (6) developing purpose, and (7) developing integrity. These characteristics of student success demonstrate the breadth of possible student outcomes that can be assessed, but offer little as to methodology for measuring them.

Research has demonstrated the importance of student experiences and student engagement on outcomes (Pascarella & Terenzini, 1991, 2005). Utilizing this research, Pace established several versions of the College Student Experience Questionnaire (CSEQ), a measure that principally assesses student engagement, the college environment, and student outcomes (Geisinger, Miller, & Miller, 2008). Colleges have implemented this measure to assess how and in what areas their students are engaged, the strengths and weaknesses of the college environment, and how student engagement and college environment are affecting student gains.

Academic Major Satisfaction

Although it is logical to assess job satisfaction when evaluating career theories or interventions among working adults, for college students it is quite distal, as it may be years until a career choice is implemented. A more proximal index of the efficacy of career decisions or interventions is satisfaction with one's field of study (i.e. major satisfaction). For students, major satisfaction is analogous to job satisfaction because, like work environments, academic environments vary with respect to reinforcement patterns, opportunities to use various skills and interests, and opportunities to implement one's self-concept (Allen, 1996). For research and practice with college students, major satisfaction represents an important construct in its own right, as it is associated with academic performance (Graunke & Woosley, 2005) and certainty of career plans (Ware

& Pogge, 1980). Major satisfaction also has potential as a proxy for later job satisfaction, however, because many degree programs share characteristics with their respective occupational environments (Astin, 1965).

Graunke and Woosley (2005) looked at factors related to academic success and persistence in college sophomores and found a strong correlation between certainty of academic major and academic success. Consequently, they recommend that colleges provide programs or courses that would help students discover more about their academic or career interests.

Occupational Engagement

Occupational engagement has been shown to correlate significantly with several measures of being “better off” among college students (Cox, 2008). Occupational engagement consists of behaviors that inform decision-makers about themselves and/or the world of work (Krieshok et al., 2009). Within occupational engagement, the concern is for adaptive career decision (Krieshok et al., 2009). By having many different experiences, people create more relationships and have more knowledge to draw from in order to make better decisions.

Occupational Engagement Interventions

After much of the initial work on theory development and assessment of occupational engagement, two research projects were conducted to assess if specific interventions were able to increase students’ levels of occupational engagement (Cox, Rasmussen, & Conrad, 2007). The first of those projects was done within a larger project that taught high risk, high potential adolescents about entrepreneurship, while the second study was independent of other projects and was designed to teach first year college

students to be more occupationally engaged. Although the former yielded positive results, it was difficult to distinguish what aspects of the program caused increased engagement (Krieshok & Conrad, 2008).

The latter study was conducted with students enrolled in a college orientation course (Cox, Rasmussen, Jacobson, Wells, Rettew, & Sirridge, August, 2006). Cox et al. attempted to increase occupational engagement in college freshman via a three-part intervention (2006). In the first session, students learned about occupational engagement and its value. In the second session, students were asked to e-mail a professor (a form of engagement) in a field of interest. In the final session, students wrote stories about past and future occupationally engaging experiences. Pre and post-tests were given to those in both the engagement and non-engagement control group. The engagement group had significantly increased scores on the Occupational Engagement Scale-College (OES-C) ($d=.24$), while the control group did not change significantly (Cox et al., 2006). The authors concluded that the intervention likely increased students' occupational engagement and that there is value in administering interventions to increase occupational engagement.

The above research on occupational engagement lends strong support that such a construct exists, is measurable, and can be altered by outside influences. This novel approach to vocational psychology, with empirical and theoretical support, has a need for further study and development. Although occupational engagement is new to vocational psychology, similar constructs have been established and studied in the realm of student success. The work of Kuh and his colleagues has led to the more global construct of student engagement (Kuh et al., 2007). In the following section, a brief comparison of

student engagement and occupational engagement is presented. Due to the constructs' similarities, it is important to delineate their overlap as well as differences.

Student Engagement

Student engagement is two-pronged, consisting of (a) the effort students put towards educationally purposeful activities and (b) the environment that regulates both students' participation in certain experiences, and achievement of desired outcomes (Kuh et al., 2007). The higher education literature repeatedly cites student engagement as an integral component for student success. Chickering and Gamson (1987) identified seven activities that are most important to student engagement: (a) student-faculty contact, (b) cooperation among students, (c) active learning, (d) prompt feedback from teachers, (e) time on task, (f) high expectations, and (g) respect for diverse talents and ways of learning. Also, specific components of the college environment such as smaller size (Pascarella & Terenzini, 1991), greater student body diversity (Hurtado, Dey, Gurin, & Gurin, 2003; Pascarella, 2001), overt and enacted school missions directed towards the success of students (Kezar & Kinzie, 2006), extensive advising and orientation programs (Forest, 1985), as well as living on campus (Astin, 1993; & Chickering & Reisser, 1993), have been found to facilitate student engagement (Pascarella & Terenzini, 1991). Researchers have argued that student behavior and school environment are inextricably intertwined insofar as certain opportunities must be provided in the environment for students to participate, and therefore be engaged (Kuh et al. 2007).

Student engagement and occupational engagement are alike in ways, and yet maintain their distinct identities (Krieshok, et al., 2008; Kuh et al., 2007). Structurally, student engagement has both behavioral and environmental components. Engaging

behaviors are those that are educationally purposeful, and engaging environments facilitate those behaviors (Kuh et al.). Occupational engagement, contrastingly, consists of behaviors that inform decision-makers about themselves and/or the world of work. Furthermore, unlike student engagement, occupational engagement is not concerned with the role of the environment in facilitating behavior (Krieshok et al.). Desired outcomes for the two constructs offer another point of contrast. Within student engagement, the concern is for academic success (Kuh et al.), but within occupational engagement, the concern is for an adaptive career decision process (Krieshok et al.). Despite these pointed differences, both constructs place value on behaviors that expose students to different experiences. More foundationally, they both offer the same fundamental message; by having many different experiences, people create more relationships and have more knowledge to draw from to optimize their experience of life.

Trilateral Model of Adaptive Career Decision

The trilateral model of adaptive career decision was developed in the context of contemporary research highlighting the pitfalls of traditional decision-making, which relied to heavily on rational thought (Bargh, 1990; Kahneman & Klein, 2009; Krieshok, 1998; Tversky & Kahneman, 1974). In addition, the traditional approach to career counseling, the matching model, relied strictly on rational thought to make career decisions (Parsons, 1909). Contemporary researchers began to argue that rational decision-making is flawed and often inappropriate for complex decisions (Krieshok, 1998), and that intuition is integral to optimal decision-making (Krieshok, et al., 2009). With the changing world of work (from stable long-term careers to changing jobs every few years) and the increased understanding of decision-making, Krieshok et al. (2009)

argued for the trilateral model of adaptive career decision making: (a) occupational engagement, (b) rationality, and (c) intuition.

According to the authors, all three parts are necessary for decision-makers to arrive at optimal career decisions (Krieshok et al., 2009). Engagement is the foundational component of the model, upon which both intuition and reason rely. Engagement is defined as having experiences (therefore is behavioral) that increase understanding about the self and the world of work as well as expand options related to current and future work. Both understanding and options are generated via activities that contribute to the career decision-maker's fund of information. Relying on that fund, the decision-maker has the information from which to draw in order to make optimal decisions using the remaining two decision-making components; intuition and reason. Examples of occupational engagement include part time jobs, job shadows, involvement in organizations, internships, and talking with people about what they do (i.e. informational interviewing). Krieshok et al. (2009) argued that vocational psychologists should be teaching people how to have more of these types of experiences (rather than merely telling them to have them) in order to increase their fund of information from which more accurate career decisions may be made, as it is only when a significant fund of information is available that these two components (intuition and reason) can be used to make optimal decisions. Thus, vocational decision-makers, especially college students, should focus more on having both breadth and depth of experience.

Happenstance Learning Theory

In addition to intentionally funding one's intuitive bank of information about careers, occupational engagement activities can also increase the likelihood of

serendipitous career development events. Krumboltz (2009) offers another theory promoting the many benefits of experientially engaging with the world of work. His happenstance learning theory explores how chance events inevitably play a major role in everyone's career, and how events attributed to chance are often indirect outcomes of a person's active behavior (Krumboltz, 2009). Krumboltz proposes that career counselors can actually teach clients how to act such that they potentiate a higher frequency of these chance events and are better prepared to capitalize on them (2009). Indeed, many people agree that "chance," "luck," or "happenstance" has played an important role in their careers (Betsworth & Hansen, 1996). Yet it is rare in the traditional world of career counseling for someone to discuss unexpected chance events with a client (Krumboltz, 2009). The current project sought to capitalize on happenstance learning theory by teaching students how to experientially engage with the world of work via informational interviews. Through these interviews, it is possible that students could have stumbled upon internship opportunities, networking contacts, or even entire career fields they had never realized existed.

Mitchell, Levin, and Krumboltz contend that rational planning alone would serve its purpose if careers were to follow a simple, straightforward, and logical path (1999). However, the modern career follows a winding, disjointed path fraught with job loss, lateral movement, and drastic career changes (Asher, 2004). Even if that were not the case, in light of Krieshok et al.'s (2009) argument about the dangers of relying on our oft fallible rational decision-making processes, it seems that even in a world of simple, straightforward, and logical career paths, rational thought processes alone would still lead to poor decisions.

Self-Efficacy

Self-efficacy comes into play in two main areas of the current study, as part of the framework for developing the intervention, and in a domain specific form as one of the primary dependent variables (career decision self-efficacy). This section is meant as a bridge from self-efficacy as a general construct to career decision self-efficacy. As defined by Bandura (1977), self-efficacy can be thought of as beliefs about one's ability to successfully perform specific tasks indicative of certain behaviors. Bandura hypothesized that the strength of each efficacy expectation would determine whether that behavior would occur, how much effort would be expended, and how long that behavior would be maintained, particularly in the face of adversity. Later, Bandura (1986) recognized that an individual's level of self-efficacy interacted with other motivational aspects of the person's life, as well as personal capabilities and performance accomplishments. Low self-efficacy regarding a task/behavior leads to avoidance of that behavior, while high self-efficacy leads to initiating and maintaining the task/behavior.

Since strong self-efficacy expectations are crucial to the initiation and persistence of performance, two researchers (Hackett & Betz) recognized that the concept of self-efficacy might also be applicable to initiating behaviors to overcome career indecision. The initial application to career indecision was in the study of the career development of women (Hackett & Betz, 1981). The study resulted in the development of a model postulating that women lack strong self-efficacy regarding many career-related behaviors, particularly regarding male-dominated careers, and thus fail to realize their capabilities in career pursuits. Since Hackett & Betz (1981), career decision self-efficacy has been one of the most studied self-efficacy variables in vocational psychology (Chung, 2002).

Career Decision Self-Efficacy

Career decision self-efficacy, a domain specific form of self-efficacy, is a core component of the current study's theoretical framework. One of the topics in career counseling and development receiving substantial attention in the literature is the application of Bandura's (1977, 1982, 1986) self-efficacy theory to career decision. In career decision, low self-efficacy expectations are hypothesized to lead to avoidance of tasks and behaviors requisite for making good career decisions, whereas high self-efficacy expectations likely increase the frequency of behaviors and engagement in such tasks (Taylor & Betz, 1983). The current study used Bandura's self-efficacy model to build career decision self-efficacy through informational interviewing. In addition, the current study attempted to build participants' domain specific self-efficacy regarding informational interviewing.

Career self-efficacy identifies how students perceive their ability to perform vocationally relevant tasks in the educational setting (Betz & Hackett, 1981; Hackett & Betz, 1981). Thus, research studies suggest a relationship between career planning and decision-making, and students' decisions to persist in or depart from their institutions. However, this relationship has not been established within a theoretical framework such as the Tinto (1975, 1987) model of persistence.

Taylor and Pompa (1990) investigated the meaningfulness of the Career Decision Self-Efficacy (CDSE) scale as a more global measure of career decision self-efficacy. Multiple regression analysis revealed that five independent variables accounted for 29% of the variance in vocational indecision: career decision self-efficacy, career salience, locus of control, occupational self-efficacy, and range of career options. However, only

career decision self-efficacy made a significant contribution to the prediction of vocational indecision.

Super's Life Span, Life Space Theory of Career Development

This section offers further context and support for the use of informational interviewing as a career development intervention, as well as for why vocational identity was chosen as a dependent variable for the current study. The work of Super and his colleagues changed the focus of career choice from "that of a static point-in-time event to that of a dynamic process where career development was viewed as an evolving process of life" (Patton & McMahon, 2006, p. 53). Additionally, Super acknowledged that many factors influence career development such as social learning experiences, personality development, and one's needs, values, and abilities.

There are several key constructs included in Super's theory that serve as a foundation for the career development process, including vocational self-concept and career maturity. Vocational self-concept is advanced during the growth stage as individuals are exposed to occupations through family, school, community, and the media, among other sources. Through these experiences, young people develop a sense of autonomy and industry, begin to develop work-related skills and habits, and identify relevant role models, all the while developing a better understanding of their own interests along with a burgeoning awareness of their abilities (Patton & McMahon, 2006; Super, Savickas, & Super, 1996).

During the exploratory stage, individuals engage in experiences that aid in developing their vocational identity by investigating careers, engaging in educational training and apprenticeships, and other work-related experiences. They learn about

themselves, their interests, and abilities, furthering the development of their self-concepts. According to Super (1957), individuals apply what they learn through the exploratory process by matching their interests and by applying their self-concepts to both work and life roles.

According to Savickas and Super (1993), career-relevant concepts develop in childhood, strengthen in adolescence, and function as determinants of adolescent career maturity. Exploration typically begins during adolescence and lasts into young adulthood (14 to 24 years of age). Typically, individuals within this age range seek opportunities to explore careers through education and work experiences. These endeavors help them to identify their career-related desires and options, which further the development of vocational identity (Patton & McMahon, 2006) or vocational self-concept. Vocational identity has been defined by Super as, "The constellation of self attributes considered by the individual to be vocationally relevant, whether or not they have been translated into a vocational preference" (1963, p. 20).

Research efforts have established links between general identity and vocational identity development. Moreover, these links reveal that the ties between general identity and vocational identity development aid in career decision. For example, Gushue, Scanlan, Pantzer, and Clarke (2006) examined the career development of African American students and found that higher levels of career decision self-efficacy were related to a more differentiated vocational self-concept and more engagement in career exploration. In a similar study with Latino students, Gushue, Clarke, Pantzer, and Scanlan (2006) found that students with higher levels of career decision self-efficacy possessed a more differentiated identity and were more engaged in the career exploration

process. Shoffner and Newsome (2001) conducted a study with gifted adolescent females and found that vocational exploration and commitment contributed strongly to the identity development of this population. These studies reveal the influence of exploration on vocational identity development, demonstrating that engagement in exploratory activities enhances the career development process.

Essential Components of Effective Career Interventions

The current study involved creating and evaluating the impact of a career development intervention. Consequently, a review of effective career intervention literature has been included here, along with a description of which of these effective components can be traced to the current intervention.

A meta-analysis by Brown and Krane (2000) examined the components of a large collection of career counseling research studies and found significant differences in effectiveness of interventions that include certain critical ingredients. Examining the components of 62 career intervention studies, 18 components were identified, from card-sorts to computerized systems (Brown et al., 2003). By comparing the effectiveness of these 62 studies based on the components used in the intervention, five components were found to make a significant contribution to the effectiveness of the intervention: (1) allow clients to clarify career and life goals in writing; (2) provide clients with individualized interpretations and feedback (e.g. on test results); (3) provide current information on the risks and rewards of selected occupations and career fields; (4) include study models and mentors who demonstrate effective career behavior; and (5) assist in developing support networks for pursuing career aspirations (Brown & Krane, 2000).

Betz (2006) added self-efficacy as an essential component for successful career interventions. Specifically, Betz posited that the most effective interventions were those which incorporated Bandura's (1982, 1986, 1997) four sources of self-efficacy: mastery experience, vicarious experience, social persuasion, and physiological and affective states (emotional arousal). Sullivan and Mahalik (2000) examined a career intervention that did just that, studying a career workshop for women that incorporated the four sources of self-efficacy. They found that by the end of the 6-week intervention, women had improved in their CDSE. Therefore, it seems likely that to increase CDSE, a career intervention should provide experiences that focus on addressing the four sources of self-efficacy, specifically targeted toward one's belief in the ability to make decisions or conduct tasks related to prospective careers (Betz & Voyten, 1997).

The current intervention draws on mastery experiences and vicarious experiences to increase career decision self-efficacy and informational interviewing self-efficacy in first year college students. The process of conducting the eight informational interviews was designed as a mastery experience. This experience began with a lesson on how to conduct an informational interview, progressed to a practice interview with a coach, and then went on to the remaining seven interviews. Along the way, participants reflected on their experiences through their online blogs, shared their experiences in class discussions, and exchanged feedback with classmates. Discussing their experiences in class with peers was also a form of vicarious experience, where they got to learn about other careers and other informational interviewing techniques. Student participants shared things such as what questions worked best, suggestions for potential interviewees to contact, what to wear for interviews, and how to most effectively word interview requests.

Research on Undecided Students

This section was designed to place the purpose of the current intervention into the context of higher education student development (i.e. why do the current study). It begins with relevant research on undecided college students and leads into the research hypotheses of the current study.

Helping students declare a major is an ever-present, high priority agenda item for student success divisions at higher education institutions (Korschgen & Hageseth, 1997). Likewise, students place significant emphasis on the major choice process. One meta-analysis cited evidence to support the idea that the most frequently identified life regrets for Americans involve their educational choices (Beggs, Bantham, & Taylor, 2008). Moreover, approximately 18% of all college-bound first year students have not fully decided upon a major (Gordon & Steele, 2003).

Traditionally, career development programs at colleges and universities have targeted undeclared majors as the only beneficiaries. However, research indicates that declared and undeclared majors both are low on measures of career decidedness and involvement in career development activities (Gordon & Steele, 2003; Kelly & Pulver, 2003; Orndorff & Herr, 1996).

The intervention utilized in this study was designed to simultaneously increase occupational engagement and career decision self-efficacy through informational interviewing. Previous research has demonstrated a significant correlation between occupational engagement and being “better off” (Cox, 2008), as well as between career decision self-efficacy and academic performance and persistence (Lent, Brown, & Larkin, 1984, 1986, 1987; Brown, Lent, & Larkin, 1989; Lent, Larkin, & Brown, 1989).

Consequently, students in the intervention condition could experience more positive outcomes as a result of their participation.

All participants could improve on all outcomes as a result of the natural development that occurs over the course of a semester. However, students in the intervention condition were expected to show a significantly greater increase on all dependent variables due to their informational interview experience. The following were the research hypotheses for this study:

H1: Career decision self-efficacy – Participation in the intervention condition will be associated with an increase in career decision self-efficacy, as measured by the Career Decision Self-Efficacy Scale – Short Form (CDSE-SF), from pretest to posttest, while controlling for theoretically relevant variables. Moreover, this increase will be significantly greater, on average, for participants in the intervention group than those in the control group.

H2: Vocational identity – Participation in the intervention condition will be associated with an increase in vocational identity, as measured by My Vocational Situation (MVS), from pretest to posttest, while controlling for theoretically relevant variables. Moreover, this increase will be significantly greater, on average, for participants in the intervention group than those in the control group.

H3: Occupational engagement – Participation in the intervention condition will be associated with an increase in occupational engagement, as measured by the Occupational Engagement Scale – Student (OES-S), from pretest to posttest, while controlling for theoretically relevant variables. Moreover, this increase will be

significantly greater, on average, for participants in the intervention group than those in the control group.

H4: Estimate of gains – Participation in the intervention condition will be associated with an increase in students’ estimates of gains in general education and practical and vocational competence as measured by the Estimate of Gains Scale (EOG), from pretest to posttest, while controlling for theoretically relevant variables. Moreover, this increase will be significantly greater, on average, for participants in the intervention group than those in the control group.

H5: Academic major satisfaction – Participation in the intervention condition will be associated with an increase in students’ academic major satisfaction as measured by the Academic Major Satisfaction Scale (AMSS), from pretest to posttest, while controlling for theoretically relevant variables. Moreover, this increase will be significantly greater, on average, for participants in the intervention group than those in the control group.

H6: Life satisfaction – Participation in the intervention condition will be associated with an increase in students’ reported level life satisfaction as measured by the Satisfaction With Life Scale (SWLS), from pretest to posttest, while controlling for theoretically relevant variables. Moreover, this increase will be significantly greater, on average, for participants in the intervention group than those in the control group.

Chapter III

Method

The current project had the following two general research questions: 1) Does informational interviewing have a significant impact on the career development of first year college students (e.g. occupational engagement, career decision self-efficacy, career maturity); and 2) Does informational interviewing lead to greater life satisfaction, satisfaction with major, and generalized higher education gains? This section includes discussions of the participants, measures, procedures, and data analyses related to the investigation of the above research questions.

Design

The current study used a quasi-experimental design. There was a treatment and a control group, but there was no random selection or random assignment to condition. Classes were selected according to instructor permission and were recruited at the class level. A major advantage of this design is that it involves intact groups (i.e., keeps the participants in natural settings), thus fostering a higher degree of external validity. A limitation of this design is the lack of random assignment to groups, which decreases the internal validity of the study and opens up the results to error resulting from unequal groups at pretest. Overall, however, the current design was the most practical, and practicality is a key component when assessing the feasibility of a given intervention. Randomly assigning students to take a particular course at a particular time would have been nearly impossible, and if accomplished would surely irritate the participants, thereby affecting the external and internal validity of the study. The current quasi-

experimental design erred on the side of external validity, such that any results could be more readily incorporated into real world practices.

Participants

Participants were 69 college students (29 in the intervention group and 40 in the control group) enrolled in a first-year orientation seminar at the University of Kansas. All students had to have completed fewer than 30 credit hours to enroll in the course. There were five sections in the spring 2011 semester (three intervention and two control) and one section in the summer 2011 semester (control). The spring semester sections were each taught by a graduate student in the School of Education at KU. Three of the instructors were graduate students in the counseling psychology program (two doctoral and one master's level), and the other was a doctoral student in the school psychology program at KU. The summer section was taught by the learning services coordinator for the athletic department at KU. This researcher recruited the summer section as an additional control group given the low survey completion rate by control participants. These 29 additional control participants were enrolled in PRE 101 for the summer 2011 term. All students in this section were student athletes at KU.

The University of Kansas has approximately 30,000 graduate and undergraduate students as well as approximately 2,450 faculty (KU At-A-Glance, retrieved June 13, 2011). Approximately 70% of the students are considered in-state, 12% are considered multicultural, and 5% are considered international students. The retention rate for freshman is 82.4% and incoming undergraduates have an average ACT score of 24.7.

Participants in this study ranged in age from 17 to 25, with a mean of 18.51 (SD = 1.12, n=61). Overall, there were 46 men and 15 women, with 9 participants not reporting

any demographic information. While 30% reported being first generation college students (n=21), 51% of participants reported at least a bachelor's degree for their mother and 64% for their father. The majority of participants identified as either White or African American (47.1% and 31.4% respectively), while the rest identified as Native American (4.3%), Asian, Asian American or Pacific Islander (4.3%), or multiracial (5.7%). Participants' reported high school GPA ranged from 2.20 to 4.00 with a mean of 3.31 (SD = 0.43), and their reported college GPA ranged from 0.50 to 4.00 with a mean of 2.52 (SD = 1.00). For those who reported an ACT score (n=44), the range was from 14 to 29 with a mean of 22.2 (SD=3.78). Reported SAT scores ranged from 540 to 2400 with a mean of 1426.83 (SD = 444.91). The number of college credit hours completed ranged from 0 to 45 with a mean of 10.40 (SD=9.49), with 96.7% of students having completed 30 or fewer credit hours upon beginning this study.

Measures

Demographic Questionnaire. The demographic questionnaire consisted of a number of items relevant to career development (see Appendix A). Specific demographics obtained were (a) age, (b) gender, (c) college major, (d) status as a first generation college student, (e) year in school, (f) parents' level of education, (g) race/ethnicity, (h) ACT/SAT score, (i) high school GPA, (j) college GPA, and (k) number of credit hours completed. The demographic questionnaire was administered at pretest only.

Vocational Identity Scale of My Vocational Situation (MVS; Holland et al., 1980). The Vocational Identity Scale (Appendix B) measures the degree of possession of a clear and stable picture of one's goals, interests, personality, and talents (Holland, Daiger, &

Power, 1980). Participants were administered the MVS at both assessment points. The scale consists of 18 true-false items and internal consistency is reportedly near .80. The present sample's internal consistency for the VI Scale was .86. The measure has been shown to correlate positively with conscientiousness and negatively with neuroticism, both constructs important to vocational decision-making. Vocational Identity has also been shown to correlate positively with career decision self-efficacy and it has been suggested that it is partially the result of being occupationally engaged (Rasmussen et al., 2007).

Career Decision Self-Efficacy Scale-Short Form (CDSE-SF; Betz, Klein, & Taylor, 1996). Gains in career decision were assessed using the CDSE-SF (Betz et al., 1996), which measures subjective self-efficacy perceptions with regard to career decision. Participants were administered the CDSE-SF (Appendix C) at both assessment points. The CDSE-SF is based on the original CDSE (Taylor & Betz, 1983), a 50-item measure of the same construct. The CDSE consists of five 10-item subscales assessing career choice competencies in the areas of goal selection, gathering occupational information, problem-solving, planning, and self-appraisal. Respondents use a 10-point Likert scale, ranging from No Confidence (0) to Complete Confidence (5), to indicate their perceived efficacy in successfully completing the tasks. Taylor and Betz (1983) reported an internal consistency estimate of $\alpha = .97$. Taylor and Pompa (1990) found the CDSE was significantly related to measures of vocational indecision ($r = -.51$), vocational decidedness ($r = .46$), occupational self-efficacy ($r = .44$), and locus of control ($r = -.30$).

The CDSE-SF contains 25 items that are responded to using a 5-point scale (No Confidence (0) to Complete Confidence (9)) (see Appendix B). Average total scores are calculated with higher scores indicating higher level of confidence. Internal consistency of the CDSE-SF has been reported from .94 (Betz et al., 1996) to .97 (Gloria & Hird, 1999). Internal consistency for the present sample was .91. Test-retest reliability of the original CDSE was .83 (Luzzo, 1993). Construction of test items was based on Crites' (1978) five dimensions of career-choice competencies. Also, the CDSE-SF had moderate correlations (ranging from .31 to .68) with career indecision and vocational identity measures (Betz, 2006).

Occupational Engagement Scale – Student (OES-S; Cox, 2008). Participants were administered the 14-item OES-S questionnaire (see Appendix D) at both assessment points. The OES-S is a single scale measure of occupational engagement. Conceptually, the OES-S (and the construct of occupational engagement) consist of items that reflect enrichment and exploration. Black (2006) established the Occupational Engagement Scale – College (OES-C), a 24-item, face valid measure designed to assess levels of occupational engagement. He found a general factor of Occupational Engagement as well as four other factors (Networking, Attunement, Flexibility, and Enrichment), but Black had concerns about the measure. For example, Black had expected five subscales to emerge (Networking, Attunement, Flexibility, Enrichment, and Exploration). However, factor analysis did not support the fifth subscale, Exploration. He also noted that participants generally scored high overall, thus yielding insufficient variability. Finally, items did not load on an Exploration factor, contrary to Black's prediction.

Cox (2008) developed the OES-S in an attempt to improve on Black's OES-C

(2006). Cox took items from Black's original pool of items and other items generated by experts on the topic to tap occupational engagement, resulting in 57 items (2008). He then administered those 57 items to 311 college students. The final OES-S contains 14-items assessing a students' level of occupational engagement. To score the measure, each item response is coded from 0-4 and then summed, resulting in a range of possible total scores from 0-56. A higher score indicates greater occupational engagement and a lower score less. Data from the 311 students who took the measure yielded a mean score of 32.53 and a standard deviation of 9.47 (Cox, 2008). The internal reliability for the current sample was .85.

Estimate of Gains Scale from the College Student Experience Questionnaire - (CSEQ; Gonyea et al., 2003). The CSEQ is a face-valid measure designed to assess the experiences of college students in three major areas: a) college activities, b) the college environment, and c) estimate of gains (Gonyea et al., 2003). For this project only the Estimate of Gains Scale (EOG) was used (See Appendix E). Participants were administered the EOG at both assessment points. The scale assesses how much progress students believe they have made on 25 goals of higher education, and is broken into five subscales: (a) personal/social development, (b) science and technology, (c) general education, (d) vocational preparation, and (e) intellectual skills. Respondents indicate their degree of gains from 1 (*very much*) to 4 (*very little*).

The Estimate of Gains Scale was chosen for several reasons. Primarily, it broadly assesses being "better-off" in ways relevant to college students (Gonyea et al., 2003). Also, there has been a tremendous body of work regarding the creation and continued improvement of the CSEQ. The fourth edition of the measure alone has been given to

over 100,000 students at more than 200 institutions. It is a psychometrically sound instrument that has been repeatedly validated (e.g. correlations with achievement test scores; Pike, 1995) as a measure that assesses college students' gains. The internal reliability for the current sample was .91.

Academic Major Satisfaction Scale (AMSS; Nauta, 2007). Participants were administered the AMSS at both assessment points. The AMSS is a unidimensional measure of satisfaction with one's college major, consisting of six Likert-scale items ranging from 1 to 5 (see Appendix F). It has excellent internal consistency at .94. The current sample had an internal consistency of .91. The AMSS has a significant positive correlation with GPA ($r = 0.35$) and career decision self-efficacy (CDSE-SF, $r = 0.45$), and has a negative association with career-choice anxiety and generalized indecisiveness (Nauta, 2007). Moreover, the AMSS successfully distinguished between students who persisted in their majors over time versus those who did not.

Satisfaction with Life Scale (SWLS; Pavot & Diener, 1993). The Satisfaction With Life Scale (see Appendix G) measures a general sense of life satisfaction (Pavot & Diener, 1993). It is a five-item self-report measure where respondents indicate 1 (*strongly disagree with the statement*) to 7 (*strongly agree with the statement*). Answers are summed and the higher the total score, the greater the level of satisfaction. The SWLS was administered to participants at both assessment points. The measure's internal consistency has been reported as ranging from .79 to .89. The internal consistency for the present sample was .84.

The SWLS has been shown to be negatively correlated with several measures of distress such as the Beck Depression Inventory and a measure of negative affect.

Conversely, it has been positively correlated with measures assessing desirable characteristics such as health, marital status, and several measures of subjective well-being and life satisfaction (Pavot & Diener, 1993). The SWLS is valuable in the present research project because it broadly assesses positive life experiences.

Procedures

The same informed consent and assessment procedures were used for the spring and summer semesters. On the first day of class, informed consent to participate in the study was obtained from all students. Those who chose not to participate were excused from taking the pre- and post-test measures. However, those in the three intervention classes were still required to complete the informational interviews and blogs, as they were part of their grade for the course (approximately 30%). All participants also completed a demographic sheet as part of the pretest. All participants for whom informed consent was obtained were then e-mailed a link to the pretest questionnaires using Qualtrics online survey technology. Participants were asked to complete the questionnaires within one week of receiving the e-mail. Follow-up e-mails were sent after three days to all those who had not completed the pretest battery. At the end of the semester (the second week of May 2011), all participants were sent another e-mail asking them to complete the same set of questionnaires online. As with the pretest, each participant was asked to complete the battery within one week of receiving the e-mail and reminders were sent out after three days from the initial e-mail. To maximize participation, this researcher also personally visited each class during the final week of the semester to remind students about the survey and give them a hard copy of the

invitation e-mail. At the end of each assessment point, all data were downloaded from Qualtrics into an SPSS data file and analyzed using PASW (SPSS) 18.0.

Intervention Group

During the first week of class, this researcher visited all three intervention classes and explained the informational interviewing assignment. Supplemental handouts were provided to address how to conduct an informational interview, as well as the guidelines for this particular assignment (see Appendix H). This presentation consisted of a step by step overview of what an informational interview is, how to set one up, sample questions to ask, etc. They were also given a set of guidelines for whom to interview (one person must be an advanced student in a major of interest, one person must be an assigned informational interview coach, one person must be a faculty member at KU, five people must be working professionals in a field of interest), and were asked to brainstorm a list of potential interviewees. They were required to turn in a list of at least 10 possible interviewees to their instructor the following week. This list was not final, and was designed to help start the informational interview process given the time-limited nature of the assignment. Finally, participants were shown how to access the blog website (Blackboard) for posting their reflection and summary of each interview. Each blog was to contain information such as whom they interviewed, why they interviewed that person, what they learned, and who might be next. Participants were given a list of due dates for the blogs, which were due every other Friday by midnight. This researcher worked in conjunction with the other intervention instructor to create an assignment protocol and grading rubric to maximize intervention protocol completion (Appendix I). If a student were unhappy with a grade received on a blog or failed to complete a blog, she was

allowed to complete a makeup interview and blog for extra credit. In the case of a missed blog, two additional interviews and blogs were required to make up the points lost. This procedure was intended to discourage students from simply doing all eight blogs during the last week of class. Consequently, some students ended up completing more than eight blogs.

Interview Coaches

For the first interview, each participant was assigned an informational interview coach. Coaches were graduate students in counseling psychology who volunteered to assist with this research project. Each coach had successfully completed a graduate level course in vocational psychology. This researcher met with the interview coach volunteers to discuss their role with the research participants. Coaches were each assigned approximately 6 student participants. Participants were to contact their coach via e-mail to set up an informational interview. During this meeting, coaches acted as informational interviewees for approximately 15 minutes and then spent 15-20 minutes processing the interview and providing feedback to the student participant. The goal of this meeting was to build the student participant's domain specific self-efficacy regarding setting up and conducting an informational interview.

Intervention Fidelity Check

To ensure the validity of the blogs, the researcher collected interviewee contact information from each participant and sent an e-mail message to the interviewee to confirm the interview date and time. This researcher also checked the blog posts via Blackboard on a weekly basis to ensure that participants were completing their interviews at the rate of one every other week.

Control Group

The control group consisted of students enrolled in the regular first year orientation seminar (PRE 101). They were invited to complete the pre- and post-test measures online and were given extra credit for participation. However, choosing not to participate did not carry any negative impact on their performance in the course. All participants created their own study ID to maintain the confidentiality of their responses. Their instructor knew whether they had participated, but did not have access to their responses. All six PRE 101 courses used in the current study used the same textbook and covered the same topics. The only difference between the intervention and control groups was the addition of the informational interviewing assignment. The summer 2011 control group differed in that the course met four times a week for eight weeks, compared to the spring 2011 classes which met twice a week for 16 weeks.

Hypotheses

The current project was designed to answer the following two general research questions. 1.) Does informational interviewing have a significant impact on the career development of first year college students (e.g. occupational engagement, career decision self-efficacy, career maturity)?, and 2.) Does informational interviewing lead to greater life satisfaction, satisfaction with major, and generalized higher education gains? These two research questions boil down to: did the intervention work, was it better than no intervention on the areas of interest, was it practical, and what are the implications for replicating it with a large-scale college student population? To assess these questions, the following hypotheses were used to guide this study:

H1: Career decision self-efficacy – Participation in the intervention condition will be associated with an increase in career decision self-efficacy, as measured by the CDSE-SF, from pretest to posttest, while controlling for theoretically relevant variables. Moreover, this increase will be significantly greater, on average, for participants in the intervention group than those in the control group.

H2: Vocational identity – Participation in the intervention condition will be associated with an increase in vocational identity, as measured by the MVS, from pretest to posttest, while controlling for theoretically relevant variables. Moreover, this increase will be significantly greater, on average, for participants in the intervention group than those in the control group.

H3: Occupational engagement – Participation in the intervention condition will be associated with an increase in occupational engagement, as measured by the OES-S, from pretest to posttest, while controlling for theoretically relevant variables. Moreover, this increase will be significantly greater, on average, for participants in the intervention group than those in the control group.

H4: Estimate of gains – Participation in the intervention condition will be associated with an increase in students' estimates of gains in general education and practical and vocational competence as measured by the EOG, from pretest to posttest, while controlling for theoretically relevant variables. Moreover, this increase will be significantly greater, on average, for participants in the intervention group than those in the control group.

H5: Academic major satisfaction – Participation in the intervention condition will be associated with an increase in students' academic major satisfaction as measured by

the AMSS, from pretest to posttest, while controlling for theoretically relevant variables. Moreover, this increase will be significantly greater, on average, for participants in the intervention group than those in the control group.

H6: Life satisfaction – Participation in the intervention condition will be associated with an increase in students' reported level life satisfaction as measured by the SWLS, from pretest to posttest, while controlling for theoretically relevant variables. Moreover, this increase will be significantly greater, on average, for participants in the intervention group than those in the control group.

Analyses

This section is comprised of three subsections: (a) data entry, modification, and descriptive statistics, (b) assessing research hypotheses 1-6, and (c) informal analyses (intervention fidelity and focus groups).

Data Entry, Modification, and Descriptive Statistics

As mentioned previously, participants completed all questionnaires online using Qualtrics, a secure online survey research suite. Privacy settings were set such that only those individuals receiving an invitation e-mail could access the questionnaire via an embedded link. After each assessment point, this researcher opened and closed the survey to control the timing of each assessment period. All survey data were then downloaded from Qualtrics into an SPSS data file, and analyzed using PASW (SPSS) 18.0. In following with Cox (2009), data for the OES-S were entered as 0 to 4, rather than 1 to 5, such that a score of 0 would represent a complete lack of engagement. Before analyses could be conducted, each measure had to be scored. Appropriate scoring procedures were followed for each measure, and a total score was computed for each measure using the

compute variable function in SPSS. These computed scores were then used for all statistical analyses. In order to accurately identify the participants, frequencies and descriptives were computed for the following variables (a) sex, (b) age, (c) major, (d) ethnicity, (e) ACT/SAT score, (f) parent education level, and (g) credits completed, as well as for the six dependent variables (career decision self-efficacy, occupational engagement, academic major satisfaction, life satisfaction, vocational identity, and estimates of gains).

Assessing Research Hypotheses

Given the quasi-experimental design of this study with no random selection or random assignment to groups, this researcher first conducted a series of independent samples *t*-tests to assess for group differences between the intervention and control groups at pretest on all dependent measures and demographic variables. Next, a series of one way repeated measures analyses of variance (ANOVAs) were conducted to assess for within and between group differences on the CDSE-SF, OES-S, AMSS, Estimate of Gains subscale of the CSEQ, SWLS, and the Vocational Identity Scale of the MVS across time. This researcher chose to use a repeated measures ANOVA because the use of pretest scores helps to reduce error variance, thus producing more powerful tests than designs with no pretest data. Initially, any significant group differences found at pretest were intended to be included as covariates in the one way repeated measures ANOVAs. However, the number of participants who submitted valid data was not sufficient to statistically support the use of covariates. This limitation is noted and discussed further in chapter five.

Informal Analyses

Intervention Fidelity Checks – This interviewer used two methods to evaluate intervention fidelity. The first method was to collect the contact information (e-mail address) for each participant’s interviewees at the end of the semester to confirm the interviews took place. Of the 214 interviews completed, e-mail addresses were obtained for 174 interviewees. This researcher then sent each interviewee an e-mail asking them to confirm whether they completed an informational interview with a particular student. The confirmation data were then entered into SPSS and used to compute a percentage score reflecting the percentage of interviews completed which were confirmed, denied, and unconfirmed. These percentages were then used as a measure of intervention fidelity.

The second method of assessing intervention fidelity was to use blog completion as a proxy for interview completion. According to the intervention protocol, interviews and corresponding blogs were to be completed every other week by midnight on Friday of the second week (see Appendix K for a complete schedule). Participants posted their blogs on their PRE 101 Blackboard site. The Blackboard blog feature assigns a time, date, and author to each post. This researcher then compared these data to the intervention blog schedule to assess how many blogs each participant completed and whether they were completed on time or not. This researcher manually entered these completion data into an Excel spreadsheet as sex, number of blogs completed, % completed (out of 8), on time, late, % on time (out of total completed), and % late (out of total completed). This researcher then copied and pasted these data into PASW (SPSS 18.0) and conducted frequency and descriptive analyses of these blog completion data.

Self-efficacy theory suggests that self-efficacy increases with practice over time. Consequently, one would not expect that a student who completed eight informational

interviews in one week to receive the same benefit as a student who conducted eight interviews at regular intervals over the course of the semester. Moreover, all of the research hypotheses were predicated on an intervention potency of eight interviews. Consequently, an analysis of these data would help understand and contextualize the results of the research hypotheses analyses.

Focus Groups – This researcher also conducted informal focus groups with the students in the intervention condition to explore what it was like for them to complete the informational interviews. There were two focus groups, and each took place in the participants’ regular classroom during the final week of the semester. Each focus group lasted approximately 10-15 minutes. This researcher prefaced each focus group session by explaining that the purpose of the session was to understand their experience of the informational interviewing assignment. Students who did not wish to participate were given the option to leave at any time, and students were ensured that their decision would in no way impact their performance in the class. While the sessions were not audio recorded, this researcher kept notes from each session. Students were informed that their comments could be used in this formal write-up, but that their names and identifying information would be removed to ensure confidentiality.

Chapter IV

Results

I will begin the results section with an overview of the significant demographic differences between the control and intervention groups. Next, I will report on any group differences at pretest on the six dependent variables of interest. Third, I will address the results of the two measures of intervention fidelity. Finally, I will report the results related to the six research hypotheses associated with each of the dependent variables of interest.

Demographic Group Differences

Of note, 23 intervention students completed the pretest, while only 15 completed both pre and posttest. In the control group, 9 student participants completed the pretest, while only 3 completed both pre and posttest. In the summer 2011 control group, 30 participants completed the pretest, while 19 completed both pre and posttest. There were no significant demographic or other differences among those who dropped out compared to those who completed posttest. Only participants who completed both pretest and posttest assessments were included in these analyses ($n = 36$).

An independent samples t -test was conducted on the these 36 participants (15 intervention and 21 control) to evaluate the null hypotheses that the control and intervention groups did not differ at baseline on any of the demographic variables (age, sex, high school GPA, college GPA, first generation college student status, ACT/SAT score, number of college credit hours completed, parents' highest level of education, and ethnicity). The test was significant for age, $t(34) = -3.77, p < .01$, first generation college student status, $t(34) = 2.06, p < .05$, college credit hours completed, $t(34) = -3.33, p < .01$,

ACT score, $t(24) = -2.19, p < .05$, and ethnicity: Black, $t(34) = 4.81, p < .001$ and White, $t(34) = -2.50, p < .05$ (see Table 1).

Students in the intervention condition ($\bar{X} = 18.87, SD = 0.64$) reported being significantly older than those in the control condition ($\bar{X} = 18.00, SD = .71$). Also, students in the intervention group ($\bar{X} = 16.13, SD = 10.69$) reported having completed more college credits, on average, than those in the control group ($\bar{X} = 6.57, SD = 6.55$). These two disparities (credits earned and age) are most likely due to recruiting, as the intervention group was comprised solely of second semester first year students, while the control group included first semester first year students. Consequently, one would expect a naturally occurring significant difference on age and credits earned. On ACT scores, the intervention group reported significantly higher scores ($\bar{X} = 23.92, SD = 2.53$) than those in the control group ($\bar{X} = 20.46, SD = 5.09$). With regard to ethnicity, more students in the control group (67%) identified as Black than students in the intervention group (7%), and significantly more participants in the intervention group identified as White (73%) than did participants in the control group (33%).

This researcher could not find any research to suggest the existence of meaningful differences on any of the dependent variables among any racial or ethnic groups. In addition, two one-way ANOVA's were conducted to evaluate the relationship of ethnicity (Black and White) and scores on the CDSE-SF, OES-S, EOG, AMSS, SLS, and MVS. Both ANOVAs were non-significant. Thus, there were no significant relationships between ethnicity and the dependent variables of interest in the current study.

Table 1.

Participant Demographics for Those Who Completed Pre- and Post-Tests

Variable	Control (n=21)		Intervention (n=15)		<i>t</i>	<i>p</i>
	\bar{X}	SD	\bar{X}	SD		
Age	18	.71	18.87	.64	-3.77	.00**
ACT	20.38	4.98	23.85	2.70	-2.20	.04*
SAT	1280	372.60
College	6.57	6.55	16.13	10.69	-3.33	.00**
College GPA	2.27	1.08	2.70	.80	-1.16	.26
HS GPA	3.34	.49	3.36	.38	-.09	.93
Parent's	4.95	1.88	5.07	1.62	-.19	.85
Parent's	5.38	1.77	5.80	1.37	-.77	.45
	n	%	n	%	<i>t</i>	<i>p</i>
Male	14	66.7	12	80	-3.77	.00**
Female	7	33.3	3	20		
First gen CS	9	42.9	2	13.3	2.06	.05*
Black	14	66.7	1	6.7	4.81	.00**
White	7	33.3	11	73.3	-2.50	.02*
American	2	9.5	0	0	1.45	.16
Mexican	0	0	0	0	.	.
Puerto Rican	0	0	0	0	.	.
Hispanic	0	0	0	0	.	.
Asian	0	0	1	6.7	-1.00	.33
Multiracial	0	0	0	0	.	.
Other	1	4.8	2	13.3	-.90	.37

Dependent Variable Group Differences at Pretest

An independent samples *t*-test was conducted to evaluate the null hypotheses that there were no differences between participants in the intervention and control conditions at pretest on any of the dependent variables of interest in this study (CDSE-SF, OES-S, EOG, AMSS, SWLS, and MVS). The null hypotheses were confirmed for all variables except vocational identity, as measured by the MVS. The test was significant, $t(34) = 2.13$, $p = .04$, meaning that participants in the control condition reported significantly higher levels of vocational identity ($\bar{X} = 10.86$, $SD = 4.83$) than participants in the intervention condition ($\bar{X} = 7.47$, $SD = 4.53$) at pretest. These results will be explored

further in the discussion section.

Intervention Fidelity

This researcher conducted an analysis of the descriptive statistics of the intervention group's blog completion data to assess for intervention fidelity (see Table 2). All members of the intervention group were included in these analyses ($n = 29$) because they concern intervention fidelity and not pre-post change. Informational interviews were to be completed at the rate of one every two weeks, with a total of eight interviews. Each time a participant completed an interview, s/he was required to post a blog about the experience. These blogs were then graded by the course instructor and used as a proxy for interview completion. The range of blogs completed was 13, with a minimum of 0 and a maximum of 13. The average number of blogs completed was 7.38 ($SD = 2.98$). Of the participants in the intervention condition ($n = 29$), 34.5% ($n = 10$) completed 7 or fewer blogs, while 65.5% ($n = 19$) completed at least 8 blogs. Of those 19 who completed at least 8 blogs, their average on time completion rate was 67.3%. Assuming that these blog completion data are a faithful representation of completed informational interviews, it appears that the intervention implementation was successful because the significant majority (65.5%) of participants met the target number of blogs (8).

The second intervention fidelity marker was the percentage of interviews that were confirmed by the interviewee. Of the 214 blogs completed, email addresses were obtained for the interviewee in 174 of them (81.3%). Of those 174, 155 (89.1%) responded to an interview e-mail confirmation request. Of the 174, 146 (83.9%) confirmed their interview with the participant. Only 9 of the 174 (5.2%) denied the interview, and 19 (10.9%) did not respond.

Table 2

Blog Completion Data

N = 29	Mean (%)	Median (%)	SD (%)
Blogs Completed	7.38 (92.5%)	8 (100%)	2.98 (37.3%)
Completed on time	4.9 (64.7%)	5 (71%)	2.40 (30.2%)
Completed late	2.48 (28.5%)	2 (25%)	2.69 (25.5%)

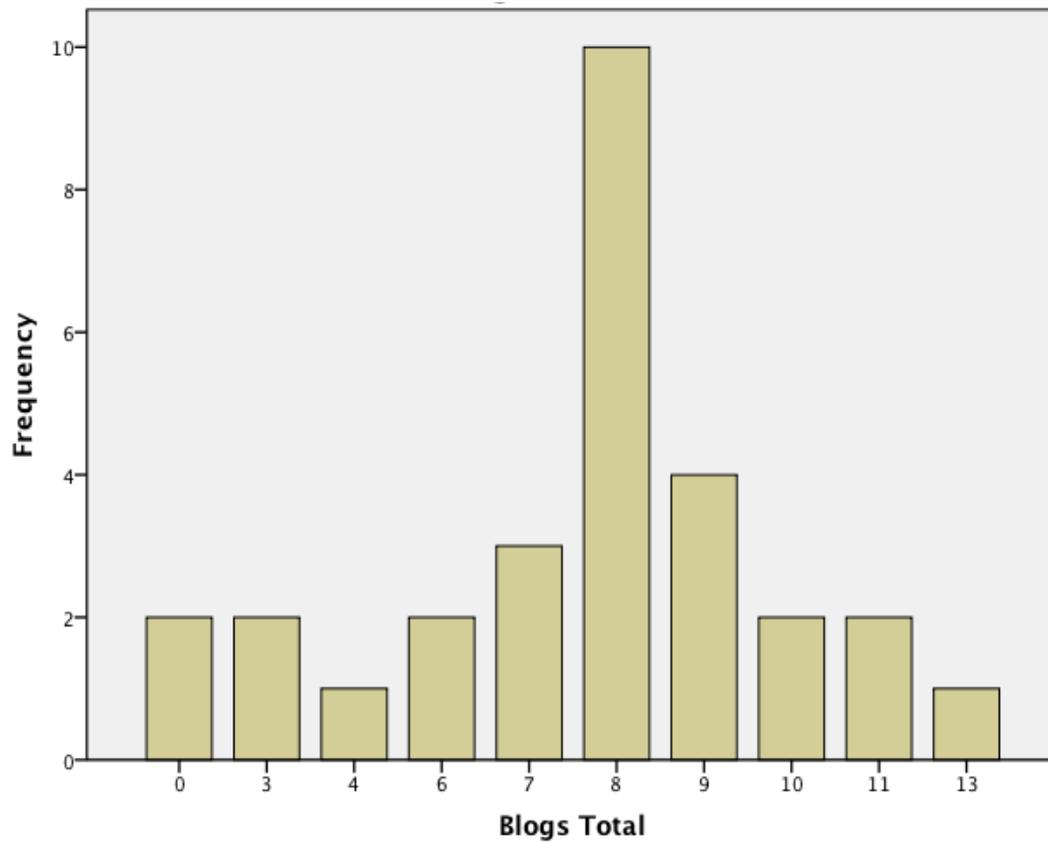


Figure 1. Frequency chart of total blogs completed.

Assessing the Research Hypotheses

Results for research hypotheses 1-6 will be presented in order, such that the hypotheses related to each dependent variable are assessed sequentially.

H1: Career Decision Self-Efficacy – A one-way repeated measures analysis of variance (ANOVA) was conducted to assess whether participation in the intervention condition was associated with a significantly greater increase in career decision self-efficacy, as measured by the CDSE-SF, from pretest to posttest, than for those in the control group. Only participants who had completed both the pretest and posttest were included in these analyses. The results for the ANOVA indicated a significant time effect, Wilks' $\Lambda = .67$, $F(1, 34) = 16.65$, $p < .01$, multivariate $\eta^2 = .33$. Overall, both groups reported a significant increase in career decision self-efficacy as measured by the CDSE-SF, from pretest to posttest. However, the results of the ANOVA indicated a non-significant time by group effect, Wilks' $\Lambda = .970$, $F(1, 34) = 1.06$, $p = .31$, multivariate $\eta^2 = .03$. Although the intervention group ($\Delta \bar{X} = 12.2$) reported a larger increase than the control group ($\Delta \bar{X} = 7.28$) over the assessment period from pretest to posttest, the difference was not statistically significant (see Figure 2).

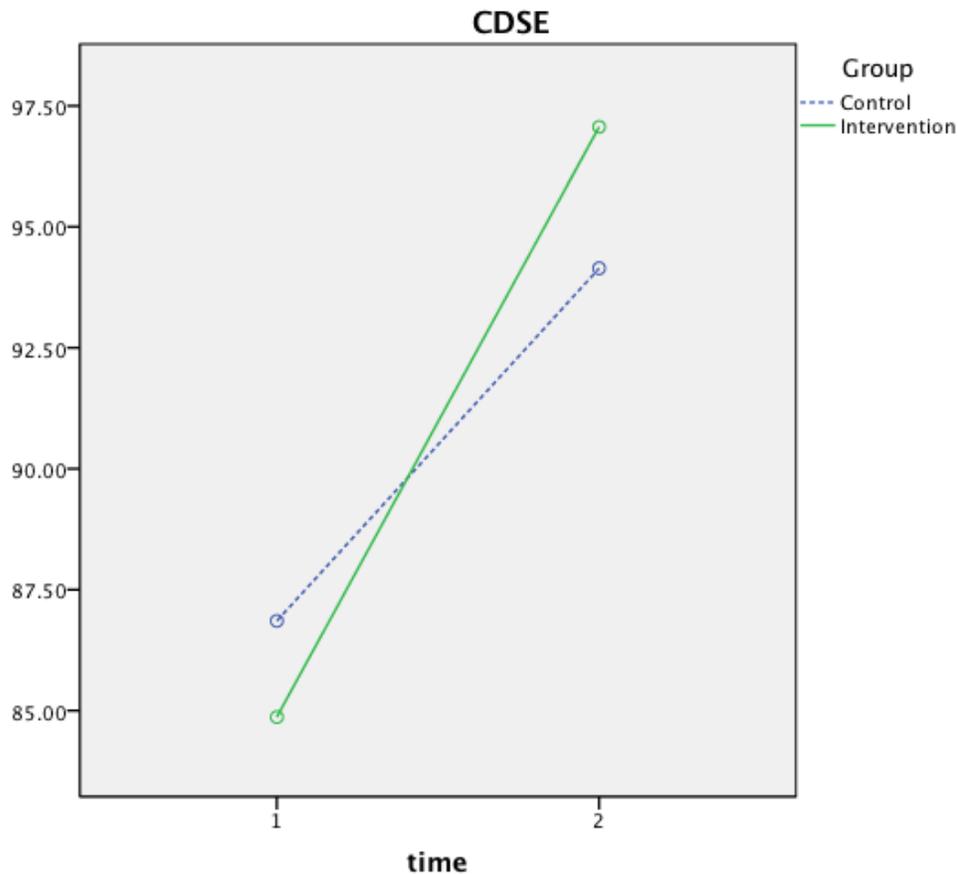


Figure 2. Marginal means for CDSE-SF scores from pretest (time 1) to posttest (time 2).

H2: Vocational Identity – A one-way repeated measures analysis of variance (ANOVA) was conducted to assess whether participation in the intervention condition was associated with a significant increase in vocational identity, as measured by the MVS, from pretest to posttest, compared to participation in the control group. Only participants who had completed both the pretest and posttest were included in these analyses. The results for the ANOVA indicated a significant time effect, Wilks' $\Lambda = .89$, $F(1, 34) = 4.05$, $p = .05$, multivariate $\eta^2 = .11$. Overall, both groups reported a significant increase in vocational identity over time as measured by the MVS. However, the results of the ANOVA indicated a non-significant time by group effect, Wilks' $\Lambda = .963$, $F(1,$

34) = 1.29, $p = .26$, multivariate $\eta^2 = .04$. The intervention group ($\Delta \bar{X} = 2.73$) reported a larger increase than the control group ($\Delta \bar{X} = 0.76$) over the assessment period from pretest to posttest, but the difference was not statistically significant (Figure 3).

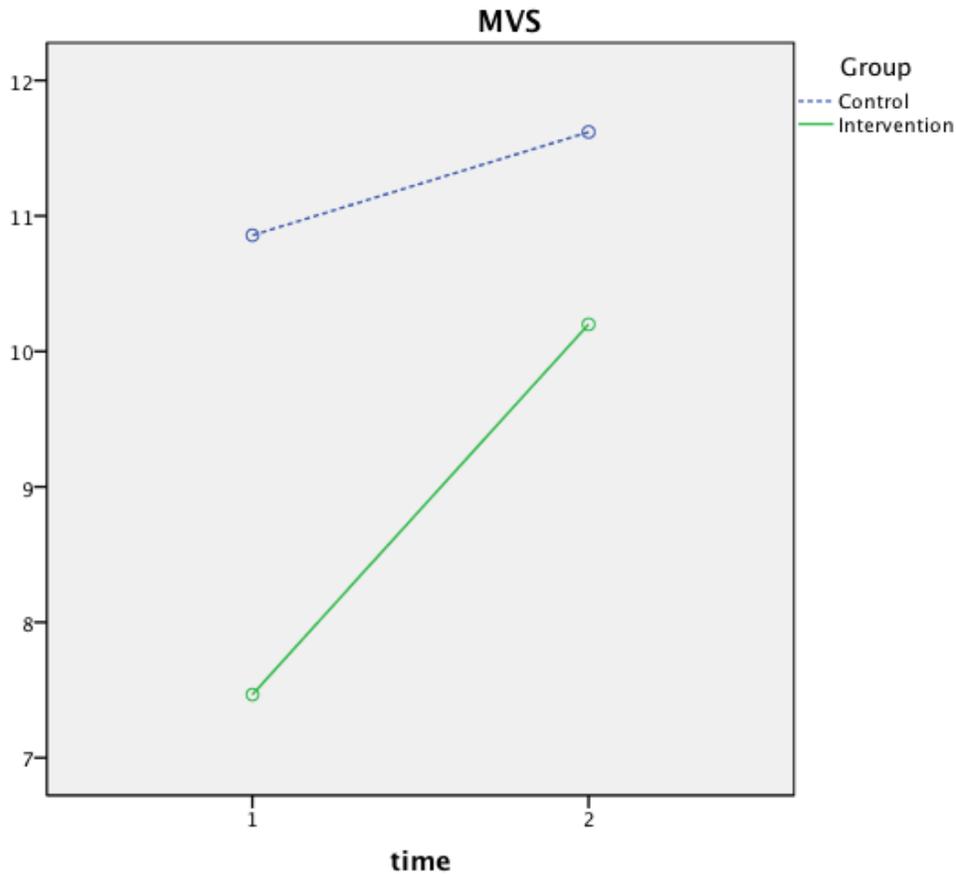


Figure 3. Marginal means for MVS scores from pretest (time 1) to posttest (time 2).

H3: Occupational Engagement – A one-way repeated measures analysis of variance (ANOVA) was conducted to assess whether participation in the intervention condition was associated with a significant increase in occupational engagement, as measured by the OES-S, from pretest to posttest, compared to participation in the control group. Only participants who had completed both the pretest and posttest were included in these analyses. The results for the ANOVA indicated a significant time effect, Wilks’

$\Lambda = .76, F(1, 34) = 10.91, p < .01, \text{multivariate } \eta^2 = .24$. Overall, both groups reported a significant increase in occupational engagement over time as measured by the OES-S. However, the results of the ANOVA indicated a non-significant time by group effect, Wilks' $\Lambda = .96, F(1, 34) = 1.54, p = .22, \text{multivariate } \eta^2 = .04$. The intervention group reported a larger increase ($\Delta \bar{X} = 4.94$) than the control group ($\Delta \bar{X} = 2.24$) over the assessment period from pretest to posttest, but the difference was not statistically significant (Figure 4).

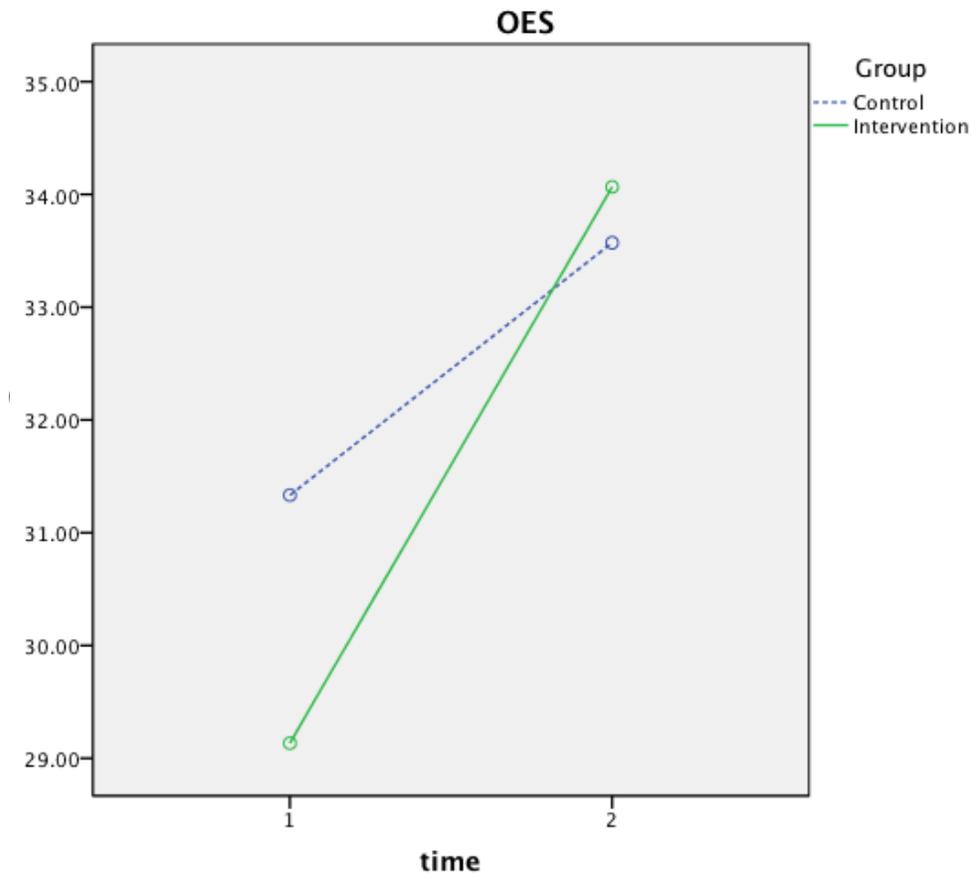


Figure 4. Marginal means for OES scores from pretest (time 1) to posttest (time 2).

H4: Estimate of Gains (College Student Experience Questionnaire) – A one-way repeated measures ANOVA was conducted to assess whether participation in the intervention condition was associated with a significant increase in students' estimates of gains in general education and practical and vocational competence as measured by the Estimate of Gains Scale, from pretest to posttest, compared to participation in the control group. Only participants who had completed both the pretest and posttest were included in these analyses. The results for the ANOVA indicated a significant time effect, Wilks' $\Lambda = .70$, $F(1, 34) = 14.85$, $p < .01$, multivariate $\eta^2 = .30$. However, the results indicated a non-significant time by group effect, Wilks' $\Lambda = .94$, $F(1, 34) = 2.23$, $p = .15$, multivariate $\eta^2 = .06$. While the intervention group showed a greater increase ($\Delta \bar{X} = 9.60$) than the control group ($\Delta \bar{X} = 4.24$), the difference was not statistically significant (Figure 5).

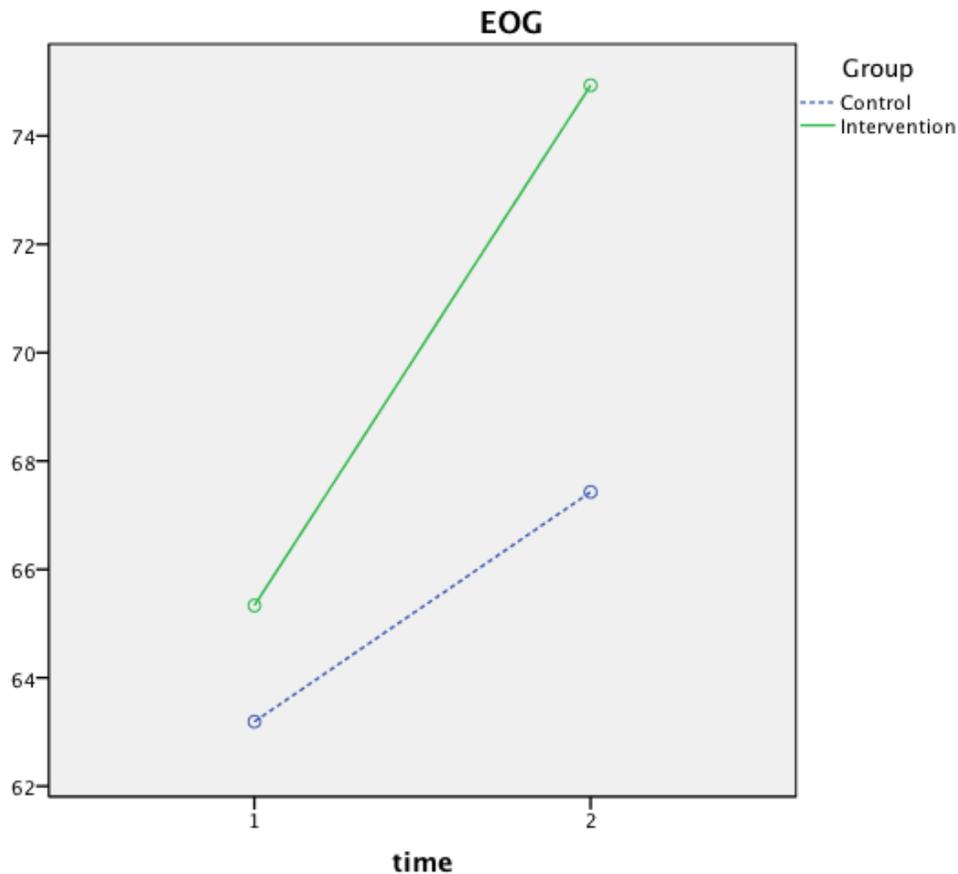


Figure 5. Marginal means for EOG scores from pretest (time 1) to posttest (time 2).

H5: Academic Major Satisfaction – A one-way repeated measures ANOVA was conducted to assess whether participation in the intervention condition was associated with a significant increase in students’ academic major satisfaction as measured by the Academic Major Satisfaction Scale, from pretest to posttest, compared to participation in the control group. Only participants who had completed both the pretest and posttest were included in these analyses. The results of the ANOVA indicated a non-significant time effect, Wilks’ $\Lambda = .94$, $F(1, 34) = 2.24$, $p = .14$, multivariate $\eta^2 = .07$. Overall, participants indicated higher academic major satisfaction at posttest ($\bar{X} = 22.86$, $SD = 0.91$) than at pretest ($\bar{X} = 21.84$, $SD = 1.20$). However, the difference was not

statistically significant. The results also indicated a non-significant time by group effect, Wilks' $\Lambda = .94$, $F(1, 34) = 1.91$, $p = .18$, multivariate $\eta^2 = .06$ (Figure 6). While the intervention group showed a greater increase ($\Delta \bar{X} = 2.60$) than the control group ($\Delta \bar{X} = 0.11$), the difference was not statistically significant.

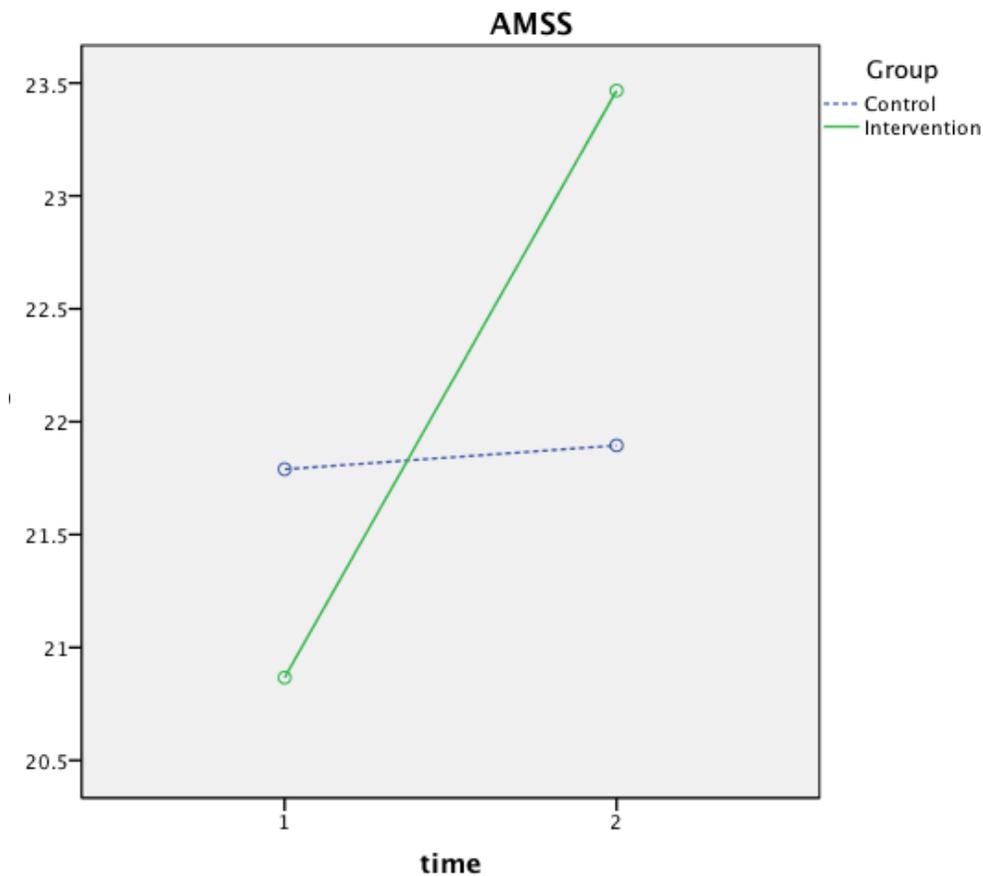


Figure 6. Marginal means for AMSS scores from pretest (time 1) to posttest (time 2).

H6: Life Satisfaction – A one-way repeated measures ANOVA was conducted to assess whether participation in the intervention condition was associated with a significant increase in students' life satisfaction as measured by the Satisfaction With Life Scale, from pretest to posttest, compared to participation in the control group. Only participants who had completed both the pretest and posttest were included in these

analyses. The results of the ANOVA indicated a non-significant time effect, Wilks' $\Lambda = .92$, $F(1, 34) = 3.11$, $p = .09$, multivariate $\eta^2 = .08$. Overall, participants indicated higher life satisfaction at posttest ($\bar{X} = 25.62$, $SD = 0.98$) than at pretest ($\bar{X} = 24.58$, $SD = 1.13$). However, the difference was not significant. The results also indicated a non-significant time by group effect, Wilks' $\Lambda = .98$, $F(1, 34) = .75$, $p = .39$, multivariate $\eta^2 = .02$ (Figure 7). While the intervention group showed a greater increase ($\Delta \bar{X} = 1.53$) than the control group ($\Delta \bar{X} = 0.53$), the difference was not statistically significant.

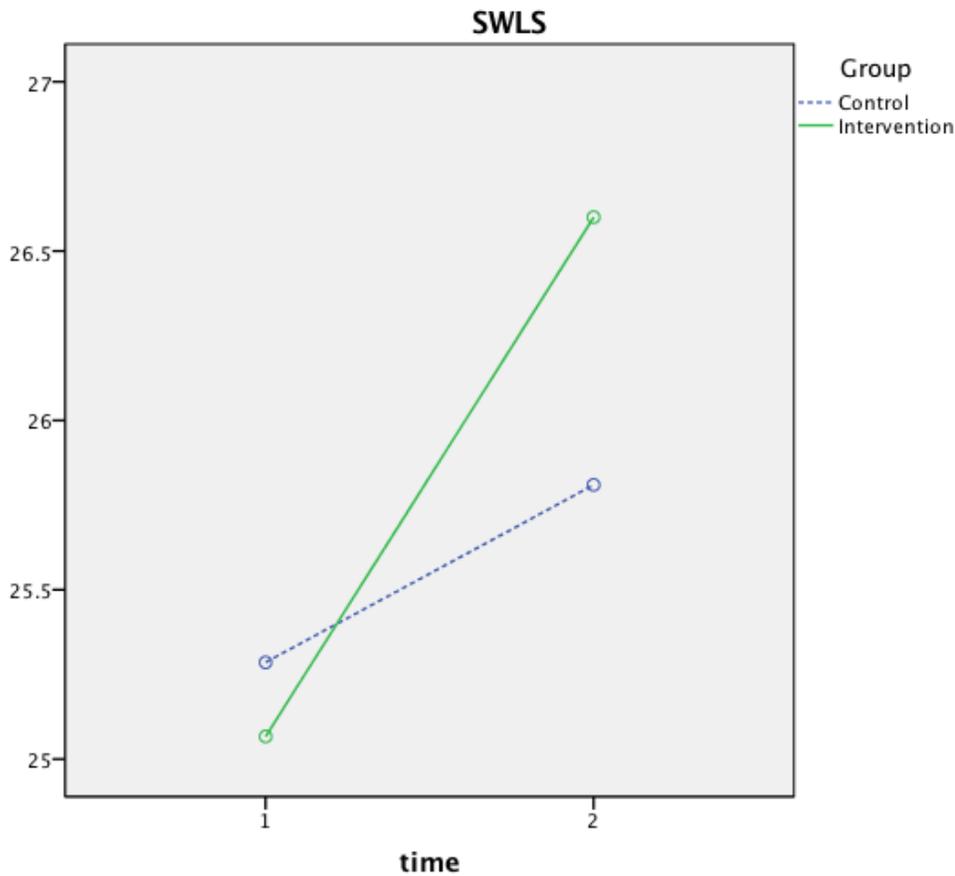


Figure 7. Marginal means for SWLS scores from pretest (time 1) to posttest (time 2).

While many of the dependent variables increased significantly over the course of the study (e.g. CDSE, MVS, OES, and EOG), there were no significant time-by-group effects for any of the dependent variables. Consequently, none of the research hypotheses were significant. See the discussion section for potential explanations of these findings.

Table 3

One-Way Repeated Measures ANOVA – Time (Pretest X Posttest)

Variable	Pretest (n=36)		Posttest (n=36)			
	\bar{X} (SD)	\bar{X} (SD)	Wilks' (time)	F	<i>p</i>	η^2
CDSE	85.86(2.23)	95.61(2.50)	.671	16.65	.00**	.33
VI	9.16(.80)	10.91(.93)	.893	4.05	.05*	.11
OES	30.23(1.51)	33.82(1.29)	.757	10.91	.00**	.24
EOG	64.26(2.00)	71.18(2.08)	.696	14.85	.00**	.30
AMSS	21.33(1.09)	22.68(0.84)	.935	2.24	.14	.07
SWLS	25.18(.97)	26.21(.85)	.916	3.11	.09	.08

* $p \leq .05$, ** $p < .01$

Table 4

One-Way Repeated Measures ANOVA – Time (Pretest X Posttest) by Group (Intervention X Control)

Variable	Pretest \bar{X} (SD)	Posttest \bar{X} (SD)	Wilks' (time x group)	F	<i>p</i>	η^2
CDSE						
Control	86.86(2.88)	94.14(3.22)	.970	1.06	.31	.03
Intervention	84.87(3.40)	97.07(3.81)				
VI						
Control	10.86(1.03)	11.62(1.20)	.963	1.29	.26	.04
Intervention	7.47(1.22)	10.20(1.42)				
OES						
Control	31.33(1.94)	33.57(1.67)	.957	1.54	.22	.04
Intervention	29.13(2.30)	34.07(1.97)				
EOG						
Control	63.19(2.58)	67.43(2.69)	.938	2.23	.15	.06
Intervention	65.33(3.05)	74.93(3.18)				
AMSS						
Control	21.79(1.45)	21.90(1.12)	.944	1.91	.18	.06
Intervention	20.87(1.63)	23.47(1.26)				
SWLS						
Control	25.29(1.25)	25.81(1.09)	.978	.749	.39	.02
Intervention	25.07(1.48)	26.60(1.29)				

* $p \leq .05$, ** $p < .01$

Focus Groups

Overall, many of the students described the assignment as difficult and anxiety provoking at first, but very worthwhile and easier in the end. Some reported that the most difficult aspect of the assignment was to find people to interview. Since many of them were not from the Lawrence area, where they were living and going to school, they did not know any local professionals to contact. Others cited poor interviewees (e.g., people who seemed bored or disinterested) as their least favorite part of the experience. Other characteristics of poor interviewees were those who gave short responses to questions or who simply never responded to requests for interviews. Upon further questioning, it appears that these short responses were associated with closed ended questions posed by the student. Perhaps the students could have benefitted from further instruction and/or practice on how to set up and conduct informational interviews.

The current chapter outlined the results for the two main questions of this study: 1) Does informational interviewing have a significant impact on the career development of first year college students (e.g. occupational engagement, career decision self-efficacy, career maturity), and 2) Does informational interviewing lead to students being “better off” (e.g. life satisfaction, satisfaction with major, generalized higher education gains)? The final chapter is designed to discuss and interpret these results, as well as offer suggestions for future directions in the present line of research.

Chapter V

Discussion

College students have three basic vocational tasks: declare a major, graduate in four years, and find a job. Colleges and universities spend significant time and resources to help their students navigate this decision making process. Some examples include career and advising centers, orientation and career planning seminars, and specially commissioned retention task forces (e.g. Childress, 1998; Korschgen & Hageseth, 1997; McDaniels, Carter, Heinzen, Candrl, & Wieberg, 1994). Traditionally, the matching model of career counseling, which relies on rational thought to make decisions (Parsons, 1909), has been the standard approach. However, contemporary researchers argue that rational decision-making is flawed and often inappropriate (Krieshok, 1998), and that intuition must be part of the path to optimal decision-making (Krieshok, Black, & McKay, 2009).

With the changing world of work and the increased understanding of decision making, Krieshok et al. (2009) argued for the trilateral model of adaptive career decision making: (a) occupational engagement, (b) rationality, and (c) intuition. In this trilateral model, decision makers use behavioral experiences (i.e. occupational engagement) to supply their fund of information about themselves and the world of work, then draw upon this fund and apply the knowledge with both intuitive and rational decision-making processes. Krieshok et al. (2009) posit that intuitive decision-making should play a significant role in vocational decisions, a stark departure from the rational decision-making historically promoted by traditional career theory (Savickas & Baker, 2005).

Occupational engagement can take many forms, including part-time jobs, job

shadows, involvement in organizations, internships, and talking with people about what they do (i.e. informational interviewing). Krieshok et al. (2009) argued that vocational psychologists should be teaching people how to have more of these types of experiences (rather than merely telling them to have them) in order to increase their fund of information from which more accurate career decisions may be made. Thus, vocational decision-makers, especially college students, should focus more on having both breadth and depth of occupational engagement experiences.

Indeed, the occupational engagement construct is one of the guiding principles underpinning the current study. A few unpublished studies have shown that occupational engagement is a fluid construct, and that it can be increased through experiential interventions with college students (Cox et al., 2006; Cox, Rasmussen, & Conrad, 2007; Krieshok & Conrad, 2008). Career decision self-efficacy is another construct that forms part of the theoretical framework for the current study. Given the ever-changing landscape of the modern world of work, it is far more important to become adept at career decision-making than to become decided about a particular career (Krieshok et al., 2009). Consequently, career decision self-efficacy is an increasingly relevant and important construct in vocational psychology.

The current study sought to develop and evaluate a practical, behavioral intervention that would tap both career decision self-efficacy and occupational engagement in a large number of first year college students. The plan was to have students enrolled in a first year orientation seminar complete a series of eight informational interviews with people in academic and professional areas of interest over the course of an academic semester, and write a reflective blog about each interview

experience. Each student was paired up with an informational interviewing coach to conduct a mock interview and provide feedback and guidance on the informational interviewing process. Through this intervention, it was hypothesized that the participants would be exposed (via a form of occupational engagement) to a variety of aspects of careers and majors of interest, and would become more adept at the interview process, an essential skill in not only deciding on a career, but in actually getting hired in the career of interest.

Three sections of PRE 101, a first year orientation seminar at the University of Kansas, were recruited to participate in the intervention condition. Intervention participants were not told that the informational interview assignment was the subject of the current research study, but were asked for their consent to use their data from the pre and post test questionnaires for the current study. Their results were compared to a control group of PRE 101 students from the spring 2011 (two sections) and summer 2011 (one section) semesters. All participants were invited to complete an online questionnaire at the beginning and end of the semester. The dependent variables of interest were career decision self-efficacy, as measured by the CDSE, occupational engagement, as measured by the OES-S, generalized educational and vocational gains, as measured by the EOG, academic major satisfaction, as measured by the AMSS, life satisfaction, as measured by the SWLS, and vocational identity, as measured by the MVS.

Evaluation of Research Hypotheses

Overall, the research hypotheses were not supported by the data in that none of the hypotheses resulted in statistically significant results. Potential explanations and interpretations for these results are offered in this section.

The results for hypotheses 1-4 all indicated a significant time effect. Moreover, the intervention group reported a larger increase than the control group on each of these four dependent variables. On career decision self-efficacy (H1), the intervention group ($\Delta \bar{X} = 12.2$) reported a 40% greater increase in scores on the CDSE-SF than did the control group ($\Delta \bar{X} = 7.28$). That amounts to a 3.02 standard deviation increase compared to a 1.8 standard deviation increase. However, the time by group comparison was not statistically significant. There were 21 control and 15 intervention participants included in these analyses, as they were the only ones who completed both pre- and post-tests. A post hoc power analysis indicated that with the effect size for H1 ($\eta^2 = .03$) and a pre-post correlation of .48, 112 participants would have been needed to have sufficient power to detect a significant difference ($\alpha = .05$) (Faul, Erdfelder, Buchner, & Lang, 2009).

Similar to H1, the results for the ANOVA test of H2 indicated a significant time effect. Overall, both groups reported a statistically significant increase in vocational identity over time as measured by the MVS. However, the results of the ANOVA also indicated a non-significant time by group effect. The intervention group ($\Delta \bar{X} = 3.29$) reported a 78% larger increase than the control group ($\Delta \bar{X} = 0.71$) over the assessment period from pretest to posttest, but the difference was not statistically significant. In standard deviation units that is a 2.03 unit increase for the intervention group compared to a .44 unit increase for the control group. A post hoc power analysis indicated that with the effect size for H2 ($\eta^2 = .04$) and pre-post correlation, 80 participants would have been needed to have sufficient power to detect a statistically significant difference ($\alpha = .05$) (Faul et al., 2009).

The results for the ANOVA for H3 indicated a significant time effect. Overall, both groups reported a significant increase in occupational engagement over time as measured by the OES-S. However, the results of the ANOVA indicated a non-significant time by group effect. The intervention group reported a 55% larger increase ($\Delta \bar{X} = 4.94$) than the control group ($\Delta \bar{X} = 2.24$) over the assessment period from pretest to posttest, but the difference was not statistically significant. That is equivalent to a 1.28 standard deviation advantage for the intervention group. A post hoc power analysis indicated that with the effect size for H3 ($\eta^2 = .04$) and pre-post correlation, 50 participants would have been needed to have sufficient power to detect a statistically significant difference ($\alpha = .05$) (Faul et al., 2009).

The results for the ANOVA for H4 also indicated a significant time effect for scores of the Estimate of Gains scale. However, the results also indicated a non-significant time by group effect. While the intervention group showed a 226% greater increase ($\Delta \bar{X} = 9.60$) than the control group ($\Delta \bar{X} = 4.24$), the difference was not statistically significant. That is equivalent to a 1.69 standard deviation advantage for the intervention group. A post hoc power analysis indicated that with the effect size for H4 ($\eta^2 = .04$) and pre-post correlation, 64 participants would have been needed to have sufficient power to detect a statistically significant difference ($\alpha = .05$) (Faul et al., 2009).

The results for H5 were not statistically significant across time or group for scores on the AMSS. However, when you look at H5, the intervention group reported a 2500% larger increase ($\Delta \bar{X} = 2.60$) in academic major satisfaction than the control group ($\Delta \bar{X} = .11$) over the assessment period from pretest to posttest, but the difference was not statistically significant. That is equivalent to a 1.67 standard deviation advantage for the

intervention group. A post hoc power analysis indicated that with the effect size for H5 ($\eta^2 = .01$) and pre-post correlation, 254 participants would have been needed to have sufficient power to detect a statistically significant difference ($\alpha = .05$) (Faul et al., 2009).

The results for H6 also did not indicate a significant time or time by group interaction effect for SWLS scores. Just as in H5, however, the results appear misleading due to the low sample size. Upon closer examination, the intervention group reported a 294% larger increase ($\Delta \bar{X} = 1.53$) in life satisfaction than the control group ($\Delta \bar{X} = .52$) over the assessment period from pretest to posttest, but the difference was not statistically significant. That is equivalent to a .52 standard deviation advantage for the intervention group. A post hoc power analysis indicated that with the effect size for H6 ($\eta^2 = .02$) and pre-post correlation, 68 participants would have been needed to have sufficient power to detect a statistically significant difference ($\alpha = .05$) (Faul et al., 2009).

Intervention Fidelity and Potency

Any intervention study assumes that change will occur as a result of the potency of the intervention delivered to participants in the intervention condition, and the relative inertness of the experience for those in the control condition with regard to the constructs of interest. For the current study, there were six constructs of interest: career decision self-efficacy, occupational engagement, life satisfaction, academic major satisfaction, and gains in general education and practical and vocational competence. The research hypotheses were all predicated on the idea that the active ingredient of the intervention condition was informational interviewing, and that informational interviewing would be associated with gains in some or all of these constructs. Furthermore, another basic assumption of the research design was that participation in PRE 101 would not have a

significant impact of the constructs of interest, or at least that the potency of the intervention effects would be robust compared to any effects generated by general participation in PRE 101. A final research design assumption was that the effects of informational interviewing would be robust compared to any gains in the constructs of interest that might result from natural development over time. The following discussion will attempt to tease out which, if any, violations to these assumptions occurred in the current study and the potential implications.

The proposed intervention potency was predicated on the completion of eight informational interviews, evenly dispersed over a 16-week semester such that one interview was conducted every two weeks. As this was an exploratory study, there was no research to support the hypothesis that eight interviews would provide sufficient potency for this intervention. Instead, the number of interviews was the result of consultations with faculty (various PRE 101 instructors) and colleagues (several counseling psychology doctoral students and my dissertation chair and advisor) regarding how many interviews should be included to maximize intervention potency and fidelity. The preponderance of opinion was that eight interviews would be the most that first year students would be able to handle in a 16-week semester. The blog completion data support this hypothesis, with 7.34 blogs completed on average by the 29 intervention participants. However, the number of blogs completed ranged from 0 to 13. Furthermore, of the 29 intervention participants, only 15 completed both the pretest and posttest assessments, and were therefore the only ones included in any analyses. Since the pretest and posttest questionnaires were anonymous, there was no way to tell how many blogs were completed by those participants whose data were actually used in the analyses. It is

possible that the majority of those participants completed 7 or fewer blogs, as there were 10 participants in the intervention condition who completed 7 or fewer blogs, two of whom completed no blogs. Consequently, the intervention potency might have been significantly less than the research design and hypotheses presupposed.

A relevant potential confound in the present study is that no information was collected about any occupational engagement activities that participants engaged in *outside of* the informational interviewing component of the intervention condition. For example, participants in the control condition could have had part time jobs, been involved in research with faculty, participated in job shadows, or been active members of student organizations. These would all be potential confounds and would help to explain why both groups increased over the course of the intervention. It is also possible that just being in PRE 101 in general had a significant impact on the dependent variables of interest in the current study.

Limitations of Study

The lack of random assignment of participants is one weakness in the study design. This researcher assessed pretest scores and found significant group differences in ethnicity (Black and White), age, first generation college student status, and college credits completed. The researcher attempted to account for these differences statistically, but lacked significant power to run the appropriate analyses. Consequently, this remains a limitation.

Another limitation was the small sample size of this study, which increased the likelihood of type II error. There were several key factors that contributed to the small sample size. First, enrollment for PRE 101 in the spring semester is typically around 90-

100 students historically (M. A. Rasnak, personal communication, November 10, 2010). However, the total enrollment for the spring 2011 semester was approximately 50 students. Consequently, the potential recruitment pool was nearly cut in half before the study began. This researcher recruited a second PRE 101 control group during the summer 2011 semester in an attempt to boost statistical power. However, this added control group proved significantly different from the initial control group in several ways (ethnicity, first generation college student status, career maturity, and college credits completed) that may have clouded the statistical analyses. Another difference not captured in the data, but perhaps relevant here, is that the summer 2011 control group was comprised completely of student athletes.

Population Characteristics

In general, most students who sign up for PRE 101 in the spring semester have done so because they had a particularly poor academic first semester and are looking to get back on track. Often they enroll at the strong encouragement of their academic advisor, and as such they often comport themselves somewhat as mandated clients in therapy in that if they had their druthers they would not be there. Consequently, any intervention implemented with a “mandated” population is likely to face an uphill battle with intervention fidelity.

Research design is a constant give and take between internal and external validity. The "bubble hypothesis" proposed by Gelso (1979) underscores the fact that all research is imperfect, whether laboratory or field study. The ultimate decision on research design is largely a function of the goals of the particular study. In the case of the present study, external validity was a priority as one of the issues behind the research had to do with the

practicality of implementing such an intervention. However, that external validity came at the cost of internal validity. Because the intervention took place in the real world it was subject to numerous uncontrollable variables. For example, the current project assumed that all six PRE 101 sections were nearly the same in every way except for those three sections in the intervention condition where the informational interview assignment was added. In practice, however, this may not have been the case.

Implications and Recommendations

The trend in the results of the current study appears to indicate that the intervention produced meaningful if not significant results in several constructs of interest (career decision self-efficacy, occupational engagement, vocational identity, and generalized gains in educational and vocational areas). However, the analyses lacked the statistical power to fully explicate these findings. The analyses were encumbered by the small sample size and pre-existing group differences, which were largely the result of historically low enrollment in the course recruited for the current intervention combined with lower than anticipated response rates among consented participants.

However, if the current findings represent a meaningful change attributable to the informational interview intervention, it would be a valuable tool for institutions of higher education. With a little marketing and training up front, they could potentially reach a significant portion of their student population without students ever having to set foot in the career center, a career development course, or any other university resource that students might not know about or feel comfortable accessing. The informational interview is not meant to replace any of these resources, but rather to augment their impact on students who use them, and as an outreach tool to touch the career

development of those students who might not otherwise access traditional resources.

The first recommendation would be to recruit from a significantly larger population of students to help minimize type II error. Another recommendation would be to have participants complete questionnaires during class time (or at least during a designated time slot when the researcher is present). Conducting the assessments in this way could significantly decrease attrition. Although it is generally more difficult to get permission from instructors to collect data during class, the increase in amount and quality of the data would far exceed the instructional time lost.

Another recommendation would be to develop a more effective method for training participants how to conduct informational interviews. The feedback gleaned from the two focus groups indicated that participants in the current study struggled with various aspects of the process. The most difficult aspect appeared to be finding interviewees in professional areas of interest, contacting them, and getting permission to interview them. It is difficult to ascertain how much of the difficulty stemmed from a real lack of resources in the area, actual student effort expended in searching for interviewees, or a skill deficit in searching for and setting up informational interviews.

While a qualitative analysis of the informational interview blogs was beyond the scope of the current study, the information obtained from such analysis might provide valuable insight into the experience of the student participants. These data could be useful in reworking the current study's intervention protocol for future research, as well as related research in this area. For example, such a qualitative analysis might shed light on the potency of each individual interview. The current study assumed that each interview was of equal potency in terms of the impact on the dependent variables of interest.

However, it may be that certain interviews were more potent than others as a result of which questions the person asked, how dynamic the interviewee was, the extent to which the interviewer was really interested in the interviewee's experience, etc.

Since both groups increased over time, and both groups were enrolled in PRE 101, this common factor should be removed to test for the impact of PRE 101 on these dependent variables. Any follow-up study should make sure to include a control group that more accurately represents normal student gains over time, rather than the possible impact of a common course.

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Appendix A

Demographic Questionnaire

Please type your answer into the box next to the statement.

Age:

Sex: Male Female

GPA- Please type your answer into the box next to the statement.

High School GPA (4.0 Scale)

College GPA (4.0 Scale)

Are you a first generation college student?

Yes

No

What is your college major? (type in undecided if you do not have a major)

What is your year in school?

Freshman

Sophomore

Junior

Senior

Test scores- Please indicate your test scores for the following tests by typing them into the box next to the type of test. If you did not take this test, type in N/A.

ACT Score:

SAT Score:

Number of credit hours completed (not including current courses). Please type this into the box below.

What are your parents' education levels?

	Elementary School	Some High School	High School Grad / GED	Some College	Associate's Degree	Bachelor's Degree	Doctoral Degree	Other
Mother								
Father								

How do you identify? Click all that apply

- American Indian or other Native American
- Mexican or Mexican American
- Puerto Rican
- Other Hispanic or Latino
- Asian, Asian American or Pacific Islander
- Black or African American
- White (non-Hispanic)
- Multiracial
- Other
- I prefer not to respond

Appendix B

My Vocational Situation – Vocational Identity Subscale

This survey will help you assess where you are in the career exploration process, and which services may be right for you. DIRECTIONS: Answer "True" for "False" for each of the following:

1. I need to have encouragement from friends and family to know that I have made the right career choice.
2. It concerns me that my current career interests could change as I grow older.
3. I feel uncertain about the careers in which I could do well.
4. I need help identifying my strengths and weaknesses.
5. The careers I am interested in pursuing may not match the kind of lifestyle I want.
6. I would make a poor career choice if pushed to make a decision today.
7. I need to identify the one career path that I should select.
8. I have struggled to make a career choice for quite some time.
9. When I think about making a career choice, I feel confused by the whole process.
10. I am uncertain if the major I have chosen is right for me.
11. I need more information about different careers and what people do in their jobs.
12. I feel that no single career fits ideally for me.
13. I am uncertain about which careers might best fit my personality.
14. I would like to narrow down the numbers of careers I am currently considering.
15. My choice of career changes from year to year.
16. I lack the confidence needed to pursue my career interests.
17. I don't know what careers I can pursue with my major.
18. It is hard for me to understand how people make up their minds about their future careers.

Appendix C

Career Decision Self-Efficacy Scale – Short Form

INSTRUCTIONS: For each statement below, please read carefully and indicate how much confidence you have that you could accomplish each of these tasks by marking your answer according to the key:

NO CONFIDENCE AT ALL	VERY LITTLE CONFIDENCE	MODERATE CONFIDENCE	MUCH CONFIDENCE	COMPLETE CONFIDENCE
1	2	3	4	5

HOW MUCH CONFIDENCE DO YOU HAVE THAT YOU COULD:

- 1 2 3 4 5 Use the internet to find information about occupations that interest you.
- 1 2 3 4 5 Select one major from a list of potential majors you are considering.
- 1 2 3 4 5 Make a plan of your goals for the next five years.
- 1 2 3 4 5 Determine the steps to take if you are having academic trouble with an aspect of your chosen major.
- 1 2 3 4 5 Accurately assess your abilities.
- 1 2 3 4 5 Select one occupation from a list of potential occupations you are considering.
- 1 2 3 4 5 Determine the steps you need to take to successfully complete your chosen major.
- 1 2 3 4 5 Persistently work at your major or career goal even when you get frustrated.
- 1 2 3 4 5 Determine what your ideal job would be.
- 1 2 3 4 5 Find out the employment trends for an occupation over the next ten years.
- 1 2 3 4 5 Choose a career that will fit your preferred lifestyle.

12. 1 2 3 4 5 Prepare a good resume.
13. 1 2 3 4 5 Change majors if you did not like your first choice.
14. 1 2 3 4 5 Decide what you value most in an occupation.
15. 1 2 3 4 5 Find out about the average yearly earnings of people in an occupation.
16. 1 2 3 4 5 Make a career decision and then not worry whether it was right or wrong.
17. 1 2 3 4 5 Change occupations if you are not satisfied with the one you enter.
18. 1 2 3 4 5 Figure out what you are and are not ready to sacrifice to achieve your career goals.
19. 1 2 3 4 5 Talk with a person already employed in a field you are interested in.
20. 1 2 3 4 5 Choose a major or career that will fit your interests.
21. 1 2 3 4 5 Identify employers, firms, and institutions relevant to your career possibilities.
22. 1 2 3 4 5 Define the type of lifestyle you would like to live.
23. 1 2 3 4 5 Find information about graduate or professional schools.
24. 1 2 3 4 5 Successfully manage the job interview process.
25. 1 2 3 4 5 Identify some reasonable major or career alternatives if you are unable to get your first choice.

Appendix D

Occupational Engagement Scale – Student (14-item version)

How Well Does Each Statement Describe You?

1	2	3	4	5
Not at all Like Me	Somewhat Like Me			Very much Like Me

Please *CIRCLE* the answer that best describes you.

1. 1 2 3 4 5 I talk about my career choices with family or friends.
2. 1 2 3 4 5 I am actively involved in groups or organizations.
3. 1 2 3 4 5 I have contact with people working in fields I find interesting.
4. 1 2 3 4 5 I gain hands on experience that I might use in the future.
5. 1 2 3 4 5 I volunteer in an area that I find interesting.
6. 1 2 3 4 5 I attend lectures, exhibits, and community events.
7. 1 2 3 4 5 I take part in a variety of activities to see where my interests lie.
8. 1 2 3 4 5 I ask people in social settings about what they do for a living or what they are interested in doing.
9. 1 2 3 4 5 I visit places I'm interested in working at so I can learn more about them.
10. 1 2 3 4 5 I attend presentations or talks related to a career I might find interesting.
11. 1 2 3 4 5 I pursue opportunities in life because I just know they will come in handy.
12. 1 2 3 4 5 I work with teachers or staff on activities other than coursework (committees, orientation, student life activities, etc.).
13. 1 2 3 4 5 I do lots of things that are interesting to me.
14. 1 2 3 4 5 I have meaningful conversations with students of a different ethnicity.

Appendix E

College Student Experience Questionnaire – Estimate of Gains Subscale

In thinking about your college experience up to now, to what extent do you feel you have gained or made progress in the following areas? Indicate your response by circling the response prior to each statement.

	1		2		3		4	
	Very Little			Some	Quite a Bit			Very Much
1.	1	2	3	4	Acquiring knowledge and skills applicable to a specific job or type of work (vocational preparation).			
2.	1	2	3	4	Acquiring background and specialization for further education in a professional, scientific, or scholarly field.			
3.	1	2	3	4	Gaining a broad general education about different fields of knowledge.			
4.	1	2	3	4	Gaining a range of information that may be relevant to a career.			
5.	1	2	3	4	Developing an understanding and enjoyment of art, music, and drama.			
6.	1	2	3	4	Broadening your acquaintance with and enjoyment of literature.			
7.	1	2	3	4	Seeing the importance of history for understanding the present as well as the past.			
8.	1	2	3	4	Gaining knowledge about other parts of the world and other people (Asia, Africa, South America, etc.).			
9.	1	2	3	4	Writing clearly and effectively.			
10.	1	2	3	4	Presenting ideas and information effectively when speaking to others.			
11.	1	2	3	4	Using computers and other information technologies			
12.	1	2	3	4	Becoming aware of different philosophies, cultures, and ways of life.			
13.	1	2	3	4	Developing your own values and ethical standards.			
14.	1	2	3	4	Understanding yourself, your abilities, interests, and personality.			
15.	1	2	3	4	Developing the ability to get along with different kinds of people.			
16.	1	2	3	4	Developing the ability to function as a member of a team.			
17.	1	2	3	4	Developing good health habits and physical fitness.			
18.	1	2	3	4	Understanding the nature of science and experimentation.			
19.	1	2	3	4	Understanding new developments in science and technology.			
20.	1	2	3	4	Becoming aware of the consequences (benefits, hazards, dangers) of new applications of science and technology.			
21.	1	2	3	4	Thinking analytically and logically.			
22.	1	2	3	4	Analyzing quantitative problems (understanding probabilities, proportions, etc.).			
23.	1	2	3	4	Putting ideas together, seeing relationships, similarities, and differences between ideas.			
24.	1	2	3	4	Learning on your own, pursuing ideas, and finding information you need.			
25.	1	2	3	4	Learning to adapt to change (new technologies, different jobs or personal circumstances, etc.).			

Appendix F

Academic Major Satisfaction Scale

1	2	3	4	5
Strongly Disagree		Neutral		Strongly Agree

Please circle the answer that *best* describes you.

1. 1 2 3 4 5 I often wish I hadn't gotten into this major.
2. 1 2 3 4 5 I wish I were happier with my choice of an academic major.
3. 1 2 3 4 5 I am strongly considering changing to another major.
4. 1 2 3 4 5 Overall, I am happy with the major I've chosen.
5. 1 2 3 4 5 I feel good about the major I've selected.
6. 1 2 3 4 5 I would like to talk to someone about changing my major.

Appendix G

Satisfaction With Life Scale

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

- 7 - Strongly agree
- 6 - Agree
- 5 - Slightly agree
- 4 - Neither agree nor disagree
- 3 - Slightly disagree
- 2 - Disagree
- 1 - Strongly disagree

____ In most ways my life is close to my ideal.

____ The conditions of my life are excellent.

____ I am satisfied with my life.

____ So far I have gotten the important things I want in life.

____ If I could live my life over, I would change almost nothing.

- 31 - 35 Extremely satisfied
- 26 - 30 Satisfied
- 21 - 25 Slightly satisfied
- 20 Neutral
- 15 - 19 Slightly dissatisfied
- 10 - 14 Dissatisfied
- 5 - 9 Extremely dissatisfied

Appendix H

How to Conduct an Informational Interview:

1. Find someone to interview
 - a. Use your contacts: Friends, parents of friends, friends of parents, classmates, professors, academic advisors, high school teachers, previous employers.
 - b. Ask them this question:
 - i. Who do you know who knows anything about _____?
2. Set up the interview
 - a. Call/e-mail to set up a time to meet. Explain how you obtained the person's name. A personal referral is frequently most effective.
 - b. "I am a student at the University of Kansas and am interested in CAREER FIELD. NAME suggested you would be a great person to contact. I would greatly appreciate the opportunity to meet with you briefly to learn more about what you do and how you got into your field. Please let me know if you might have 15-20 minutes to meet sometime in the next two weeks. Thank you in advance for your consideration of my request, and I look forward to hearing from you."
 - c. If they say no, ask them if they can refer you to someone else in the field.
3. Research the position/field
 - a. Prior to your meeting, do some research to get a basic understanding of the industry, profession, and position.
 - b. Know your interests, skills, and values and how these relate to the career you are investigating.
 - c. Learn enough to enable you to formulate relevant questions.
4. Prepare a list of questions
 - a. You were given a list of sample questions, and it is posted on BlackBoard under the Assignments tab. Prepare your questions before you arrive, but also be ready to go with the flow of the conversation
5. Conduct the interview
 - a. Arrive about 5-10 minutes early.
 - b. Have the phone number of your interviewee with you in case you are delayed, get lost, etc.
 - c. Dress up! You don't need a suit and tie, but wear something nicer than you might wear to class. No jeans, shorts, t-shirts, or sandals. While this is not a job interview, you want to make a good impression.
 - d. Generally, you will be expected to lead the conversation, so prepare a list of questions. Ask "open questions" to them to elaborate on their professional background, career expertise, and personal perceptions. Use phrases such as "tell me about..."; "describe for me..."; etc.
 - e. Stay within the time limit you agreed upon. Unless they insist on continuing the conversation, wrap things up and thank them for their time. Ask if they know of anyone else they think you should meet with, get their contact info, and ask if it is all right to mention that they referred you.
6. Send a thank you note as quickly as possible (within two days)
 - a. This can be an e-mail or a hand written note

Appendix I

Informational Interviewing Assignment

Overview:

The purpose of this assignment is for you to learn more about careers/majors that might be of interest to you, as well as develop some important career development skills, such as networking and interviewing. An informational interview is where you learn more about something from someone who is currently doing that thing.

- Over the course of the semester you will complete a series of 8 informational interviews.
 - Your first interview will be with a graduate student in counseling psychology. The purpose of this interview is to practice doing an informational interview and get feedback about the process.
 - The other 7 interviews are up to you, provided they meet the following criteria:
 - 1 must be a professor/GTA in a field of interest
 - 1 must be a college senior in a major/field of interest
 - You are not allowed to interview members of your immediate family, but they may refer you to one of their colleagues, associates or friends.
 - All interviews must be conducted IN PERSON, preferably at the interviewee's workplace/office. This is important, as it will give you more information about the workplace environment.
 - Following each interview, you will complete a blog about your experience. Blogs are due by 11:59 pm every other Friday (see syllabus for specific dates). Each blog must address the following:
 - Why you chose that person to interview
 - Identify the person's job title and the basic functions of the job
 - What they describe as essential skills of this field and typical ways to gain entry to this field
 - What you saw as positive and negative aspects of the field
 - How you felt while talking to this person:
 - Did you want to do exactly what this person was telling you about or was the interview boring? Explain why you think you reacted this way.
 - Compare your expectations going into the interview with what your interview experience was like. What was the same/different about the process of the interview and the information you gained?
 - How does that interview impact your plans for your major/career?
 - Anything else you think is important!
 - Submit each interviewee's contact information to your instructor.

Appendix J

Potential Interview Questions

Note, many of these are redundant. They offer different ways of asking for similar information. Find a subset of about 10 that you like best for each interview. You should also consider adding your own and adjusting your questions based on how well they seem to work.

1. What do you do as a...?
2. How do you spend a typical day/week?
3. How did you enter this field of employment?
4. What was your career path to this position?
5. What aspects of your job are most/least satisfying?
6. What are the major responsibilities of your position?
7. What types of decisions do you make?
8. What training/education background is required?
9. What are some current issues in your field?
10. How would you characterize your work environment?
11. What is the mission of your organization?
12. What kind of individual would be best suited for this position?
13. What are the prospects for someone entering this field now?
14. Are there any sources of information you might suggest?
15. Could you offer the names of one or two other individuals with whom I should speak?
16. What is the organizational structure of your department?
17. What advice would you offer to someone beginning a career in this field?
18. What made you decide to pursue this type of career?
19. What training, credentials, or experiences were critical for you to obtain this job?
20. What are your responsibilities and what do you do on a typical day?
21. What are the greatest satisfactions you derive from your work?
22. What do you like least about your job or organization?
23. What is the typical career progression in your field?
24. What are the most common issues or problems confronting people in your field?
25. What are the best sources for learning more about your field?
26. What entry-level opportunities are available in your field?
27. What are the most effective techniques for obtaining work in your field/organization?
How do individuals learn about job opportunities?
28. How would you describe the work environment in your field/organization in terms of teamwork, culture, workload, etc?
29. How does your field/organization differ from others?
30. Do you know anyone else in your field/organization who would be helpful for me to talk to?

Appendix K

Informational Interview Due Dates and Point Breakdown (90 pts):

Item	Description	Point Value	Due Date
List of interviewees	10 people whom you might interview, their occupation, and their contact information. 1 will be a faculty member, 1 will be a senior in a major/field of interest, and the rest will be working professionals in a career/field of interest.	10	Week 2 Class 1
Interview 1/Blog 1	Set up and conduct an informational interview with your interview coach and blog about your experience. This will count as your first of the 8 interviews. You will get an e-mail with your coach's contact information.	10	Friday, 2/4 by 11:59 p.m.
Interview 2/Blog 2	Set up and conduct your 2 nd informational interview and blog about your experience.	10	Friday, 2/18 by 11:59 p.m.
Interview 3/Blog 3	Set up and conduct your 3 rd informational interview and blog about your experience.	10	Friday, 3/4 by 11:59 p.m.
Interview 4/Blog 4	Set up and conduct your 4 th informational interview and blog about your experience.	10	Friday, 3/18 by 11:59 p.m.
Interview 5/Blog 5	Set up and conduct your 5 th informational interview and blog about your experience.	10	Friday, 4/1 by 11:59 p.m.
Interview 6/Blog 6	Set up and conduct your 6 th informational interview and blog about your experience.	10	Friday, 4/15 by 11:59 p.m.
Interview 7/Blog 7	Set up and conduct your 7 th informational interview and blog about your experience.	10	Friday, 4/29 by 11:59 p.m.
Interview 8/Blog 8	Set up and conduct your 8 th informational interview and blog about your experience.	10	Friday, 5/13 by 11:59 p.m.

Appendix L

Informational Interview Coach Guidelines

Overview:

PRE 101 students will have to complete 8 informational interviews this spring. You will serve as their first interviewee to help build their self-efficacy about the whole process, from how to set up the interview to sending a thank you. Your interviewees should be contacting you the week of the January 24th to set up the interview.

Guidelines:

1. Remember the compliment sandwich (strengths – areas of growth – strengths)
 - a. Whatever feedback you give them, start with something they did well, then move on to what they might consider doing differently, and finish with more of what they did well.
 - b. We want them to leave the experience with increased self-efficacy so they will be more likely to go out and complete the rest of the interviews!
2. Offer them yourself as a resource (e-mail only) if they have any questions about their remaining interviews over the semester. To minimize the effect of the coaches, I want to keep it to just e-mail support.
3. If they have any questions you are unsure of, please direct them to me.