

THE ECHD 2050 PROJECT:  
AN OUTCOME STUDY ON THE EFFECTS OF COMBINING INDIVIDUAL  
CAREER CONSULTATION SESSIONS WITH A CAREER COURSE

by

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(Under the Direction of Linda F. Campbell)

ABSTRACT

The purpose of this study was to empirically examine the unique effects and outcomes that arise when combining two career counseling interventions together. The majority of research in vocational psychology has focused on the use of single interventions to assist individuals with their career-related difficulties. There is little information regarding the use and effectiveness of combined career interventions. Thus, the study attempted to add new information to an area of research that has received little attention.

Specifically, the study was designed to examine the combined effects of a career course and a career consultation session. It was hoped that this study would be able to determine if a session of career consultation would add to the effectiveness of the career course. In addition, the researcher also looked for the presence of any moderating variables that might lead to differences in students' scores on the main constructs which were measured.

Undergraduate students enrolled in a career development course were enlisted as participants for the study. Data from 169 of these students was utilized in the final analyses. While all students participated in the course, some students were required by their instructors to participate in a session of career consultation. Those students who participated in both of these interventions made up the dual intervention (treatment) group, while the remaining students were considered to be members of the single intervention (comparison) group.

A pretest-posttest research design was utilized in this study. Both groups of students were sampled early in the semester before the occurrence of the consultation sessions and again once the sessions had ended and the courses were coming to a close. The research packets completed by students included measures examining career certainty, indecision, cognitive dysfunction, and decision-making self-efficacy. Statistical Analyses were calculated to examine between-group differences. Additional analyses were calculated to examine the moderating effects of students' attitudes towards career counseling and towards participation in course requirements occurring outside of the classroom upon these main measures.

Results indicated that students who participated in both the career course and a career consultation session reported higher levels of career decision-making self-efficacy than those students who only participated in the career course. No other significant differences were found between these two groups. The implications these results have for the use of combined interventions are discussed. In addition, students' ethnicity was found to have a moderating effect upon their levels of career decision-making self-efficacy. Possible explanations for this observation and its implications for

research and interventions are discussed. Finally, suggestions for future research in the area of combined interventions are offered.

**INDEX WORDS:** Career, Counseling, Career Development Course, Dual Intervention, Career Decision Scale, Career Thoughts Inventory, Career Decision Self-Efficacy Scale – Short Form, Attitudes Towards Career Counseling

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## DEDICATION

This dissertation is dedicated to my parents. Thank you for all of the love and support you have provided me as I have pursued this degree. Many times, I have retreated into my “bear cave” in order to complete my work. Yet, you have always been there to welcome me back when the task was completed. Your love has helped to sustain me during these difficult times. In addition, thank you for raising me with your values and virtues. Your lessons have inspired me to both work hard and love strongly. I am truly blessed to have such loving parents as the two of you. Lots of love.

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## Chapter One

### Introduction

A number of studies have shown that college students in general have a higher level of distress than the general population (Adalf, Gliksman, Demers, & Newton-Taylor, 2001; Pascolo-Fabrizi, de Maria, Corigliano, Aguglia, & Gregori, 2001; Rosenthal & Schreiner, 2000; Winefield, 1993). One possible explanation for these heightened levels of distress may be the many developmental challenges that college students face. These tasks can include such things as learning to live independently, negotiating social and romantic relationships, learning self-control and self-discipline, and managing peer pressure. In addition, college students are also faced with the task of determining their work identity and future career path (Arnett, 2000; Chickering & Reisser, 1993). Depending on the type of student, the specific details of how these tasks are to be addressed may vary. According to Super (1990), traditional-aged college students are typically transitioning from tentative vocational preferences to more specific goals and plans. Their task is to gather information regarding potential career/major choices and to determine which one to pursue more exclusively. For non-traditional students, these tasks may be somewhat different and are based upon their specific life circumstances (Splete, 1996). Examples may vary from the students who are seeking to make a career change with the wish of pursuing an entirely different course of study to those who are returning to school to further enhance their work skills and knowledge by obtaining a college degree. Regardless of which category a student may fall into, the

career-related tasks for both types of students are not always smooth and contain many challenges. In addition, deciding upon strategies to address these tasks can be very stressful due to the implications that each one may have on the student's course of study and career trajectory.

In making their career choices, students vary in the ways they handle these tasks. Some students do not experience much difficulty in making career choices. They are able to select a major and pursue a course of study without experiencing much stress or anxiety. Conversely, there may be other students who are unable to make a decision about the major/career they wish to pursue. These students are commonly labeled as being "undecided," a term described as being "unwilling, unable, or unready to make educational and/or vocational decisions" (Gordon, 1995). Although not all undecided students experience career indecision in the same way, for many of them the process of making a career choice can be extremely stressful and anxiety provoking. Such difficulties can cause the process of making a career choice to be much more challenging and can even inhibit the student from making any choices. Due to the problems associated with career indecision, this area has been studied extensively to determine the various types of indecision and the best strategies for assisting students to overcome it (Gordon, 1998).

Understanding the needs of undecided college students is also important to administrators and faculties of higher education institutes. Each year, there are a significant number of college students who remain uncertain of what area of study or career path they should choose. Although this number tends to vary by institution, it has been estimated that between 20% to 60 % of students entering college are undecided

about an academic major or career choice (Sepich, 1987; Gordon, 1995; Hayes, 1997; Gianakos, 1999). It has also been shown that even students with a declared major also admit to various levels of uncertainty or indecisiveness (Titley & Titley, 1980). Thus, the phenomenon of student career indecision may actually be larger than administrators and researchers estimate.

With such a large number of students who may possibly be experiencing career indecision, there has been a need to identify effective interventions to aid these students. Potential interventions that have been identified include individual counseling, group counseling, courses, workshops, and computer interventions. The effectiveness of each of these interventions has been studied (Gordon, 1998), and there has been debate over which of these is the most effective for addressing students' career indecision (Spokane & Oliver, 1983; Oliver & Spokane, 1988; Whiston, Sexton, & Lasoff, 1998; Whiston, 2002). Most recently, this debate has been suspended and it has been recognized that not all interventions produce a similar effect and that each intervention may produce unique effects and outcomes (Whiston, Brecheisen, & Stephens, 2003).

Although this debate may have been suspended for researchers, choosing the best interventions to utilize can still be a difficult task for administrators and faculties of higher education institutions. They are often hard pressed to choose not only the most effective, but also the most efficient and cost-effective strategies for assisting students. Often, a number of interventions are utilized in unision to address the difficulties of students. Frequently, career counseling sessions are used with individual students who are experiencing high levels of career indecision or with those who actively seek out professional assistance. These sessions can be very effective in aiding students; however,

they are not very cost-effective and require a considerable amount of time to reach a small number of students (Oliver & Spokane, 1988). Institutions may also utilize career courses in an attempt to reach larger groups of students. A major advantage of these courses is that they are able to disseminate information on career exploration and decision making to large numbers of students at a time (Lent, Larkin, & Hasegawa, 1986). Also, the use of career assessments within the course allows for students to gain personal information regarding their compatibility with majors or careers they may be considering. Yet, career courses also have negative features as well. They are costly and require a substantial number of credit hours to affect students. Thus, administrators and faculty members may have a difficult time determining how to utilize these interventions in a way that maximally addresses students' needs.

#### *Statement of Problem*

While there is a significant body of research with college students documenting the effectiveness of individual career counseling (Oliver & Spokane, 1988; Whiston, Sexton, & Lasoff, 1998; Whiston, Brecheisen, & Stephens, 2003) and career courses (Hardesty, 1991; Oliver & Spokane, 1988; Whiston, 2002), there is little research examining the effectiveness of combining these interventions. A literature review reveals that the majority of the research in this area has focused on single interventions. However, interventions, such as individual career counseling and career courses, are combined for practical purposes. Some individuals may believe that since both career counseling and career courses are individually effective in addressing career indecision with students that combining these two interventions would create an intervention that possesses greater effectiveness. By this same logic, the possible benefits that students

might gain would be greater from the combined intervention than from any one intervention. Thus, combining these interventions might be done programmatically with hopes of providing students with additional benefits (e.g. more clarity in career/major direction, additional certainty, and improved decision making skills).

Although this line of thinking might be appealing to use in justifying the use of combined interventions, the additional benefits that might be gained from combining these interventions together have yet to be proven. Institutions that are providing these combined interventions to students are doing so without truly knowing the effects of these combinations. Some institutions may evaluate these combinations using institutional evaluation systems or by asking for feedback from students or instructors/counselors. However, these combined interventions are not often routinely and systematically evaluated for their effectiveness using research methods (Isaacson & Brown, 1993). Thus, the use of scientifically-based research methods would provide a more accurate measure of the effectiveness of these combined intervention programs. Positive outcomes from such research could be used to validate the use of such interventions, while the absence of any additional gains might lead administrators to consider how to use interventions that are more cost effective.

#### *Significance of the Study*

This study attempted to add new information to an area of research that has received little attention. With the literature primarily focusing on single career interventions (e.g. Dagley, 1999; Davis & Horne, 1986, Glaize & Myrick, 1984; Krieshok, 1998; Oliver & Spokane, 1988; Rounds & Tinsley, 1984; Spokane & Oliver, 1983; Whiston, 2002; Whiston, Sexton, & Lasoff, 1998), there remains a large amount of

missing information regarding the use and effectiveness of combined career interventions. Thus, this study might provide information that might be used to better understand this area of research. By using constructs (career certainty, indecision, cognitive dysfunction, and decision-making self-efficacy) that have already been demonstrated to be related to the effectiveness of career interventions, I hoped to examine whether combining two interventions would lead to additional gains in areas of career development that are greater than those benefits that might be attained with the use of a single intervention.

The significance of this study also extends beyond the purpose of research to applied areas relating to the development and use of career interventions. Clearly, there is a need for effective career interventions to assist college students with their indecision and development of decision-making skills. Institutions of higher education have already moved ahead and begun implementing the use of these combined interventions without possessing research to substantiate their use. The results of this study can inform the decision-making process on whether to use certain combined interventions (i.e. career counseling and career courses). If evidence were found for the effectiveness of these combined interventions, then administrators, faculty members, and counselors might consider how to continue combining these interventions to improve the ways they assist students. Conversely, if the evidence suggests that the combination of these interventions is no more effective than a course alone, then they may consider eliminating the use of counseling sessions from the curriculum and focus their attention on how to make the courses more efficient. If further research were pursued in this area, additional findings might occur which could suggest that administrators pair other modalities (e.g. computer-

based exploration programs, group counseling, etc...) that might better address student's career-related needs.

Finally, the research methods utilized in this study can contribute to how combined career intervention programs are evaluated in the future. Considering the frequency of the use of these interventions on college campuses, it is important for administrators and faculty members to have reliable and valid means for evaluating their programs. This point is particularly important in this age of shrinking college budgets. It is not uncommon for administrators to be required to document the effectiveness of services that are provided to students. The methods utilized in this study can be used to more accurately evaluate these types of programs and could be adapted by others as a means for documenting the effectiveness associated with their use of combined career interventions.

#### *Purpose of the Study*

In the last 25 years, the emphasis within the career counseling field has focused on comparisons of interventions based upon their effectiveness. Meta-analyses regarding the effectiveness of career interventions (Spokane & Oliver, 1983; Oliver & Spokane, 1988; Whiston, Sexton, & Lasoff, 1998; Whiston, 2002) have led to debates over the findings and additional studies to control for various variables and errors. Overall, it has been concluded that career interventions are effective in assisting clients address career difficulties (Whiston, Brecheisen, & Stephens, 2003). Due to fairly consistent findings, individual career counseling appears to have won the title of being "most effective" and was found to be moderately to highly effective in addressing client concerns (Oliver & Spokane, 1988; Whiston, Sexton, & Lasoff, 1998). Yet, some evidence still suggests that

career courses could be considered “most effective” (Whiston, 2002). These contradictory findings have made identifying the most effective career treatment modality a difficult task. This difficulty is further perpetuated by the lack of direct comparisons between interventions (Whiston, Brecheisen, & Stephens, 2003).

Rather than continue the debate over the most efficacious intervention, Whiston, Brecheisen, & Stephens (2003) provided the conclusion that not all interventions produce a similar “uniform effect.” They urged others to consider each intervention as producing effects and outcomes that are unique to the intervention itself. They also reminded those involved in the debate that contradictory results are sure to arise when only one form of measurement is used. Instead, researchers need to recognize the unique effects of the interventions when making any comparisons between them regarding their effectiveness. From this perspective, it might not be beneficial to attempt to figure out whether career courses are more effective than other interventions (e.g. individual counseling) in reducing college students’ academic indecisiveness, but rather to try and understand the unique contributions each intervention brings to the problem.

Taking into consideration Whiston, Brecheisen, and Stephens’s (2003) suggestion and the current lack of research in this area, this study was designed to examine the unique effects and outcomes that arise when combining two career counseling interventions together. Specifically, it explored the combined effects of a career course and a career counseling session. Traditionally, most studies have examined these two interventions separately when attempting to determine their effects upon college students. Although both of these interventions are seen as being effective in helping college students reduce their academic and career indecisiveness, the norm has been to use them



separately rather than as a cohesive and multifaceted way of assisting students. In addition, Whiston, Brecheisen, and Stephens (2003) provide evidence that career interventions that do not involve counseling (e.g. reading occupational information) are not as effective as career interventions that have a counseling component. Thus, there is added support for the combining of these two particular interventions together. To determine whether there would be a combined effect, the study examined the changes brought about by the addition of a single, individual career counseling session to a career course. It was hoped that this study would be able to determine if the session of career counseling added to the effectiveness of the career course.

To measure the effectiveness of the combined intervention, a comparison against the single intervention of a career course was made. Since the construct of effectiveness can not be measured directly, it was necessary to measure the effectiveness for each of these different conditions (dual and single intervention) indirectly using a number of career-related constructs. The three constructs that were used are career certainty/indecision, dysfunction in one's career-related cognitions, and career decision-making self-efficacy. Each of these constructs was chosen due to their strong relationship with the career success of college students and their previous use in studies on the effectiveness of career interventions. These constructs have been found to be positively correlated with a number of career variables, such as student persistence and satisfaction (Quinn, 1999), academic adjustment and grades (Chartrand, Camp, & McFadden, 1992), career decidedness (Long, Sowa, & Niles, 1995), rational decision-making style (Mau, 1995) self-efficacy beliefs (Betz & Luzzo, 1996) and ego identity (Cohen, Chartrand, & Jowdy, 1995). Also, they have been negatively correlated with college major indecision

(Bergeron & Romano, 1994), perfectionism, self-consciousness, and fear of commitment (Leong & Chervinko, 1996) and anxiety (Fuqua, Newman, & Seaworth, 1988).

I also looked for the presence of any moderating variables that might lead to differences in students' scores on these constructs. The attitudes an individual possesses regarding an activity can often influence how the individual views and reports their experiences with such an activity. In the study, the career counseling session served as the treatment condition and was the distinguishing feature that sets these two conditions apart. As such, it was important to examine whether the attitudes students possessed towards career counseling influenced how they reported their experiences with the session. This course of action follows from Heppner and Hendricks' (1995) suggestion that researchers use attitudes towards career counseling along with other more traditional measures of session outcome. The Attitudes Toward Career Counseling Scale (ATCCS; Rochlen, Mohr, & Hargrove, 1999) was used to determine if any such effects were present in scores tallied from students' responses. In addition, the counseling sessions were a required course activity for students enrolled in course sections. Also, this was an activity that occurred outside of the classroom and was one that is not regularly required of students. Thus, students may possess some strong beliefs regarding their participation in such an activity. This study also explored if students' attitudes towards a course requirement occurring outside of the classroom affected their responses on other measures in the study. A scale measuring attitudes towards participation in course requirements occurring outside of the classroom was created for this study and was included in the research packets. The results from this measure were examined to identify if any such influence had effects upon the main construct scores.

### *Theoretical Background*

The interventions that were studied are based upon the theories of career development. In broad terms, career development is the process of identifying and implementing vocational, or work-related, activities to bring about changes for the purpose of personal growth. Career development is aimed at assisting individuals in identifying their personal capacities and preferences to maximize the fit between interests and vocational activities in which they engage. A significant number of research studies on career development have been focused on college students (Gordon, 1998; McWhirtner, Crothers, & Rasheed, 2000). The resulting body of knowledge has been used to assist students to more clearly define their career goals, to become more certain about these goals, to believe that they can effectively pursue the actions necessary to fulfill these goals, and to demystify negative cognitions that might deter them from accomplishing these goals.

One of the major influences on the study of career development has been cognitive psychology. The related theories and concepts have helped to shape the way vocational behaviors have been understood. A major premise of cognitive psychology is that an individual's cognitions influence the way he/she experiences feelings and behaves (Beck & Weishaar, 2000; Lam & Gale, 2004). These cognitions are formed through past experiences (Beck, 1995) and influence the individual's way of seeing the world (Young, 1999). The manner in which these cognitions influence the individual can be positive or negative depending on the types of life events and stressors he/she has experienced (Carver, 1998; Lam & Cheng, 2001). However, cognitions are not static and growth is possible. Individuals can change their ineffective cognitions by learning and

implementing new ones (Free, Oei, & Appleton, 1998; Maddux, 2002; Snyder & Lopez, 2002). Also, individuals are capable of meta-cognition and can process, monitor, and control their cognitions, affects, and behaviors (Beck & Weishaar, 2000; Sampson, Peterson, Lenz, Reardon, & Saunders, 1996).

Contemporary career development research has adopted these basic premises of cognitive psychology and has attempted to identify related cognitive factors that contribute to career indecision (Borgan, 1991; Keller, Biggs, & Gysbers, 1982; Lustig & Strauser, 2000; Saunders, Peterson, Sampson, & Reardon, 2000). Some cognitive factors have been found to facilitate career decidedness, whereas others have been shown to inhibit career choice clarity (Keller, Biggs, & Gysbers, 1982; Luzzo & Ward, 1995; Taylor & Betz, 1983). Specifically, factors such as negative career thoughts (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996) and career decision-making self-efficacy (Betz & Taylor, 1994) have been demonstrated to influence career decidedness. High levels of negative career thoughts and low levels of career decision-making self-efficacy have been linked empirically to career indecision (Austin, Wagner, & Dahl, 2003; Bergeron & Romano, 1994; Taylor & Betz, 1983; Reed, Lenz, Reardon, & Leirer, 2000; Saunders, 1997; Saunders, Peterson, Sampson, & Reardon, 2000; Taylor & Popma, 1990). Although each of these constructs has a proven relationship with career indecision, no specific relationship has been established between negative career thoughts and career decision-making self-efficacy (Sampson, Peterson, Lenz, Reardon, Saunders, 1996). Each construct has been researched separately and has a distinct body of research associated with it.

While negative career thoughts and career decision-making self-efficacy have generally been understood separately, the Cognitive Information Processing Theory (CIP) of career decision-making (Peterson, Sampson, Reardon, 1991; Sampson, Lenz, Reardon, & Peterson, 1999) can be used to understand and explain both of these constructs. It is a theory that focuses on the thought processes involved in making effective career decisions. According to CIP, each individual possesses an internal, cognitively-based decision-making structure which is used to make career choices. This structure is used as a guide through the process of making a choice. As part of the process, the individual gathers, assimilates, and interprets information that will be used to make a particular career decision. The theory proposes that information regarding self-knowledge (an individual's perception of values, interests, and skills) and occupational knowledge (knowledge of occupations and schemas of how the world of work is organized) is necessary for this process. Also, the individual must use decision-making skills (the use of communication, analysis, synthesis, valuing, and execution skills), and executive processing (the use of meta-cognition to control the selection and sequencing of strategies used) for decisions to be made effectively. Ultimately, if the necessary information is acquired and the proper skills are utilized, career decidedness will be the by-product of this process.

However, career indecision occurs when there is a breakdown in this process. Too little or too much information may be acquired by the individual to inform the decision. Also, an individual may skip or become stuck on a processing step which interrupts the decision-making process. According to CIP, these harmful events can occur due to the presence of negative career thoughts. These negative thoughts inhibit the career choice

process by their influential presence. Although originally believed to occur at the executive processing level of meta-cognitive functioning (Beck, 1995; Wells, 2000), negative career thoughts can influence any step of the process (Sampson, Lenz, Reardon, & Peterson, 1999). Examples of how they interfere with the process are by providing misinformation, by distracting the individual from examining more important information, and by leading the individual to believe that he/she does not possess the skills to make a choice. Overall, the presence of greater levels of negative thoughts has been associated with career indecision. Support for this relationship is substantiated by research findings that show that negative self talk impedes career choice (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996) and that individuals who exhibit poor meta-cognitive skills consistently demonstrate poor career choices (Peterson, Sampson, Lenz, & Reardon, 2002).

Still, not all cognitions are negative and lower levels of negative thoughts have been associated with career decidedness. Also, positive career thoughts can actually facilitate the. The finding of Strauser, Lustag, Keim, Ketz, and Malesky (2002) that positive self talk facilitates career choice is one example of positive thoughts facilitating the career decision-making process. According to CIP, career decision-making self-efficacy can be thought of as another example of a positive career thought (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996). As defined by Betz & Taylor (1994), it is an “individual’s degree of belief that he/she can successfully complete tasks necessary to complete career decisions (p.8).” Sampson et al. makes the argument that career decision-making self-efficacy should be considered a type of positive thought because the construct is seen to be a positive contributor to an individual’s career decision-making.

Individuals who possess high levels of career decision-making self-efficacy also tend to possess stronger decision-making attitudes and skills (Luzzo, 1993) and more frequently engage in career decision-making tasks leading to greater career decidedness (Betz, 2004). Conversely, low self-efficacy has been recognized as a reliable antecedent to career indecision (Luzzo & Ward, 1995). As such, since low career decision-making self-efficacy leads to avoidance of career decision-making tasks, they also directly influence greater career indecision (Betz & Luzon, 1996; Betz & Voyten, 1997; Guay, Senecal, Gauthier, & Fernet, 2003; Taylor & Betz, 1983).

#### *Description of Pilot Study*

A previous pilot study (Stochel, 2006) was conducted to initially explore the effect of combining an individual career counseling session to a career course. This dual intervention combination was compared against the intervention of a single career course. Effectiveness of the interventions was measured by using the Career Decision Scale (CDS; Osipow, 1987) to measure college students' level of academic/career certainty and indecision. Also, the study examined whether one session of career counseling would affect students' attitudes towards career counseling. This construct was measured using the Attitudes Toward Career Counseling Scale (ATCCS; Rochlen, Mohr, & Hargrove, 1999). Participants were 95 college students (43 men, 51 women, 1 without gender identification). Due to the format of the study, only between-group differences were able to be observed and discussed.

Results from *t*-tests did not show support for the proposed hypotheses. The first two hypotheses proposed that students in the dual intervention group would score significantly higher on the Certainty subscale and lower on the Indecision subscale than

students in the single intervention group. The results indicated that there was no difference found between the two groups' scores on the Indecision subscale and that the single intervention group actually had higher levels of academic/career certainty. Similarly, two other hypotheses proposed that students in the dual intervention group would score significantly higher on the Value subscale and lower on the Stigma subscale than students in the single intervention group. For both of these hypotheses, the single intervention group scored higher on value and lower on stigma associated with career counseling.

Overall, these results suggested that the students in the single intervention group (career course only) fared better in areas of actual planning or satisfaction with level of planning. Unfortunately, it is difficult to specify exactly what contributed to this group's experiencing more academic/career certainty, higher value of career counseling, and lower stigma associated with career counseling. Given the previously discussed findings on the effectiveness of both career courses and counseling, it was difficult to imagine that their combination would not have positive results or that it would not be at least as effective as a career course by itself. Still, the results from the ATCCS offered some potential ideas on where some structural errors in this study may have occurred. It seems that those students who participated in the additional session of career counseling scored higher in feelings of stigma and lower in feelings of value related to career counseling. Such scores lead I to hypothesize that perhaps there may have been some factor associated with the actual career counseling experience itself that contributed to the students' views. While there are many potential variables involved with the career counseling experience (e.g. client's expectations, counselor's education and skill level,



the perceived fit between client and counselor, etc...), efforts to make counseling sessions more uniform might help to reduce any effects resulting from these confounding variables in the future. Also, the scores on the ATCCS suggest that future research might benefit from examining the role that attitudes towards career counseling may have upon assessments used to measure combined intervention effectiveness.

In addition, effects occurred for certain demographic variables. First, an effect was found for the year in school on the Certainty subscale. The scores revealed a pattern of gradual increase in certainty through the first, second, and third years. This increase appeared to peak at the third year status and then decrease with fourth year status. This effect was notable because it lent support to the idea that certainty does not necessarily function in a linear fashion, where a greater amount of intervention leads to a greater level of academic/career certainty. It also lent support to the idea that academic and career planning does not occur in a linear fashion, where decisions always lead to forward progress and increased certainty.

The second set of effects occurred for gender on both of the Attitudes Towards Career Counseling subscales. On the Value subscale, female students scored significantly higher than male students in valuing career counseling when compared across experimental groups. Similarly, when a comparison was done across experimental groups on the Stigma subscale, male students scored significantly higher than female students in feeling of stigma and shame associated with career counseling. These results would appear to indicate a gender effect occurred in the attitudes students possess towards career counseling with male students both devaluing and stigmatizing the experience of

career counseling. These findings match some of the current findings in the field (Rochlen, Mohr, & Hargrove, 1999)

### *Hypotheses*

The research questions that were proposed in this study stem from the literature on career counseling intervention effectiveness and related career constructs. Specifically, the following research questions were asked to fill a gap in the literature regarding the combining of interventions to increase the effectiveness of addressing college students' inability to decide on a major and/or career. The study investigated whether students' participation in both a career course and a career counseling session would lead to greater changes in career development than those attained by students participating in a career class solely. Career development was measured using the constructs of career certainty and indecision, dysfunctional career thoughts, and career decision-making self-efficacy. Finally, the study sought to examine whether any demographic variables (e.g. gender, year in school) or students attitudes (towards career counseling and towards participation in course requirements occurring outside of the classroom) had a moderating role on students' scores on the other three career constructs. The study's hypotheses are stated as follows:

Hypothesis 1a: Students in the dual intervention group will exhibit greater career certainty than those students in the single intervention group as reflected by significant increases on the Certainty subscale of the CDS.

- Hypothesis 1b: Students in the dual intervention group will exhibit less career indecision than those students in the single intervention group as reflected by significant decreases on the Indecision subscale of the CDS.
- Hypothesis 2a: Students in the dual intervention group will exhibit less dysfunctional career thoughts than those students in the single intervention group as reflected by significant decreases on the total scores of the CTI.
- Hypothesis 2b: Students in the dual intervention group will exhibit less decision making confusion than those students in the single intervention group as reflected by significant decreases on the Decision Making Confusion subscale of the CTI.
- Hypothesis 2c: Students in the dual intervention group will exhibit less commitment anxiety than those students in the single intervention group as reflected by significant decreases on the Commitment Anxiety subscale of the CTI.
- Hypothesis 2d: Students in the dual intervention group will exhibit less external conflicts than those students in the single intervention group as reflected by significant decreases on the External Conflict subscale of the CTI.

- Hypothesis 3: Students in the dual intervention group will exhibit greater career decision-making self-efficacy than those students in the single intervention group as reflected by significant increases on the total scores of the CDSE-SF.
- Hypothesis 4: Certain demographic variables (gender, ethnicity, age, and year in school) will act as moderators and affect the strength scores obtained on the CDS, CTI, and CDSE-SF.
- Hypothesis 5a: Students' positive attitudes towards career counseling, as measured by the Value subscale of the ATCCS, will have a moderating effect and will affect the scores obtained on the CDS, CTI, and CDSE-SF.
- Hypothesis 5b: Students' negative attitudes towards career counseling, as measured by the Stigma subscale of the ATCCS, will have a moderating effect and will affect the scores obtained on the CDS, CTI, and CDSE-SF.

Hypothesis 6: Students' attitudes towards participation in course requirements occurring outside of the classroom, as measured by the Attitudes towards Participation in Course Requirements Occurring Outside of the Classroom scale, will have a moderating effect and will affect the scores obtained on the CDS, CTI, and CDSE-SF.

#### *Limitations*

The limitations of this study are as follows:

1. This study relied solely on self-report measures. It was assumed but not guaranteed that students would share their thoughts and perceptions honestly and accurately. Conducting a study that utilizes multiple sources of evaluations (e.g. parents, peers) would reduce this problem and might provide more accurate information regarding the changes students experienced through participating in these interventions.
2. Only a limited number of career-related variables were examined. Inclusion of other variables (e.g. career maturity, locus of control) could assist in understanding the effects of these interventions on students' career development. Also, the study did not take into account personal and contextual variables or personal psychological variables. Vocational theory and research has recognized that these variables are influential on career development and the success of career counseling interventions (e.g. Lent, Brown & Hackett, 1994; Super, Savickas, & Super, 1996; Multon, Heppner, Gysbers, Zook, & Ellis-Kalton, 2001; Rochlen, Milburn, & Hill, 2004).

3. A comparison group in which students participated in a career course was used in this study. Both the research design and ability to draw conclusions about the effectiveness of these interventions would be strengthened by including a third group, one without an intervention. Also, more information regarding the effectiveness of combining interventions could be gained if other pairings of interventions were used in the study.
4. Differences in instructors and counselors were not assessed in this study. The course sections were not taught by the same instructors, nor were the counseling sessions led by the same counselors. It is possible that any differences that were found between the research groups may be due to a number of factors, such as personality, teaching (or counseling) experience, and/or education level.
5. Data for the study was collected over the course of two semesters. A number of different elements associated with the study may have been different during these time periods and could have introduced confounding variables into the study. Some things that may have been different between semesters could include, but are not limited to instructors teaching the courses, improvements made to the course curriculum, different counselors, and improvements made in the consultation sessions and to the counselor's skill sets. Also, those students who participated during the spring semester (the second time period) may have had additional time (a semester) to consider and explore their career decisions than those students who participated during the fall semester (the first semester).
6. The sample was not randomly selected, but was one of convenience. A limited number of course sections of the career development class were offered each

semester. Each of these courses had an enrollment cap of 20 students. Thus, it was necessary for me to sample all sections of students to acquire a sufficient sample size for this study. Due to the non-randomization of the sample procedures biases may be reflected in the results of this study and the generalizability of the study may be limited.

7. The posttest data was collected in the final weeks of the semester. Using this procedure only allowed the short-term effects of these interventions to be examined. The strength of these interventions to create change would be better understood if additional data was collected during the period occurring immediately after the completion of the interventions. Using this type of procedure would allow for the longevity of the effects to be studied.
8. The scale measuring students' attitudes towards participation in course requirements occurring outside of the classroom was developed for the purpose of this study. Therefore, validity and reliability information is limited.

#### *Definition and Operational Terms*

##### *Single Intervention Group*

The comparison group included those students who only participated in one of the sections of the career course.

##### *Dual Intervention Group*

The treatment group included those students who participated in one of the sections of the career course and also participated in the session of career counseling offered through the course.

### *Career Certainty*

Career certainty is defined as the ability to make career-related decisions (Osipow, Carney, Winer, Yanico, & Koschier, 1987). Individuals who possess career certainty are able to specify a choice and possess a degree of confidence about this decision (Sampson, Peterson, Reardon, & Lenz, 2000). These choices and decisions may relate to one's major and/or career.

### *Career Indecision*

Career indecision has been broadly defined as the inability to select and commit to a career choice (Kelly & Lee, 2002). It is the opposite of career certainty. Depending on the individual's circumstances, this difficulty may relate to the selection of a major, a vocation, or any other career-related element. Career indecision has been a focus of vocational research over the last few decades and has been argued to be one of the single most important constructs in the field of vocational psychology (Guay, Senecal, Gauthier, & Fernet, 2003).

### *Dysfunctional Career Thoughts*

According to Sampson, Peterson, Lenz, Reardon, and Saunders (1996), career thoughts may be defined as "outcomes of one's thinking about assumptions, attitudes, behaviors, beliefs, feelings, plans, and/or strategies related to career problem solving and decision-making"(p.2). They may occur as pictorial or verbal events in an individual's stream of consciousness (Sacco & Beck, 1995; Sampson, Peterson, Lenz, Reardon, & Saunders, 1996). Specifically, dysfunctional career thoughts are pervasive negative cognitions relating to career choice. They are negatively biased, distorted, and idiosyncratic (Lam & Cheng, 2001; Young 1999). They are considered to be similar to



other concepts such as: self defeating assumptions (Dryden, 1979), career myths (Dorn & Welch, 1985), dysfunctional career beliefs (Krumboltz, 1990), faulty self-efficacy beliefs (Brown & Lent, 1996), faulty generalizations (Stead, Watson, & Foxcroft, 1993), self defeating beliefs, (Sweeney & Schill, 1998), poor career beliefs (Enright, 1996) and negative career thoughts (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996).

Dysfunctional career thoughts are viewed as interfering with an individual's ability to make career choices effectively and may cause decision making to be difficult due to impaired information processing and learning.

#### *Career Decision-Making Self-Efficacy*

Self-efficacy refers to an individual's beliefs about their ability to perform specific tasks (Bandura, 1977, 1986). Specifically, this concept relates to one's confidence level in the ability to organize and execute a given course of action aimed at solving a problem or accomplishing a task. Although this is a general term, self-efficacy occurs within different contexts and must be defined by the contexts in which it occurs and the tasks associated with it. As such, career decision-making self-efficacy can be defined as an "individual's degree of belief that he/she can successfully complete tasks necessary to make career decisions" (Betz & Taylor, 1994, p.8). Career decision-making self-efficacy influences an individual's career decision making and ability to make choices and the ability to gather occupational information, select goals, make plans, solve problems, and conduct self appraisals. Individuals with strong self-efficacy will engage in "approach behaviors" (Betz, 2004) and will more readily participate in career decision-making behavior. Conversely, those with low levels of self-efficacy will engage in "avoidant behaviors" (Betz, 2004) and will avoid engaging in career-related behaviors

and making choices. According to (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996), career decision-making self-efficacy can be considered to be a type of positive career thought.

#### *Attitudes towards Career Counseling*

Attitudes toward career counseling consists of the beliefs, feelings, anticipations, and/or expectations an individual possesses regarding services (Rochlen, Mohr, & Hargrove, 1999). They reflect the likelihood of seeking services, feelings associated with the decision to use services, and/or the ways an individual value services. These attitudes can be expressed either positively or negatively. Whereas positive attitudes (Value) reflect the perceived value and usefulness of a career counseling experience, negative attitudes (Stigma) reflect the stigma, shame, and negative feelings related to seeking professional help for career related concerns or decisions. These attitudes can exist whether or not an individual has actually participated in career counseling and can develop and change at any point: prior, during, and after the occurrence of services.

#### *Attitudes towards Participation in Course Requirements Occurring Outside of the Classroom*

This attitudinal construct consists of the beliefs, feelings, anticipations, and/or expectations an individual possesses regarding his/her participation in a course required activity that occurs outside of the classroom domain. It is the outlook an individual possesses towards being asked to complete (or completing) an activity in the time outside the regular course period. This construct includes both the positive and/or negative attitudes that are aroused within an individual when presented with such an activity.

## Chapter Two

### Review of Literature

#### *History of Career Courses*

In their review of the literature, Folsom and Reardon (2003) provided a condensed version of the history of career courses in America. Although this intervention may not be as well known as individual counseling, it still has a rich history of use in institutions of higher education. Folsom and Reardon reported that career courses have been used by colleges and universities for the better part of the last century. The emergence of their use seems to follow shortly after the birth of the vocational and career counseling field itself.

The earliest documented report of such a course comes from Maverick (1926), who wrote about a freshman orientation course being used to provide vocational guidance in 1911. This first career course was offered for women at Barnard College, Columbia University. The course was entitled “Professional Occupations: Their Scope, Function, and Newer Developments (Maverick, 1926). Edgar J. Wiley would become the first professional to develop a career course in 1923 (Carter & Hoppock, 1961). Although Wiley had developed his course, it has not been recorded or shared with others in the general public. Thus, while Wiley has received the distinction of being the first to develop a course, Borow (1960) was first to comprehensively describe such a course. The course he described was offered at the University of Minnesota in 1932.

As the century progressed, the prevalence of career courses in higher education institutes increased. Folsom and Reardon pointed to a number of studies that traced the path of the increase in the use of career courses. First, Hoppock (1932) reported that by 1930 there were 18 institutes of higher education offering career courses to their students. This number increased to 353 institutes in the 1970's as reported by Haney & Howland (1978). Mead and Korsehgen (1994) sought to gain an updated estimate of the prevalence of career courses being used in high education institutions. To accomplish this task, they sampled two colleges from each of the 50 states regarding their use of career courses. Responses were obtained from 61 institutions in 32 states. The results revealed that 62% of the respondents offered some type of career course. Student enrollment in these courses was rather equally distributed across the four years of college.

Finally, the most recent study by Collins (1998) surveyed college members of the National Association of Colleges and Employers in 1997. Of the surveyed members who responded, she discovered that 30% (approximately 137 members) offered courses for credit and 24 % (approximately 108 members) offered non-credit bearing courses. In conclusion, these findings suggest that the use of career courses by colleges and universities have increased over the past hundred years, and that they are a preferred intervention. However, a more accurate estimate of the number of career courses currently offered would speak to the prevalence of their use and the reliance that colleges and universities have upon them.

### *Effectiveness of Career Interventions*

#### *Meta-analyses Examining the Effectiveness of Career Interventions.*

According to some scholars in the area of career counseling (Rounds & Tinsley, 1984; Oliver & Spokane, 1988; Dagley & Salter, 2004), the question of whether career counseling interventions are effective was not one that needed to be asked anymore. They pointed to a number of studies and meta-analyses that supported the general conclusion that career counseling interventions are effective and offer positive benefits to clients (Fretz, 1981; Holland, Magoon, & Spokane, 1981; Krumboltz, Becker-Haven, & Burnett, 1979; Myers, 1971, 1986). However, the data used in these studies were primarily published in the period between 1950's and the mid-1980's. As time progressed and changes occurred in the field of career counseling, a concern arose that these findings, although accurate for their time, did not reflect the changes that have taken place in the use of career interventions (Whiston, Sexton, & Lasoff, 1998).

Thus, in the past 25 years, a new series of meta-analyses have been conducted. These studies have attempted to examine the current research available regarding the use of career interventions. The researchers involved in these studies have also attempted to move beyond the general question of the effectiveness of interventions. They have attempted to ask more sophisticated and analytical questions regarding interventions. Among these questions are those of “*are certain interventions more effective than others*” and “*does the length of treatment affect the magnitude of the intervention's outcome* (Oliver & Spokane, 1988)?”

*Effectiveness of Select Intervention*

The answer to this first question has been debated for the better part of the past 25 years. Some scholars have suggested that career courses may possess the most potential for being an effective intervention, yet others have countered these arguments with evidence that individual career counseling is more effective. The evidence supporting both of these claims has been contradictory at times and has left some uncertainty regarding the answer to this question. Still some researchers have tried to sort through this confusion to draw some conclusions regarding the effectiveness of specific career interventions.

The first in the series of recent meta-analyses was conducted by Baker and Popowicz (1983), who conducted a meta-analysis of the effects of career education programs. Their study examined 18 career education studies. They reported an overall effect size (ES) of .50 for career education studies. Yet, while a moderate level of effectiveness was found for these programs, this study only focused on one type of interventions. Thus, there is little generalizability that can be applied to other forms of interventions. However, the study was valuable because it provided another piece of evidence showing a career intervention could be shown to be effective using more recent data.

In that same year, Spokane and Oliver (1983) conducted an investigation of the career-counseling literature to determine the effectiveness of career interventions. Their operational definition of career intervention was “any treatment or effort intended to enhance an individual’s career development or to enable the person to make better career-related decisions (Whiston, 2002, p. 219).” This definition has become the standard one

used within the field of career counseling. Although it is a broad definition, it encompasses a wide range of interventions that includes individual counseling, group activities, computer applications, and self-administered inventories. When they applied their definition to the literature, Spokane and Oliver were able to identify three main types of career interventions: individual, group or class, and alternative (e.g. computer-assisted, self-directed, and career-education). An overall mean ES of .85 was found when all three types of career interventions were combined. Separate effect sizes for each type were calculated and revealed that group or class interventions ( $ES = 1.11$ ) were more effective than individual counseling ( $ES = .87$ ) or alternative interventions ( $ES = .34$ ). These results provided some specificity with which one might start to compare the effectiveness of interventions. From their results, group and/or class interventions could be considered to be the most effective.

Yet, Rounds and Tinsley (1984) critiqued the work of Spokane and Oliver (1983) and suggested that their reported overall effect size was incomplete. In response to this call for additional analyses within the overall effect size, Oliver and Spokane (1988) conducted a meta-analysis on career interventions that used more sophisticated coding and analysis procedures to examine the relations between study characteristics and outcomes. They also attempted to extend the data base used by Spokane and Oliver (1983) by examining 58 studies containing 7,311 subjects. In calculating the results of the study, the authors needed to control for the number of subjects in these studies and also had to delete two outliers. When these procedures were completed, an overall ES of .39 was found for all career interventions together. When the data was viewed from this perspective, there was modest support for the overall effectiveness of career

interventions. However, the authors also calculated the percentage of control group participants that would exceed experimental group participants. After the final weights were applied and studies were deleted, the experimental group average still exceeded the control group by 65%. This figure adds strength to the general effectiveness findings by showing that participants receiving some form of career interventions fare better than about two thirds of participants receiving no intervention.

Oliver and Spokane also examined the effects for different interventions and came to a number of conclusions. First, their overall finding was that class interventions were the most effective by way of effect size ( $ES = 2.05$ ). To a lesser degree, individual counseling ( $ES = .74$ ) and workshops/structured groups ( $ES = .75$ ) were also found effective for assisting individuals. However, they realized that class interventions required more hours to achieve the larger effect. Thus, when the authors calculated the ratio of effect size to number of sessions, individual career counseling emerged as the most effective intervention per unit of time involved ( $ES = .44$ , class  $ES = .13$ ). Finally, the authors calculated the relative cost of these interventions to clients. These findings actually showed that individual counseling (\$20.69) was almost twice as expensive as classes (\$10.87).

In evaluating Oliver and Spokane's findings regarding individual counseling and classes, the greater effectiveness of either intervention could be argued depending on where one places emphasis. Class interventions were the most effective but required the greatest number of intervention hours. This ability to reach more people at one time gives them a specific advantage over individual-client interventions (Lent, Larkin, and Hasegawa, 1986). On the other hand, individual career counseling can be considered to



be more effective from an efficiency perspective. They produced more client gain per hour (or session) than any other intervention modality. Although they cost more per session, less sessions of individual counseling were required to be effective with clients. Thus, either career classes or individual treatment can be argued to be the most effective intervention, depending on whether one values time or magnitude.

While these two studies offered support for the effectiveness of career courses over other interventions, other studies provided evidence that further questioned the greater effectiveness attributed to these courses. Whiston, Sexton, and Lasoff (1998) carried out a meta-analysis to replicate Oliver & Spokane's study (1988). In their replication, they updated the range of studies examined by looking at those published 1983 and 1995. A total of 46 studies were used in the final analysis. In their analyses, Whiston, Sexton, and Lasoff initially found a smaller effect size (.45) than Oliver & Spokane (1988) (.82) for the overall effectiveness of career interventions. However, this gap was closed when weights were added to correct for sample size and outliers were removed. They made these corrections to both their data and Oliver & Spokane's (1998) and found corrected effect sizes of .44 and .48 respectively. These findings suggest that both studies had finding similar levels of overall effectiveness for career interventions.

Whiston, Sexton, and Lasoff found career classes ( $ES = .15$ ) to have smaller effects sizes than both individual ( $ES = .75$ ) and group counseling ( $ES = .57$ ). They were the third most effective career intervention out of eight different categories of interventions examined. The researchers also calculated the effect size of interventions per hour and session. Individual counseling was by far the most effective intervention per hour ( $ES = .92$ ) and per session ( $ES = .92$ ). From these results, individual counseling still

remained the most effective and efficient intervention per unit of time. On the other hand, evidence from the study suggested that class interventions were less effective than previously thought.

To further complicate the debate on career interventions, Brown and Ryan Krane (2000) suggested that group counseling should be considered among the most effective interventions. This comment was made after they had reviewed a series of meta-analyses. In their review, they pointed out the cost-effectiveness of groups. In a time when society and third-party payers expect the most benefit from the money spent on services, groups are not only shown to be effective but have a cost advantage due to the number of clients that be can reached at one time. Brown and Ryan Krane's review of the previous meta-analyses also led them to suggest that career course interventions are actually less effective than previously thought.

With all of these various findings on the effectiveness of career interventions made available to the field, some basic conclusions could be made regarding the effectiveness of certain career interventions. It appears that both individual career counseling and career courses are effective and possess various advantages and costs associated with them. However, these conclusions were made on meta-analyses that examined interventions separately and then compared them. Yet, without any direct comparison, it is difficult to determine whether career classes (Oliver & Spokane, 1988), individual counseling (Whiston et al, 1988) or group counseling (S.D. Brown & Ryan Krane, 2000) have the most potential for assisting career clients.

To substantiate these comparisons, Whiston, Brecheisen, & Stephens (2003) conducted a comprehensive meta-analysis of career intervention outcome studies that

directly compared the differences between career interventions. As their criteria, they chose studies which (a) have compared two or more career interventions; (b) involved random assignment to treatment groups; and (c) contained the necessary statistics to calculate effect size (p. 393). Studies that were considered for the project covered the period of 1975 to 2000. Fifty seven studies were used in the final meta-analysis.

First among Whiston, Brecheisen, & Stephens' findings was a trend that revealed a decrease in outcome research on career interventions. The majority of studies were conducted prior to 1985. In their comments, the authors pointed out that this trend revealed a shortfall in the research. Such a trend might suggest that some of their findings would not reflect the most current practices in career counseling. In addition, they found that there were some career interventions which received little attention and were not compared with other interventions. For example, there were only two study-level comparisons of class interventions to other modalities and both of these comparisons involved computer interventions. Thus, it was difficult to know how career courses fared against individual counseling. This deficit in the research is disappointing since it would be beneficial to know if direct modality comparisons supported the efficacy of class interventions over other modalities, such as individual counseling.

Since they could not find comparison studies for all major career interventions, the Whiston, Brecheisen, & Stephens attempted to look at the major trends found within the available studies. A number of trends were found that are particularly pertinent to the current study. Specifically, these trends relate to individual counseling. It was generally found that the use of a computer program intervention supplemented by counseling had better outcomes than those who just used computer applications. In addition, this trend

seemed to extend across other interventions where other such comparisons (i.e. the addition of counseling to another intervention) were made. The results also indicated that interventions that did not include a counseling component were not as effective as other career treatment modalities and led Whiston, Brecheisen, & Stephens to suggest effective career interventions need to include a counseling component.

Although there were still areas where no comparisons had been made, Whiston, Brecheisen, & Stephens attempted to make conclusive statements that might be used to settle the question regarding the effectiveness of career interventions. Their conclusions referred back to the previous meta-analyses and their findings. In reviewing the findings of these studies, they pointed out the actual effectiveness of career courses in comparison to other interventions appears to be more variable than imagined. Also, these somewhat contradictory findings make it difficult to identify clear trends related to their effectiveness. Thus, rather than continue the debate of most efficacious intervention, Whiston, Brecheisen, & Stephens concluded that not all interventions produce a similar “uniform effect,” but that each intervention may produce effects and outcomes that are unique to the intervention itself. They then called for recognition of the unique effects of the interventions regarding their effectiveness. In their opinion, it might not be beneficial to attempt to figure out whether certain interventions are more effective than other interventions (e.g. career courses vs. individual counseling), but that it might be better to try and understand the unique contributions each intervention brings to the problem.

Since Whiston, Brecheisen, & Stephens (2003) made their conclusion regarding the need to recognize the unique contributions of career interventions, this attitude has appeared to be adopted by the field of career counseling. No other major studies have

occurred regarding career interventions. As such, the answer the field has provided to the question of “are certain interventions more effective than others” appears to be “Yes.” However, the rest of the response to this question is less concrete and is based more on trends (Whiston, 2003). One such trend is that individual career counseling is moderately to highly effective in assisting clients (Oliver & Spokane, 1988; Whiston, Sexton, & Lasoff, 1998). In addition, both individual and career classes might rightly be claimed as the most effective method for delivering career counseling depending on the criteria used (Whiston, 2002). Finally, this effectiveness can be considered to apply to college students since almost 49% of the studies since 1950 have been with college students (Whiston, Sexton, & Lasoff, 1998).

#### *Length of Treatment*

This second question regarding career interventions has not received as much attention as the first. This question has not been studied quite as diligently or directly as the first question. However, there is evidence to suggest that the length of treatment matters. Pickering and Vacc (1984) found that long-term interventions were more successful than short-term interventions. Also, the data from Oliver and Spokane’s (1988) and Whiston, Sexton, and Lasoff’s (1998) meta-analyses suggest that the number of sessions utilized as part of an intervention influence its effectiveness.

In the Oliver and Spokane (1988) meta-analysis, a mean ES of .31 was found for one session of a career intervention. This number increased as the number of sessions grew. At four sessions, a peak was reached with a mean ES of 1.25. Mean effect sizes then dropped until seven sessions were utilized as part of an intervention. The mean ES

for seven sessions was 2.73. Oliver and Spokane did not find a higher mean effect size until the number of sessions rose to 20 (mean ES = 5.11).

Whiston, Sexton, and Lasoff (1998) sought to extend and improve upon the findings of Oliver and Spokane (1988) by using more contemporary meta-analytic procedures. These improved methods somewhat similar findings regarding the effect sizes for the numbers of sessions utilized in career interventions. The mean ES began with .61 for one session and then dipped until four sessions was reached (mean ES = .76). Interestingly, the mean ES for five sessions dropped greatly to .08, but rose quickly to .99 for 5.5 sessions. More modest mean effect sizes were found until the session number reached 9 sessions (mean ES = .99).

From the results of these two meta-analyses, two points might be suggested. First, there is evidence to suggest a small to modest amount of effectiveness can be achieved by a single session career intervention. The exact amount of effectiveness can be debated and requires more research to be determined. Second, the effectiveness of a career intervention appears to increase as the number of sessions increases. However, the support for this generalization appears to only apply when a small number of sessions are utilized (between 4-7 sessions). When a larger number of sessions are utilized as part of an intervention, its effectiveness may reach a limit and then fluctuate.

While these findings are valuable in considering how many sessions should be included as part of a career intervention, they do not help to determine which type of intervention should be used. Both sets of authors failed to specify the type of interventions that were utilized to determine the mean effect sizes for session numbers. In both meta-analyses, mean effects sizes were calculated for interventions that ranged from

1-30 sessions in length. With such a wide range in the number of session numbers, it is possible to surmise that a variety of interventions (e.g. individual counseling, group counseling, workshops, classes, etc...) were used to calculate these statistics.

Currently, only one major piece of research has examined the optimal length of treatment using a specific career intervention. Ryan (1999) conducted a meta-analysis examining how the number of sessions of individual career counseling affected the clients' treatment. The results revealed a clear, but non-linear pattern in the effect sizes associated with number of sessions. First, a small mean ES of .24 was found for one session. This figure nearly doubled for two to three sessions (mean ES= .47). Then, a peak was reached at four to five sessions (mean ES = 1.26) which then dropped down to .35 for 12 or more sessions. Thus, four to five sessions seem to be the optimal number of individual career counseling sessions needed for change to occur with clients. Although, this finding is difficult to generalize to other interventions, it does appear that treatment length matters when the intervention is individual career counseling.

When examining the results of all three meta-analyses together, a trend emerges regarding the number of sessions necessary for a career intervention to be optimally effective. First, single sessions of a career intervention seem to have a small amount of effectiveness associated with them. They may only be minimally effective in assisting individuals with their career difficulties. Second, using a large number of sessions may also not greatly increase an intervention's effectiveness. As the number of sessions exceeds a certain limit, the level of effectiveness associated with these sessions appears to plateau and does not increase past a certain point. Finally, all three studies obtained peaks in effectiveness when four to five sessions are used as part of an intervention. Thus, a

conclusion may be made that utilizing four to five sessions of a career intervention may provide the most efficacious results when attempting to assist an individual with career-related difficulties. Knowledge of this trend would be useful for both practitioners and program developers who attempt to design and implement career interventions with college students. By using an optimal number of sessions, they may be able to provide students with the highest levels assistance possible while also be cost effective in their utilization of resources.

### *Effectiveness of Career Courses*

While much of the field of career counseling has focused on the intervention of individual career counseling, there has been some research done on the effectiveness of career courses with college students. While this body of research is not as large in comparison, there is enough evidence to suggest that career courses can produce significant effects with these students. For example, in her research with two different career courses, Brooks (1995) found that participants in career courses tended to begin their career planning earlier than those who did not participate. Her findings also suggest that course participants developed greater self-awareness, gained better understanding of realities in the job market, and wrote their resumes before graduation. Also, Folsom, Peterson, Reardon, and Mann (2002) found that participants in a career course graduated at higher rates, took fewer courses to graduate, and were slightly less likely to withdraw from courses than non-participants and the general college student population.

In addition to these general findings, studies have investigated the effects of career courses upon college students' career decidedness. In a study on undecided freshman enrolled in career courses, Lisansky (1990) examined career decidedness using



the CDS (Osipow, 1987). Scores on the CDS indicated that those students who were enrolled in a course experienced increased levels of career decidedness in comparison to a control group. Hardesty (1991) conducted a meta-analysis of career courses using 12 studies. The results indicated that college students increased in both their career decidedness (48% more certain) and career maturity (40% more capable of making a realistic decision). Similar positive effects were also found by Johnson and Smouse (1993) in their examination of a career course. They found that students who participated in the course also exhibited increases in career decidedness, as well as, increased self-clarity and comfort with career choices. Finally, Peng and Herr (1999) showed that students who completed a career course experienced both increases in career certainty and decreases in career indecision.

There have also been two studies that have specifically examined the effects of a career course on dysfunctional career thoughts. Both studies utilized the CTI (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996; 1998) to examine student's career thoughts. First, as part of a dissertation, Kilk (1997) examined freshmen and sophomore college students enrolled in a career course. First, her results revealed that the CTI scales could differentiate among students with regards to both their status of major indecision and enrollment in a career course. A second finding was a positive correlation between students' dysfunctional career thoughts and their inability to choose a major field of study for undecided college students. As students who participated in the career course experienced less dysfunctional career thoughts, there was a decrease in the amount of indecision they experienced. The other study examining dysfunctional career thoughts and career courses was Reed Reardon, Lenz, and Leirer (2001). The CTI was used as a

pretest and posttest measure as part of a career course. They found the posttest CTI scores to be lower than the pretest scores, which suggest that students who completed the course experienced a reduction in dysfunctional career thoughts. Reed Reardon, Lenz, and Leirer also found that the greatest decreases in dysfunctional career thoughts occurred among those students who reported the highest levels of dysfunctional career thoughts at the beginning of the class. This finding suggests that participation in such a career course can greatly assist those who experience serious dysfunctional career thoughts that might inhibit their ability to make career-related decisions. Overall, the results from these two studies lend some support to the claim that career courses can aid in the reduction of college students' dysfunctional career thoughts and alleviate some of the difficulties associated with these problematic construct.

Although the construct of career decision-making self-efficacy has been used to understand the career difficulties of college students, relatively no studies have been conducted examining this construct in career courses. To fill this void, Reese & Miller (2006) examined the effects of a career course on participating college students' career decision-making self-efficacy. The CDSE-SF (Betz, Klein, & Taylor, 1996) was used to measure the construct. Reese & Miller's results showed that students who completed the career course experienced overall increases in career decision-making self-efficacy compared to non-participants. As reflected by their subscale score, this group also experienced positive gains in the domains of obtaining occupational information, setting career goals, and career planning. Although it is a single study, the results of Reese & Miller's study suggest that a career courses can be used to increase college students' career decision-making self-efficacy. Additional research in this area would assist in

understanding exactly the role that this construct plays in career courses and what can be done in such courses to facilitate career decision-making self-efficacy increase.

Perhaps the largest source of support for the effectiveness of career courses comes from Folsom and Reardon's (2003) previously mentioned literature review. In their review, they found 46 studies involving career courses spanning from 1976 to 2001. Of these studies, 38 studies noted positive changes in areas related to output variables (e.g. skills, knowledge, and attitudes acquired by participants as a result of an interventions) and 15 studies reported positive impact in outcome variables (resultant effects occurring at some majority of these studies suggest that career courses can lead to beneficial gains in areas such as career planning, career maturity, vocational identity, and career decidedness. later point in time). Although a few cases of no difference/change were found, the vast majority of these studies suggest that career courses can lead to beneficial gains in areas such as career planning, career maturity, vocational identity, and career decidedness.

In the meta-analysis, the Folsom and Reardon identified 18 studies that investigated career decidedness resulting from career courses. Of these studies, 11 of the studies used the Career Decisiveness scale (CDS) to assess student's level of certainty and indecision in choosing a career or declaring a major. The majority of these studies (9) reported results which included increased career certainty, decreased career indecision, or a combination of the two elements (Gillingham & Lounsbury, 1979; Ware, 1981; Carver & Smart, 1985; Lent, Schmidt, & Larkin, 1985; Davis & Horne; 1986; Lent, Larkin, & Hasegawa, 1986; Quinn & Lewis, 1989; Garis & Niles, 1990; Oreshnick, 1992; D.C. Johnson & Smouse, 1993; Peng, 1996; Halasz & Kempton, 2000). These groups of

results point towards the use of career course for increasing feelings of certainty and decreasing feelings of indecision in students' career decisions. They also demonstrate that the CDS is a valuable tool for measure this construct. Folsom and Reardon also identified the two previously mentioned studies (Kilk, 1997; Reed Reardon, Lenz, & Leirer, 2001) as examples of studies examining the effects upon career courses on the reduction of dysfunctional career thoughts. At the time of the study, there were no current studies examining changes in career decision making self-efficacy due to career courses.

Overall, the body of literature on career courses suggests that career courses have a positive impact upon students who participate in them. The courses are effective in increasing certainty and decreasing indecision in both academic and career decisions. In addition, these gains seem not only to have impact upon students' academic performance, but also in areas that are essential to making successful career decisions (e.g. dysfunctional career thoughts and career decision-making self-efficacy). Thus, these results would seem to indicate that a career course might be one of the best interventions for reducing college students' level of uncertainty.

## Chapter Three

### Method

#### *Participants*

In this study, the researcher recruited undergraduate students from a large Southeastern university as research participants. This university is classified as a Primarily White Institution. Specifically, recruitment occurred among those students enrolled in a career course at the university during the fall 2007 and spring 2008 semesters. The researcher sampled students of both genders, although gender differences were not the primary difference to be examined. No specific strategy was used to ensure an equal sampling of both males and females students occurs; instead gender and other demographics (i.e. age, ethnicity, year of enrollment in college, and declaration of major) came from the composition of classes that were sampled.

Responses were originally obtained from 365 students who completed research packets. Data for 196 of these students was removed and not considered in the analyses for the study due to two primary reasons. First, 30 students only completed the posttest packets and another 58 students did not fill out all of the items in the research packets. Since both of these errors did not allow for scores to be calculated for all of the scales, data from these students was not included in the final data set. Second, 108 students reported that they went to the university career center and participated in a counseling session with a career counselor (separate from the career course and counseling session that were a part of this study). While the aim of this study was to examine the effects of

combining two career interventions together, these alternative career counseling sessions were not regulated for the purpose of this study and were considered to be potentially confounding. Thus, data from the students who reported attending sessions at the university career center were also excluded from the final analyses.

A sample of 169 students was used in the final analyses. Of the final sample, 85 students reported that they had participated in the required career consultation session and were considered to be members of the dual intervention (treatment) group. The remaining 84 students, who reported that they had not participated in the consultations sessions, were placed into the single intervention (comparison) group. The scores from these two groups were used to compute the statistics for this study.

Some descriptive statistics were calculated for the demographic characteristics of the students used in the final sample. It was found that 97 students participated in the study during the fall 2007 semester and 72 students participated in the spring 2008 semester. There were also 88 women (52.1%) and 81 men (47.9%) who participated in this study. Students' ages ranged from 18 to 27 years of age. There were 69 students who reported being 18 years old (40.8%), 43 students who reported being 19 years old (25.4%), 23 students who reported being 20 years old (13.6%), 14 students who reported being 21 years old (8.3%), 17 students who reported being 22 years of age (10.1%), and 3 students who reported being between 23 to 27 years of age (1.8%). The ethnic breakdown of participants was as follows: 145 European American/White (85.8%), 7 African American/Black (4.1%), 4 Hispanic/Latino (2.4%), 4 Asian (2.4%), 2 Native American (1.2%), 1 Middle Eastern (.6%), 1 Pacific Islander (.6%), and 5 Biracial (3.0%). Finally, students were asked to share their year in attendance at the university. The breakdown of

their year in attendance was as follows: 91 first year (53.8%), 32 second year (18.9%), 15 third year (8.9%), 23 fourth year (13.6 %), and 8 fifth year (4.7%). A detailed display of the demographic characteristics for each research group can be found in Table 2.1.

### *Selection and Recruitment*

Selection of participants for this study was based upon enrollment in a section of a career course occurring in the fall 2007 and spring 2008 semesters. Recruitment of participating courses and students occurred in consultation with the coordinator of teaching assistants for these undergraduate courses. The study began in the fall 2007 semester. When the number of participants who completed research packets was tallied, it was found that an insufficient sample had been acquired. The study was then run again in the spring 2008 semester to acquire additional participants to add to the sample already possessed. During both semesters, all course sections being offered to students (both those offering and not offering a career counseling session to its students) were used to acquire participants for the study. Similar research procedures were used in both semesters.

To facilitate a pretest/posttest design, these course sections were sampled twice over the course of the semester (once in the first few weeks of classes and a second time towards the end of the semester – after all of the career consultation sessions had ended). In filling out the second set of research packets, students were able to indicate on the research packet if they had previously participated in the pretest sampling. Those students who indicated that they previously participated had their research packets added to the data pool. Students who only participated in the posttest sampling (as indicated by their response to the question asking about previous participation) were able to turn their

research packets in to the researcher, but these packets were excluded from the final data pool.

There was also a specific criterion for exclusion of students from this study. No students under the age of 18 were allowed to participate in the study. This was done to avoid the necessity of acquiring their guardians' consent. All other students enrolled in a career class wishing to participate were allowed to do so.

### *Procedures*

#### *Classroom Procedures*

As part of the course requirements, certain course sections required that students participate in one free session of career counseling. Other course sections did not require any such participation of its students. The occurrence of these different requirements was due to administrative directions from the department in charge of the courses, and was not a research manipulation resulting from this study. Still, the difference in groups of students created by participation in these career counseling sessions was used to form two research groups. A dual intervention (experiment) group was formed by those students who were enrolled in the class and who participated in a session of career counseling while a single intervention (comparison) group was formed by those students who did not participate in a counseling session.

Research packets containing informed consent forms and other career-related measures were used to collect data from students choosing to participate in this study (See Appendices A-H for copies of material used in collecting data). Data collection occurred at two points during the semester: once at the beginning of the semester and a second time after the conclusion of the career consultation sessions. To collect the



required data, the research packets were distributed to participating course instructors. Also, a letter providing directions on how instructors should distribute, collect, and return research packets to their students was provided. Copies of all the materials used for data collection can be found in the appendix (See Appendices A-H). For the pretest, they were asked to give these packets to their classes during a two week period prior to the start of sessions at the counseling site. The instructors then distributed the materials to the class at the beginning of one of their classes. They provided students with a description of the study, the voluntary nature of participation in the study, general directions for filling out the informed consent and research packet, and the collection of material. He or she also monitored students as they fill out the packets and were available for any questions from students. Any questions or concerns that were more than everyday issues or that the instructor does not believe he or she can comfortably answer were referred to the researcher.

Once students received the material and directions, they read the informed consent form and determine if they wish to participate. Those students, above the age of 18, wishing to participate printed their names, sign, and dated the last section of the form and before moving on to completing the research packet. Those students not participating in the study were asked to read or wait quietly while those participating filled out the material. When filling out the research packet, students were reminded not to place their name anywhere else on the packet. After students finished filling out the forms, the instructor collected all of the materials in an envelope and returned the materials.

Once the consultation sessions were completed, posttest research packets were distributed to all course instructors. This sampling occurred in the two weeks after the

last sessions occur at the counseling site. Similar procedures were followed and used during the pretest sampling. A second informed consent accompanied the research packets reminding them of the purpose of the study and their rights as participants. This form was filled out by students. After students finished filling out the packets, the instructor again collected all of the materials into an envelope and returned the materials.

After the first sampling, participant numbers were generated for each packet. This number was written on the bottom of the consent forms and on the measures contained in the research packet. These two sets of forms were then stored separately. After the second sampling was complete and the material was returned, the pretest and posttest packets filled out by each student were paired together. The participant number from the original consent form was placed on the measures of the second research packet. At this time, the bottom of the consent form, which contains the participant number, were detached. The informed consents were then kept separate from the rest of the material. Thus, in inputting and analyzing the data, the researcher only had access to the students' participant numbers.

Overall, there were no incentives or direct benefits that were offered to students for participating in this study. Participation was entirely voluntary. Student participation in the career counseling sessions was handled by the instructors of the career classes and the staff at the counseling site. Bonus points that could be applied towards students' final grades were offered by course instructors for participation in sessions. The assignment of these points was determined by the course instructors. The researcher had no connection to the assignment of these bonus points. Any benefits or risks that occurred from participating in the career counseling session were also considered to be separate from

this study and the responsibility of the instructors of the career class and the staff at the counseling and site.

#### *Procedures for Career Consultation Sessions*

As the intervention for this study, students participated in a career consultation session. The decision that one session of career consultation would be provided to students was not made by me, but by a collaborative effort of course instructors, counselors, and administrators. However, prior research findings (Oliver and Spokane, 1988; Whiston, Sexton, and Lasoff, 1998; Ryan, 1999) have suggested that four to five sessions of career counseling might be most efficacious for assisting individuals with career decision-making. Since decisions regarding the consultation sessions were out of my control, the suggested number of sessions was not offered to students. While this situation was not preferable, I chose to continue with his research and to sample students regarding their experiences with the sessions that were offered.

The decision to continue on with this research was driven by two lines of thinking. First, the same research which suggests four to five sessions as the optimal number for a career intervention (Oliver and Spokane, 1988; Whiston, Sexton, and Lasoff, 1998; Ryan, 1999) also suggests that one session of a career intervention can have an impact. While this level of impact is considered to be small, it was believed that the impact of this session might still be measurable. Since this study was examining the effects resulting from combining career consultation sessions with a career development course, it was thought that a single session might be sufficient to elicit a change large enough to understand whether the combination of interventions might prove more effective in assisting undergraduate students than a career course by itself. A second

reason why research was continued using a single session of counseling was the absence of literature examining the effects of combined career interventions. Without any research to set precedence, this current study might serve an exploratory function in determining the effectiveness of combined career courses and consultation/counseling. As such, it might be more acceptable for research to begin using a minimal amount of counseling (one session) and then to incrementally increase the number of sessions utilized. For these two reasons, the researcher chose to continue with his research and use the current counseling situation as a sample of convenience.

Regarding the career consultation, the sessions took place at a university training clinic. Sessions began shortly after the completion of the initial research packets. Participating students signed up for sessions through their instructors. Information regarding signing-up and attendance of the sessions was provided by the clinical coordinator for the counseling site.

The consultations sessions occurred as individual meetings between a student and one of the counselors. The sessions were approximately 30 minutes in length. The goal of these sessions was to assist students in furthering their career exploration. Whether or not the student had declared a major, he or she was assisted by their assigned counselor to determine further career-related goals and strategies for making successful career decisions. Time could also be spent on helping students understand the assessments they had taken as part of the career course. Although sessions were structured around these general guidelines, the final structure and use of time in the consultation session was determined by individual counselors.

To address the concern that not all counselors at the counseling site shared the same level of proficiency in career counseling, the researcher provided the counselors with an in-service training. The training was offered to them prior to the start of consultation sessions and provided the counselors with the necessary basics in career counseling. It assisted counselors in becoming familiar with best practices in career counseling and the career needs of college students. The researcher focused on areas of career exploration and a suggested structure for sessions. Information on the interpretation of career assessments was also provided to familiarize counselors with the measures students might bring with them to their sessions. Other areas covered include common themes faced by students in career exploration, potential issues that could occur in sessions, and resources to be utilized by both students and counselors.

#### *Instrumentation/Materials*

One demographic and four psychological instruments (Career Decision Scale, Career Decision Self-Efficacy Scale – Short Form, Career Thoughts Inventory, and Attitudes Toward Career Counseling Scale) were administered in this study. These instruments assessed the areas of career decisiveness, perceived self-efficacy in making career decisions, dysfunctional career-related thoughts, attitudes towards career counseling, and attitudes towards participating in required course activities outside the classroom. Each of these instruments is described more fully below.

#### *Demographic questionnaires (Intake Sheets A & B)*

Two different versions of a demographic questionnaire were developed for this study. In the first version (Intake Sheet A – See Appendix D), participants were asked to provide general background information regarding their gender, ethnicity, age, and year

in school. They were also asked to list a major if they had already declared one and to indicate whether they had previously participated in any form of career counseling. The second version of the questionnaire (Intake Sheet B –See Appendix H) solicited information from students regarding their participation in the counseling sessions that were offered to them. Specifically, it asked them to indicate whether they participated in the sessions offered at the counseling site and/or any other form of career counseling activities during the semester. There was also a question presented regarding the current status of their declared major. This information could be used to examine whether individual participants had declared a major since completing the first questionnaire and if that major had changed since the beginning of the semester.

For this study, a scale was created to measure participants' attitudes towards participation in course requirements occurring outside of the classroom. This scale was intended to measure the beliefs and feelings that was aroused within a participant when he/she had been asked to complete (or had completed) such an activity. Based upon the outcome of the previous pilot study (Stochel, 2006), it was determined that it would be beneficial to attempt to account for the effects of such attitudes upon the other constructs being examined in this study. Eight items were created to measure these attitudes. Participants were be asked to rate these items using a 5 point Likert-type scale, with 1 indicating disagreement with the item and 5 indicating agreement with the item. Of the eight items, Items 2, 4, and 6 were reversed scored. The scores for all eight items were then summed to obtain a total score. Low scores on the total score reflect a higher level of opposition to the idea of participating in a required course activity outside the classroom while high scores would reflect an openness or amenable attitude towards such

activities. Since these items were developed for this study, there were no statistics on their level of validity or reliability available prior to this study. Preliminary statistics obtained during this study will be discussed in Chapter 4. A list of all eight items that were included in the questionnaires can be found in the Appendix (See Appendix I).

*Career Decision Scale (CDS; Osipow, 1987)*

The CDS assesses the extent and nature of career indecision using 18 items (e.g. *I want to be absolutely certain that my career choice is the “right” one, but none of the careers I know about seem ideal for me.*) and two subscales. Items are rated on a 4 point Likert-type scale, with 1 indicating low similarity of the individual to the item and 4 indicating high similarity. Items 1 and 2 used to form a Certainty subscale, measures certainty of choice in career and major. Higher scores on this subscale indicate a higher level of certainty experienced by an individual in having to make a decision about a major and a career. Items 3 through 18 form the Indecision subscale. This subscale measures the degree of indecision an individual experiences. Higher scores on this subscale indicate a higher level of indecision. Total scores on each subscale can be compared to norms to acquire percentiles ranks. On the Certainty subscale, scores in the 15<sup>th</sup> percentile or less are considered to be significant and suggest that an individual is uncertain about the selection of either his/her career or major. Similarly, scores in the 85<sup>th</sup> percentiles or higher on the Indecision subscale are considered to be significant and also suggest that an individual possesses a serious level of indecision. Norms are available for high school students, college students, and adult seeking continuing education and are divided according to gender.

Regarding the psychometric properties of the CDS, Osipow (1987) does not report any estimates of internal consistency. Still, several evaluations of the CDS have supported its other psychometric properties (Allis, 1984; Harmon, 1985; Herman, 1985; Slaney, 1985). Osipow, Carney, & Barak (1976) conducted two initial studies of test-retest reliability for the CDS with college students. Their studies revealed two-week test-retest reliabilities of .90 and .82 respectively. In a study of six-week test-retest reliability, Slaney, Palko-Nonemaker, and Alexander (1981) uncovered a total correlation of .70. In studies of the CDS's underlying structure, a wide range of factors have been found by various researchers (Osipow, Carney, & Barak, 1976; Kazin, 1976; Slaney, 1978; Slaney, Palko-Nonemaker, & Alexander, 1981; Rogers & Westbrook, 1983; Slaney, 1985). Yet despite these various findings, Barak & Friedkes (1981) were able to demonstrate that each of these factors scores could differentially distinguish between clients who profited from a career counseling interview and those clients who did not. For the current study, a Guttman split-half coefficient was calculated using pretest and posttest scores on the CDS. An internal consistency estimate of .686 was found.

Despite the lack of evidence for the reliability of the CDS, there is a significant amount of research regarding its validity. The construct validity of the instrument was shown by the association of the CDS with the CMI attitude scale (Crites, 1973). Both Westbrook, Simonson, & Arcia (1976) and Lange (1980) demonstrated the commonality of these two measures in their studies. There is also a considerable amount of research supporting the content validity of the CDS. Limburg (1980) found the CDS was able to differentiate between decided and undecided students and showed that students who sought some form of career assistance (through a visit to the career center or participation



in a career course) scored higher on indecision than non-seekers. In addition, the CDS has been used in studies with college students to show their responsiveness to various career interventions, including residential career counseling (Barak & Friedkes, 1982), career exploration programs (Taylor, 1979a), career courses (Sutera, 1977; Carney, 1977a), and career workshops (Carney, 1977b). In addition, a study by Tinsley, Bowman, and York (1989) examined the scale scores and items of the CDS, My Vocational Situation (MVS; Holland, Daiger, & Power, 1980), Vocational Rating Scale (Barrert & Tinsley, 1977a), and the Decisional Rating Scale (Barrert & Tinsley, 1977b). Their factor analysis of these measures showed that the four measures overlapped in measuring confidence and certainty of respondents. Only the CDS was found to significantly contribute to the measurement of indecision. Finally, the CDS's discriminant validity has been demonstrated in its relationships to other career-related concepts. High levels of indecision, as measured by the Indecision subscale of the CDS, were to be negatively correlate with measures of planfulness (Osipow & Schweikert, 1981), career maturity (Westbrook, 1980), locus of control (Cellini, 1978; Taylor, 1979b), and fear of success (Taylor, 1979b).

*Career Thoughts Inventory (CTI; Sampson, Peterson, Lenz, Reardon, & Saunders, 1996; 1998)*

The CTI assesses the presence of dysfunctional thinking possessed by an individual in his or her career problem solving and decision-making. It was developed on the basis of cognitive information processing theory (Peterson, Sampson, Reardon, 1991; Sampson et al., 1996). It can be self-administered to both individuals and groups. The CTI is intended to be used with college students, and high school students who are

attempting to enter a field of study, an occupation, or are seeking employment, as well as, with adults who are seeking to make a career change or to reenter the labor market (Gilbert, 1997; Fontaine, 2004; Murphy, Impara, & Plake, 1999). Specific norms are available to be used in interpreting scores obtained from each of these three populations.

The CTI contains 48 negative statements regarding career decision making. Respondents are asked to rate these statements using a 4 point response scale (*Strongly Disagree* - SD, *Disagree* - D, *Agree* - A, and *Strongly Agree* - SA). The CTI yields a Total Score which is used as a global indicator of dysfunctional career decision making. In addition, scores for three different subscales can be calculated to examine specific types of problematic cognitions: Decision Making Confusion (DMC - a person's inability to initiate or sustain the decision process), Commitment Anxiety (CA - the degree to which anxiety-producing thoughts may be contributing to indecision), and External Conflict (EC - a person's ability to balance self-perceptions with the input from significant others). Scores for all scales are expressed as T scores and percentiles. Generally, a high score on a scale indicates a high level of problematic cognitions possessed by an individual in the accompanying area of career decision-making. However, a cutoff T score of greater than 60 is used as an indicator that an individual is experiencing a considerable level of confusion and anxiety Sampson et al., 1996).

The authors of the CTI (Sampson et al., 1996) provide information on many of its psychometric properties in support of its use as a career/vocational assessment. These figures are based upon the initial data that was used to standardize the measure. Internal consistency (alpha) coefficients for the CTI Total Score range from .97 to .93 and those for the subscales range from .94 to .74. The test-retest stability of CTI

Total Scores for college students were  $r = .86$  over a four week period. Adequate stability coefficients were also found in a high school student sample. For the current study, a Guttman split-half coefficient was calculated using pretest and posttest scores on the CTI. An internal consistency estimate of .843 was found.

The CTI also possesses high face validity due to the fact that all of its items appear to be logically connected with the career decision-making process (Fontaine, 2004). In regards to content validity, the CTI's authors point out that the individual items and scales were directly taken from the areas discussed in cognitive information processing theory (Peterson, Sampson, Reardon, 1991; Sampson et al., 1996). As for construct validity, some evidence is provided by the results of a series of factor analyses which identified the constructs associated with the three subscales. However, while these analyses revealed a high correlation ( $r = .89$  to  $.94$ ) between the CTI Total Score and Decision-Making Confusion (DMC) subscale, a weak and low correlation with the Total Score were found for the External Conflict (EC) and Commitment Anxiety (CA) subscales respectively. Thus, the Decision-Making Confusion seems to be a more valuable subscale to use along side the Total Score when examining and interpreting the CTI (Sampson et al., 1996; Fontaine, 2004). Still, the CTI's authors (Sampson et al., 1996) point out that the other subscales (EC and CA) may bring additional information about the difficulties an individual is experiencing in career problem solving and decision-making. Thus they suggest that all three subscales be viewed as indicators of dysfunctional thinking.

Support for the CTI's possessing both convergent and criterion validity come from studies conducted as part of its development (Sampson et al., 1996). First, evidence

for convergent validity was found when the CTI was compared with four other career measures which contain similar constructs: *My Vocational Situation* (Holland, Daiger, & Power, 1980), *The Career Decision Scale* (CDS; Osipow, 1987), *The Career Decision Profile* (Jones, 1989), and *The NEO PI-R* (Costa & McCrae, 1992). These comparisons consistently revealed inverse correlations with positive constructs and direct correlations with negative attributes associated with career exploration. Also, evidence for criterion validity comes from results that demonstrated the CTI's ability to distinguish between clients and non-clients. Specifically, significant scores on both Total and subscales scores were found with clients having higher scores that indicated their possessing more problematic thoughts in their career decision-making.

Finally, many of the CTI's psychometric properties have been examined and supported in reviews by Gilbert (1997) and Fontaine (2004). In addition, Vernick (2000) provides evidence for the use of the CTI in 12 different research studies. The details and results of these studies show further support for the convergent validity of the CTI.

*Career Decision Self-Efficacy Scale – Short Form (CDSE-SF; Betz, Klein, & Taylor, 1996)*

The CDSE-SF is an instrument that was designed to assess students' career decision-making expectations. This task is accomplished by measuring the individual's career self-efficacy, the degree an individual believes that he/she can successfully complete tasks necessary to making career decisions. The CDSE-SF contains 25 items that describe career-related behaviors in five domains: Self Appraisal, Occupational Information, Goal Selection, Planning, and Problem Solving. Self-efficacy is assessed by requesting respondents to indicate his/her ability to successfully complete each item

using a 5 point response scale, ranging from No Confidence (1) to Complete Confidence (5). Responses are then tallied to provide a Total Score, a measure of general self-efficacy, and five subscales scores, each relating to one of the five domains. The Total Score of CDSE-SF is calculated by adding all of the responses to the 25 items and then dividing this sum by 25. Each of the subscale scores is calculated from the sum of responses to the 5 scale items and then dividing this figure by 5. All scores fall within a range of 1 and 5. High scores represent high levels of self-efficacy. The authors of the measure (Betz & Taylor, 2006) recommend that scale scores of 3.5 or above be viewed as predictive of an individual's possessing a moderate to high level of self-efficacy, while scores below 3.0 would be interpreted as suggesting inadequate self-efficacy regarding an area of career decision-making.

The CDSE-SF is an adapted short form of the original *Career Decision-Making Self-Efficacy Scale* (Taylor & Betz, 1983). Due to trademarking difficulties, this measure is now referred to as the Career Decision Self-Efficacy Scale (CDSE) (Betz & Taylor, 2006). It should be noted that information regarding this measure can be found using both its original and current names. Also, as noted above, the short form was adapted from an original version containing 50 items. The number of items was condensed down to 25 items through a review of the measure. These 25 items were decided upon by eliminating five items from each of the five CDSE (Taylor & Betz, 1983) scales. In choosing which items to retain, the Betz, Klein, & Taylor (1996) used four separate conditions as their criteria:

- 1) Substantive generality
- 2) Item-own scale correlation equal to or above .50

- 3) Loading on appropriate factors from a factor analysis (Taylor & Popma, 1990)
- 4). Recommendation of retention of the basis of Gati, Osipow, Fassa's (1994) split-scale analysis of the subscale structure.

Finally, it is worth mentioning that both initial and short forms of the CDSE originally utilized a 10 point scale with which respondents could provide responses to items. The use of a 5 point response scale was evaluated by Betz, Hammond, & Multon (2005) and was found to provide sufficient reliability and validity in place of the 10-point response scale. Based upon this research, and the suggestions provided by the authors in the CDSE-SF manual (Betz & Taylor, 2006), For the purpose of this study, the researcher followed these recommendations and used the CDSE-SF with a 5 point response scale.

The CDSE-SF has a significant history of use in the career counseling field. As such, there is a substantial body of literature on the measure and its psychometric properties. Internal consistency reliability figures have been provided by two different examinations of the CDSE-SF conducted by its lead designer. Betz et al., (1996) reported reliabilities of .94 for the Total Score and those for the subscales ranged between .73 to .83. Betz & Klein (1997) found somewhat similar reliability coefficients of .93 for the total score and between .69 and .83 for the subscales. These findings have been supported by studies conducted by outside researchers (Paulsen, 2001; Smith, 2001; Hartman & Betz, 2007 in press) who have found alpha coefficients in similar ranges. Currently, there has been no report of test-retest reliability for the CDSE-SF; however, a six-week test-retest coefficient of .83 was reported by Luzzo (1993). For the current study, a Guttman

split-half coefficient was calculated using pretest and posttest scores on the CDSE-SF. An internal consistency estimate of .811 was found.

The constructs of the five CDSE-SF domains are based on Crites (1978) five career choice competencies. Although the domains were designed to tap into these competency factors, these factors were only marginally supported in a factor analysis conducted by Betz et al., (1996). In addition, Peterson and delMas (1998) and Robbins (1985) have pointed out that the scale seems to be representative of a single, large general factor. Their findings suggest that career decision-making self-efficacy is a better measure of generalized self-efficacy rather than any of its specific domains. As such, the CDSE-SF seems to measure efficacy expectations across a broad range of career decision making self-efficacy behaviors and situations and appears to be characterized as a generalized measure. Thus, they conclude that it may not be useful to consider the factor scores in research. However, the creators of the CDSE-SF argue to keep the five subscales (Betz & Taylor, 2006). They suggest that since the domains are based in a well-respected theory that they may provide useful information in designing career interventions. I followed the suggestions of Peterson and delMas' (1998) and Robbins' (1985) and only used the total score of the CDSE-SF to examine the career decision making self-efficacy of participants.

While a significant amount of research has focused on the validity of CDSE, there is some evidence for the construct and criterion validity of the CDSE-SF. It has shown moderate correlations with career indecision and other vocational identity measures. In a study by Betz & Klein (1997), they found the CDSE-SF to be the best predictor of career indecision. Also, the CDSE-SF has been shown to be significantly related to other career

measures such as the Career Beliefs Inventory (Luzzo & Day, 1999) and the Fear of Commitment Scale (Betz & Serling, 1993). Despite these modest findings, Luzzo (1996) has pointed out that the predictive criterion validity of both the CDSE-SF has yet to be demonstrated. He has pointed out the need for additional longitudinal studies on the predictive properties of the measure. Such studies might assist in further determining the validity of the CDSE-SF.

*Attitudes Toward Career Counseling Scale (ATCCS; Rochlen, Mohr, & Hargrove, 1999)*

The ATCCS measures an individual's attitude toward seeking career counseling services. It contains 16 items that are rated on a 6-point, Likert scale, ranging from ranging from Strongly Disagree (1) to Strongly Agree (5). Originally, the ATCCS was constructed using a 4 point scale. However, following the steps of Rochlen, Blazina, and Raghunathan (2002) and the suggestions of Rochlen and O'Brien (2002), a 6 point scale was used in this study to increase the variance of scores. The items of the ATCCS are divided in half to form two subscales, Value and Stigma. The Value subscale measures an individual's perceived value and usefulness of a career counseling experience. High scores on the subscale represent an overall positive perception of the value of career counseling. Similarly, the Stigma subscale measures an individual's perceived stigma, shame, and negative feelings related to seeking professional help for career related concerns or decisions. High scores on this subscale reflect a great amount of stigma and shame linked to seeking career counseling services.

Across a number of samples, internal consistency estimates were found to range between .85 to .90 for the Value subscale and .80 to .38 for the Stigma subscale, while a three-week test-retest reliability of .80 was calculated (Rochlen, 2000). For the current



study, a Guttman split-half coefficient was calculated using pretest and posttest scores on the CTI. An internal consistency estimate of .654 was found.

Original studies in the development of the ATCCS also reveal evidence for convergent and discriminant validity (Rochlen et al., 1999). In sampling undergraduate students with a battery that included the ATCCS, it was found that the valuing of career counseling was related to using other's help to make important decisions, avoiding making spontaneous decisions, an increase in help seeking for typical student problems, and a greater likelihood of seeking career counseling. Also, their study examined students in a career decision-making course and found a strong positive correlation ( $r = .87, p < .001$ ) between the Value subscale and students' satisfaction with the course. Convergent validity for Stigma subscale was evidenced by finding that participants who reported stigma also reported tending to procrastinate in making decisions, avoiding close relationships, a decreased likelihood of seeking career counseling, and viewing psychological services as something to be kept secret. In these studies, discriminant validity for the two subscales was evidenced by the lack of any socially desirable influences and the finding that vocational exploration and commitment were not related to the ATCCS.

### *Research Design*

In conducting the study, the researcher used a nonrandomized pretest – posttest research design. This design allowed the researcher to examine the effectiveness of the different types of interventions (dual vs. single). In this study, both the treatment and comparison group participated in a career course intervention. Only the treatment group participated in a session of individual career counseling. The treatment group was formed

by those students who were enrolled in the class and who participated in a session of career counseling while the comparison group was formed by those students who did not participate in a counseling session. To facilitate the pretest – posttest design, these course sections were sampled twice over the course of the semester (once in the first few weeks of classes and a second time towards the end of the semester – after the career consultation sessions have ended). I examined each group individually for pretest and posttest differences and looked at the difference between the two treatments groups.

### *Statistical Analysis*

#### *Preliminary Statistical Analyses*

In conducting preliminary analyses of the collected data, I calculated Guttman split-half reliability coefficients for each of the instruments being used. Since these instruments were administered at two different points during the study, this procedure was carried out to ensure that there is sufficient reliability between all of the instruments items for this study. This particular measure of reliability was chosen since it does not require equal variances between the two measures (Ferguson & Takane, 2005). These coefficients could also be used to add further understand the reliability of these instruments.

Descriptive statistics for all of the sample data were then calculated. Frequencies and percentages were calculated for the demographic variables while means and standard deviations were calculated for each of the test scores. These findings were used to identify any suspicious answering patterns by participants and the existence of outliers. Finally, a series of *t*-tests was conducted to ensure the equivalence of pretest scores for the two research groups. In conducting this study, it was assumed that both groups would

be similar when the pretest measures were administered and that differences would occur during the posttest due to the interventions each group received. These *t*-scores were compared at a .05 level of significance to test this assumption.

As part of these analyses, some preliminary statistics for the Attitudes Towards Participation in Course Requirements Occurring Outside of the Classroom Scale were calculated. A correlation matrix was created and Cronbach's Alpha coefficients were examined to see if sufficient internal consistency existed between the eight items for the scale. Individual items were dropped until a significant alpha coefficient was reached. When such a statistic was found, I inputted the total score into calculations to determine if any of the attitude variables might predict how students scored on the main career scales and subscales

#### *Tests Examining Between-Group Differences*

A one-way ANCOVA was performed for each of the three main hypotheses and their respective scales and subscales. One-way ANCOVAs were chosen since they are capable of removing the effects of pre-existing individual differences that might obscure differences in changes between groups over time (Ferguson & Takane, 2005). In calculating the ANCOVAs, the posttest score was the dependent variable, the interventions provided to each group (dual intervention and single intervention) served as the independent variable, and the pretest score was used as the covariate. The *F* statistics for the intervention groups (independent variable) were compared to a .05 level of significance. These one-way ANCOVAs were used to examine the differences between groups on the pretests and posttests. These procedures also allowed me to test the first

three hypotheses (that the dual intervention group will exhibit greater changes on the three main career constructs when compared to the single intervention group).

#### *Tests Examining Moderating Effects of Demographic Variables*

To examine if any moderating effects exist due to demographic variables (gender, ethnicity, age, and year in school), a series of two-way ANCOVAs were calculated using each of the main three scales (CDS, CTI, and CDSE-SF) and their subscales. A separate two-way ANCOVA was calculated for each of the scales/subscales using each of the demographic variables. To calculate these statistics, the demographic variables were inputted as a second independent variable into the original one-way ANCOVAs equations. The results of these ANCOVAs were bunched together based upon the particular demographic variable that was being examined. The  $F$  scores were then examined to see if any moderating effect was present in students' scores for each scale. Since seven two-way ANCOVAs were calculated for each demographic variable, a Bonferroni correction was utilized when examining the  $F$ -scores. This correction was used to adjust the level of significance to account for the analysis of seven separate measures and to reduce the likelihood of performing a Type I error. Thus, a  $p$  value equal to or less than .007 (.05/7) was required for significance. These procedures allowed me to test the fourth hypothesis, which related to the moderating variables of the demographic variables.

#### *Tests Examining Moderating Effects of Attitudinal Variables*

A series of calculations was performed to examine if any moderating effects exist due to attitudinal variables. It was hypothesized that students' initial attitudes might have the greatest influence upon their participation in the study and completing of research

packets. Thus, pretest scores on measures of attitudinal variables (ATCCS Value subscale, ATCCS Stigma subscale, Attitudes towards Participation in Course Requirements Occurring Outside of the Classroom Scale) were utilized to examine their influence upon the main constructs (CDS, CTI, CDSE-SF). To test this premise, a series of Pearson's product-moment coefficients was calculated between pretest scores for the main constructs and attitudinal variables of each research group (dual and single intervention). These  $r$  coefficients were then examined to see if any moderating effect was present in each groups' scores for each scale. Since seven pairs of correlations were calculated for each scale/subscale, a Bonferroni correction was utilized when examining these  $r$  coefficients. This correction was used to adjust the level of significance to account for the analysis of seven measures and to reduce the likelihood of performing a Type I error. Thus, a  $p$  value equal to or less than .007 (.05/7) was required for significance. If a significant correlation was found between an attitudinal scale and one of the scales/subscales, I then calculated a  $t$ -test comparing the correlations for each research group. This procedure was carried out to rule any influence might be caused due to group membership. These  $t$ -tests were compared a  $p$  value equal to or less than .05. These procedures allowed me to test the final (sixth) hypothesis.

Table 2.1

*Descriptive Statistics for Demographic Variables*

Demographic Variable	Dual Intervention		Single Intervention	
	<i>f</i>	<i>P</i>	<i>f</i>	<i>P</i>
Semester				
Fall 06	28	32.9	69	82.1
Spring 07	57	67.1	15	17.9
Gender				
Male	30	35.3	51	60.7
Female	55	64.7	33	3.93
Race/Ethnicity				
Asian	1	1.2	3	3.6
African American/Black	5	5.9	2	2.4
Hispanic/Latino	2	2.4	2	2.4
Middle Eastern	1	1.2	-	-
Native American	-	-	2	2.4
Pacific Islander	1	1.2	-	-
European American/ White	74	87.1	71	84.5
Biracial	1	1.2	4	4.8
Other	-	-	-	-
Year in School				
First Year	63	74.1	28	33.3
Second Year	10	11.8	22	26.2
Third Year	6	7.1	9	10.7
Fourth Year	5	5.9	18	21.4
Fifth Year	1	1.2	7	8.3
Non-Matriculating	-	-	-	-

Demographic Variable	Dual Intervention		Single Intervention	
	<i>f</i>	<i>P</i>	<i>f</i>	<i>P</i>
Age				
18	43	50.6	26	31.0
19	27	31.8	16	19.0
20	6	7.1	17	20.2
21	3	3.5	11	13.1
22	4	4.7	13	15.5
23	1	1.2	-	-
24	-	-	1	1.2
25	-	-	-	-
26	-	-	-	-
27	1	1.2	-	-

Note. Descriptive statistics were computed after participants, who did not complete the entire research packet or reported engaging another alternative form of counseling, were dropped from the final sample.

## Chapter Four

### Results

#### *Preliminary Statistical Analyses*

The following section contains results of preliminary statistical analyses for A). each of the major scales and subscales utilized in this study, and B). the scale that was developed specifically for this study, the Attitudes Towards Participation in Course Requirements Occurring Outside of the Classroom Scale.

#### *Career Certainty Statistics*

Career certainty scores were derived by summing items for the CDS Certainty subscale. For the dual intervention group, a pretest mean score of 4.31 ( $SD = 1.94$ ) and a posttest mean score of 5.76 ( $SD = 1.83$ ) were obtained. For the single intervention group, a pretest mean score of 5.73 ( $SD = 1.90$ ) and a posttest mean score of 6.46 ( $SD = 1.59$ ) was obtained. Information regarding these figures can be found in Table 4.1.

#### *Career Indecision Statistics*

Career indecision scores were derived by summing items for the CDS Indecision subscale. For the dual intervention group, a pretest mean score of 34.25 ( $SD = 7.23$ ) and a posttest mean score of 33.07 ( $SD = 8.04$ ) were obtained. For the single intervention group, a pretest mean score of 33.23 ( $SD = 8.55$ ) and a posttest mean score of 30.94 ( $SD = 9.49$ ) were obtained. Information regarding these figures can be found in Table 4.2.



### *Dysfunctional Career Thoughts Statistics*

A global measurement of dysfunctional career thoughts was derived by summing corresponding items for the CTI Total Scale. For the dual intervention group, a pretest mean score of 51.54 ( $SD = 10.22$ ) and a posttest mean score of 48.88 ( $SD = 10.00$ ) were obtained. For the single intervention group, a pretest mean score of 50.24 ( $SD = 10.81$ ) and a posttest mean score of 47.06 ( $SD = 11.42$ ) were obtained. Information regarding these figures can be found in Table 4.3.

### *Decision-Making Confusion*

Decision-Making Confusion scores were derived by summing corresponding items for the CTI DMC subscale. For the dual intervention group, a pretest mean score of 51.51 ( $SD = 11.40$ ) and a posttest mean score of 48.98 ( $SD = 10.18$ ) were obtained. For the single intervention group, a pretest mean score of 49.51 ( $SD = 10.57$ ) and a posttest mean score of 47.77 ( $SD = 10.39$ ) were obtained. Information regarding these figures can be found in Table 4.4.

### *Commitment Anxiety*

Commitment Anxiety scores were derived by summing corresponding items for the CTI CA subscale. For the dual intervention group, a pretest mean score of 54.46 ( $SD = 9.68$ ) and a posttest mean score of 51.64 ( $SD = 10.61$ ) were obtained. For the single intervention group, a pretest mean score of 50.94 ( $SD = 11.52$ ) and a posttest mean score of 47.79 ( $SD = 11.12$ ) were obtained. Information regarding these figures can be found in Table 4.5.

### *External Conflict*

External Conflict scores were derived by summing corresponding items for the CTI EC subscale. For the dual intervention group, a pretest mean score of 48.46 ( $SD = 12.46$ ) and a posttest mean score of 50.56 ( $SD = 11.70$ ) were obtained. For the single intervention group, a pretest mean score of 50.54 ( $SD = 14.08$ ) and a posttest mean score of 50.15 ( $SD = 13.57$ ) were obtained. Information regarding these figures can be found in Table 4.6.

### *Career Decision-Making Self-Efficacy*

Career Decision-Making Self-Efficacy scores were derived by summing items for the CDSE-SF Total Scale. For the dual intervention group, a pretest mean score of 3.48 ( $SD = .56$ ) and a posttest mean score of 3.83 ( $SD = .58$ ) were obtained. For the single intervention group, a pretest mean score of 3.74 ( $SD = .58$ ) and a posttest mean score of 3.88 ( $SD = .62$ ) were obtained. Information regarding these figures can be found in Table 4.7.

### *Positive Attitudes towards Career Counseling*

Scores reflecting positive attitudes towards career counseling were obtained by summing items for the ATCCS Value subscale. For the dual intervention group, a pretest mean score of 39.02 ( $SD = 5.57$ ) and a posttest mean score of 38.24 ( $SD = 5.98$ ) were obtained. For the single intervention group, a pretest mean score of 37.44 ( $SD = 7.25$ ) and a posttest mean score of 37.20 ( $SD = 7.49$ ) were obtained. Information regarding these figures can be found in Table 4.8.

### *Negative Attitudes towards Career Counseling*

Scores reflecting negative attitudes towards career counseling were obtained by summing items for the ATCCS Stigma subscale. For the dual intervention group, a pretest mean score of 17.67 ( $SD = 6.13$ ) and a posttest mean score of 15.82 ( $SD = 6.34$ ) were obtained. For the single intervention group, a pretest mean score of 17.51 ( $SD = 7.31$ ) and a posttest mean score of 17.50 ( $SD = 7.52$ ) were obtained. Information regarding these figures can be found in Table 4.9.

### *Attitudes towards Participation in Course Requirements Occurring Outside of the Classroom Statistics*

In the preliminary analysis of the Attitudes towards Participation in Course Requirements Occurring Outside of the Classroom Scale, an inter-item correlation matrix was run for each set of scores obtained on the scale: pretest and posttest. These correlations were compared at  $p$  value equal to or less than .05. For both sets of correlations, a majority of the items were related to other items at this level. A number of items were also found to be significant at the .01 level. Despite these findings, Item 7 (*I generally learn better by participating in group activities (e.g. classes) than by participating in activities where I receive one-on-one attention (e.g. career counseling)*) was not found to be significantly correlated with any other item on the scale. This finding was consistent for both the pretest and posttest. The results of these inter-item correlations for the pretest and posttest are shown in Tables 4.10 and 4.11 respectively.

Next a series of Cronbach's alphas was generated for both pretest and posttest scores. An alpha statistic was computed for each item and reflected the level of internal consistency that might occur if this item were deleted from the scale. On both sets of

tables, alphas increased when Item 7 was deleted from the scale (pretest  $\alpha = .74$ , posttest  $\alpha = .77$ ). The remaining alphas for the other items (1-6, and 8) ranged from .63 to .67 for the pretest and from .63 to .69 for the posttest. The results of the alpha coefficients calculated for these items on both the pretest and posttest are shown in Tables 4.12 and 4.13 respectively. When this data was combined with the findings from the inter-item correlations, it was determined that Item 7 would be dropped from the attitude scale. The remaining items from the scale were then summed up to create a total score for the scale.

Scores reflecting students' attitudes towards participation in course requirements occurring outside of the classroom were obtained by summing items in the scale designed by this writer. For the dual intervention group, a pretest mean score of 15.94 ( $SD = 4.01$ ) and a posttest mean score of 14.52 ( $SD = 4.06$ ) were obtained. For the single intervention group, a pretest mean score of 17.04 ( $SD = 4.75$ ) and a posttest mean score of 16.23 ( $SD = 5.04$ ) were obtained. Information regarding these figures can be found in Table 4.14.

Finally, once total scores were obtained for the scale, a Guttman split-half coefficient was calculated using pretest and posttest scores on the Attitudes towards Participation in Course Requirements Occurring Outside of the Classroom Scale. An internal consistency estimate of .69 was found. Since a reasonable level of internal consistency was obtained on this scale, I decided to continue using the scale in the study to examine whether students' attitudes towards participation in course requirements occurring outside of the classroom had moderating effect upon their others scores.

#### *Tests of Equivalence*

To test whether there were any initial differences between the research groups, I performed an independent-sample *t*-test for each set of pretest scores. These *t*-tests

allowed the researcher to determine if the research groups began the study at similar base-lines for each of the constructs being measured. The  $t$ -scores were compared at a .05 level of significance to test this assumption of equivalence. Table 4.15 summarizes these results and displays the group means, standard deviations,  $t$ -scores, and levels of significance.

A review of these results revealed that there were no differences between the pretests scores for four of the scales: the CDS Indecision Subscale, the CTI Total Scale, the CTI, DMC subscale, and the CTI EC subscale. However, statistically significant differences were found between the pretests scores for three scales: the CDS Certainty subscale,  $t(167) = -4.81, p = .01$ ; the CTI CA subscale,  $t(167) = 2.15, p = .05$ ; and the CDSE-SF Total Scale,  $t(167) = -2.96, p = .05$ . These results indicate that equivalence could not be assumed for these three measures. Since equivalence could not be assumed, I chose to utilize a series of ANCOVAs to account for the pre-existing differences that were found. These ANCOVAs would be used to test for between-group differences on all of the main measures in this study.

#### *Tests Examining Between-Group Differences*

*Hypothesis 1a: Students in the dual intervention group will exhibit greater career certainty than those students in the single intervention group as reflected by significant increases on the Certainty subscale of the CDS.*

A one-way ANCOVA was performed to examine whether there was a significant difference between the dual and single intervention groups in their posttest levels of career certainty after covarying for their pretest scores. The need to control for pre-existing group differences was shown by the results of a previous  $t$ -test, which indicated

that equivalence could not be assumed for the pretests scores on the CDS Certainty subscale. Since equivalence could not be assumed, the use of an ANCOVA accounted for any preexisting differences when examining for differences in the posttest scores.

In calculating the  $F$  statistic for this ANCOVA, the different interventions offered to each group served as the independent variable. The dependent variable was the posttest scores obtained on the CDS Certainty subscale. The covariate used in the calculation served as the pretest scores obtained on the CDS Certainty subscale. A  $p$  value of .05 was used to evaluate the  $F$  score that was obtained.

The results of this ANCOVA revealed that there was not a statistically significant difference between the career certainty of the dual intervention and single intervention group after covarying for their pretest scores on the CDS Certainty subscale,  $F(1,166) = .01, p = .92$ . This finding suggests that the adjusted levels of career certainty reported by each group on the posttest measurements of CDS Certainty subscale are not significantly different from each other. Based upon this finding, Hypothesis 1a could not be supported. Additional information regarding these figures can be found in Table 4.16.

*Hypothesis 1b: Students in the dual intervention group will exhibit less career indecision than those students in the single intervention group as reflected by significant decreases on the Indecision subscale of the CDS.*

A one-way ANCOVA was performed to examine whether there was a significant difference between the dual and single intervention groups in their posttest levels of career indecision after covarying for their pretest scores. In calculating the  $F$  statistic for this ANCOVA, the different interventions offered to each group served as the independent variable. The dependent variable was the posttest scores obtained on the

CDS Indecision subscale. The covariate used in the calculation served as the pretest scores obtained on the CDS Indecision subscale. A  $p$  value of .05 was used to evaluate the  $F$  score that was obtained.

The results of this ANCOVA revealed that there was not a statistically significant difference between the career indecision of the dual intervention and single intervention group after covarying for their pretest scores on the CDS Indecision subscale,  $F(1,166) = 1.76, p = .19$ . This finding suggests that the adjusted levels of career indecision reported by each group on the posttest measurements of CDS Indecision subscale are not significantly different from each other. Based upon this finding, Hypothesis 1b could not be supported. Additional information regarding these figures can be found in Table 4.17. *Hypothesis 2a: Students in the dual intervention group will exhibit less dysfunctional career thoughts than those students in the single intervention group as reflected by significant decreases on the total scores of the CTI.*

A one-way ANCOVA was performed to examine whether there was a significant difference between the dual and single intervention groups in their posttest levels of overall dysfunctional career thoughts after covarying for their pretest scores. In calculating the  $F$  statistic for this ANCOVA, the different interventions offered to each group served as the independent variable. The dependent variable was the posttest scores obtained on the CTI Total Score. The covariate used in the calculation served as the pretest scores obtained on the CTI Total Score. A  $p$  value of .05 was used to evaluate the  $F$  score that was obtained.

The results of this ANCOVA revealed that there was not a statistically significant difference between the overall levels of dysfunctional career thoughts of the dual

intervention and single intervention group after covarying for their pretest scores on the CTI Total Score,  $F(1,166) = .57, p = .45$ . This finding suggests that the adjusted levels of dysfunctional career thoughts reported by each group on the posttest measurements of CTI Total Score are not significantly different from each other. Based upon this finding, Hypothesis 2a could not be supported. Additional information regarding these figures can be found in Table 4.18.

*Hypothesis 2b: Students in the dual intervention group will exhibit less decision making confusion than those students in the single intervention group as reflected by significant decreases on the Decision Making Confusion subscale of the CTI.*

A one-way ANCOVA was performed to examine whether there was a significant difference between the dual and single intervention groups in their posttest levels of decision-making confusion after covarying for their pretest scores. In calculating the  $F$  statistic for this ANCOVA, the different interventions offered to each group served as the independent variable. The dependent variable was the posttest scores obtained on the CTI DMC subscale. The covariate used in the calculation served as the pretest scores obtained on the CTI DMC subscale. A  $p$  value of .05 was used to evaluate the  $F$  score that was obtained.

The results of this ANCOVA revealed that there was not a statistically significant difference between the levels of decision-making confusion of the dual intervention and single intervention group after covarying for their pretest scores on the CTI DMC subscale,  $F(1,166) = .00, p = .97$ . This finding suggests that the adjusted levels of decision-making confusion reported by each group on the posttest measurements of CTI DMC subscale are not significantly different from each other. Based upon this finding,



Hypothesis 2b could not be supported. Additional information regarding these figures can be found in Table 4.19.

*Hypothesis 2c: Students in the dual intervention group will exhibit less commitment anxiety than those students in the single intervention group as reflected by significant decreases on the Commitment Anxiety subscale of the CTI.*

A one-way ANCOVA was performed to examine whether there was a significant difference between the dual and single intervention groups in their posttest levels of commitment anxiety after covarying for their pretest scores. The need to control for pre-existing group differences was shown by the results of a previous *t*-test, which indicated that equivalence could not be assumed for the pretests scores on the CTI CA subscale. Since equivalence could not be assumed, the use of an ANCOVA accounted for any preexisting differences when examining for differences in the posttest scores.

In calculating the *F* statistic for this ANCOVA, the different interventions offered to each group served as the independent variable. The dependent variable was the posttest scores obtained on the CTI CA subscale. The covariate used in the calculation served as the pretest scores obtained on the CTI CA subscale. A *p* value of .05 was used to evaluate the *F* score that was obtained.

The results of this ANCOVA revealed that there was not a statistically significant difference between the commitment anxiety of the dual intervention and single intervention group after covarying for their pretest scores on the CTI CA subscale,  $F(1,166) = 1.21, p = .27$ . This finding suggests that the adjusted levels of career certainty reported by each group on the posttest measurements of CTI CA subscale are not

significantly different from each other. Based upon this finding, Hypothesis 1a could not be supported. Additional information regarding these figures can be found in Table 4.20.

*Hypothesis 2d: Students in the dual intervention group will exhibit less external conflicts than those students in the single intervention group as reflected by significant decreases on the External Conflict subscale of the CTI.*

A one-way ANCOVA was performed to examine whether there was a significant difference between the dual and single intervention groups in their posttest levels of external conflict after covarying for their pretest scores. In calculating the  $F$  statistic for this ANCOVA, the different interventions offered to each group served as the independent variable. The dependent variable was the posttest scores obtained on the CTI EC subscale. The covariate used in the calculation served as the pretest scores obtained on the CTI EC subscale. A  $p$  value of .05 was used to evaluate the  $F$  score that was obtained.

The results of this ANCOVA revealed that there was not a statistically significant difference between the external conflict of the dual intervention and single intervention group after covarying for their pretest scores on the CTI EC subscale,  $F(1,166) = .82, p = .37$ . This finding suggests that the adjusted levels of external conflict reported by each group on the posttest measurements of CTI CA subscale are not significantly different from each other. Based upon this finding, Hypothesis 2b could not be supported. Additional information regarding these figures can be found in Table 4.21.

*Hypothesis 3: Students in the dual intervention group will exhibit greater career decision-making self-efficacy than those students in the single intervention group as reflected by significant increases on the total scores of the CDSE-SF.*

A one-way ANCOVA was performed to examine whether there was a significant difference between the dual and single intervention groups in their posttest levels of career decision-making self-efficacy after covarying for their pretest scores. The need to control for pre-existing group differences was shown by the results of a previous *t*-test, which indicated that equivalence could not be assumed for the pretests scores on the CDSE-SF Total Scale. Since equivalence could not be assumed, the use of an ANCOVA accounted for any preexisting differences when examining for differences in the posttest scores.

In calculating the *F* statistic for this ANCOVA, the different interventions offered to each group served as the independent variable. The dependent variable was the posttest scores obtained on the CDSE-SF Total Scale. The covariate used in the calculation served as the pretest scores obtained on the CDSE-SF Total Scale. A *p* value of .05 was used to evaluate the *F* score that was obtained.

The results of this ANCOVA revealed that there was a statistically significant difference at the .05 level of significance,  $F(1,166) = 4.82, p = .03$ , between the career decision-making self-efficacy of the dual intervention and single intervention group after covarying for their pretest scores on the CDSE-SF Total Scale. Also, an effect size ( $\eta^2$ ) of .0004 was calculated.

Although the single intervention group ( $M = 3.88, SD = .62$ ) scored higher on the posttest measure than the dual intervention group ( $M = 3.83, SD = .58$ ), each group had differing

baseline scores at the beginning of this study. These pre-existing differences were accounted for in the adjusted means which were calculated for the posttest scores. As indicated by the ANCOVA, the adjusted mean of the dual intervention group (*Adj. M* = 3.93, *Std. Error* = .05) was significantly higher than the adjusted mean of the single intervention group (*Adj. M* = 3.78, *Std. Error* = .05). These higher scores indicate that the dual intervention group did experience a greater level of career decision-making self-efficacy than the single intervention group and provides support for Hypothesis 3. Additional information regarding these figures can be found in Table 4.22.

#### *Tests Examining Moderating Effects of Demographic Variables*

*Hypothesis 4: Certain demographic variables (gender, ethnicity, age, and year in school) will act as moderators and affect the strength scores obtained on the CDS, CTI, and CDSE-SF.*

Hypothesis 4 comprises of four separate components. Each component represents a different demographic variables examined in this study. The following sections contain the results of statistical analyses that were utilized to examine the moderating effects of each demographic variable.

*Gender.* A series of two-way ANCOVAs were calculated to examine whether group members' gender served as a moderator in influencing their scores for this study. A separate two-way ANCOVA was calculated for each of the three main scales (CDS, CTI, and CDSE-SF) and their respective subscales. For each two-way ANCOVA, the independent variable was the different treatments offered to each group and the dependent variable was the posttest scores for each scale. Both group members' gender and their pretest scores for each scale were utilized as covariates. Each of the resulting *F*

scores was examined to see if any moderating effects due to gender were present in the students' scores for that particular scale. A Bonferroni correction was utilized when examining these scores. An adjusted  $p$  value equal to or less than .007 (.05/7) was required for significance. Table 4.23 contains the results for two-way ANCOVAs.

When compared at a .007 significance level, each  $F$  score proved to be non-significant. Even when utilizing a less conservative significance level (.05), these findings were still non-significant. These findings suggest that group members' gender did not have a moderating role in influencing students' scores in this study. Thus, no evidence was found to support the portion of Hypothesis 4 relating to gender.

*Ethnicity.* A series of two-way ANCOVAs were calculated to examine whether group members' ethnicity served as a moderator in influencing their scores for this study. A separate two-way ANCOVA was calculated for each of the three main scales (CDS, CTI, and CDSE-SF) and their respective subscales. For each two-way ANCOVA, the independent variable was the different treatments offered to each group and the dependent variable was the posttest scores for each scale. Both group members' ethnicity and their pretest scores for each scale were utilized as covariates. Each of the resulting  $F$  scores was examined to see if any moderating effects due to ethnicity were present in the students' scores for that particular scale. A Bonferroni correction was utilized when examining these scores. An adjusted  $p$  value equal to or less than .007 (.05/7) was required for significance. Table 4.24 contains the results for two-way ANCOVAs.

When compared at a .007 significance level, the  $F$  score for the majority of scales and subscales proved to be non-significant. However, the  $F$  score for the CDSE-SF Total Scale ( $df = 4, 155$ ;  $F = 4.20$ ;  $p = .01$ ) did prove to be significant. When a less

conservative significance level (.05) was used, no additional *F* scores were found to be significant. These overall findings suggest that group members' ethnicity did not have a moderating role in their scores for this study, except upon their responses to the CDSE-SF. This significant finding regarding the CDSE-SF would suggest that group members' ethnicity did play a role upon their experience and reporting of their career decision-making self-efficacy. Thus, partial evidence was found to support the portion of Hypothesis 4 relating to ethnicity. Details regarding this finding are further discussed in Chapter 5.

*Age.* A series of two-way ANCOVAs were calculated to examine whether group members' age served as a moderator in influencing their scores for this study. A separate two-way ANCOVA was calculated for each of the three main scales (CDS, CTI, and CDSE-SF) and their respective subscales. For each two-way ANCOVA, the independent variable was the different treatments offered to each group and the dependent variable was the posttest scores for each scale. Both group members' age and their pretest scores for each scale were utilized as covariates. Each of the resulting *F* scores was examined to see if any moderating effects due to age were present in the students' scores for that particular scale. A Bonferroni correction was utilized when examining these scores. An adjusted *p* value equal to or less than .007 (.05/7) was required for significance. Table 4.25 contains the results for two-way ANCOVAs.

When compared at a .007 significance level, each *F* score proved to be non-significant. Even when utilizing a less conservative significance level (.05), these findings were still non-significant. These findings suggest that group members' age did

not have a moderating role in influencing students' scores in this study. Thus, no evidence was found to support the portion of Hypothesis 4 relating to age.

*Year in School.* A series of two-way ANCOVAs were calculated to examine whether group members' year in school served as a moderator in influencing their scores for this study. A separate two-way ANCOVA was calculated for each of the three main scales (CDS, CTI, and CDSE-SF) and their respective subscales. For each two-way ANCOVA, the independent variable was the different treatments offered to each group and the dependent variable was the posttest scores for each scale. Both group members' year in school and their pretest scores for each scale were utilized as covariates. Each of the resulting *F* scores was examined to see if any moderating effects due to year in school were present in the students' scores for that particular scale. A Bonferroni correction was utilized when examining these scores. An adjusted *p* value equal to or less than .007 (.05/7) was required for significance. Table 4.26 contains the results for two-way ANCOVAs.

When compared at a .007 significance level, each *F* score proved to be non-significant. Even when utilizing a less conservative significance level (.05), these findings were still non-significant. These findings suggest that group members' year in school did not have a moderating role in influencing students' scores in this study. Thus, no evidence was found to support the portion of Hypothesis 4 relating to year in school.

*Test Examining Moderating Effects of Attitude Variables*

*Hypothesis 5a: Students' positive attitudes towards career counseling, as measured by the Value subscale of the ATCCS, will have a moderating effect and will affect the scores obtained on the CDS, CTI, and CDSE-SF.*

To determine if any moderating effects existed due to positive attitude towards career counseling, I conducted a series of Pearson's product-moment coefficients between pretest scores on the ATCCS Value subscale and pretest scores on the other main scales and subscales. A separate  $r$  coefficient was calculated for each research group. Each of these resulting statistics were examined to see if any moderating effects were present in the research groups' scores for that particular scale. A Bonferroni correction was utilized when examining these scores. An adjusted  $p$  value equal to or less than .007 (.05/7) was required for significance. Table 4.27 contains the results for two-way ANCOVAs.

When compared at a .007 significance level, each  $r$  coefficient proved to be non-significant. When utilizing a less conservative significance level (.05), a statistically significant correlation was found between the pretest scores of the ATCCS Value subscale and the pretest scores of the CDS Certainty subscale for the single intervention group ( $r = -.28, p = .01$ ). However, since this  $r$  coefficient did not meet the more conservative significance level, it was not considered to be a significant finding. Since no significant correlations were found, I discontinued his examination for moderating effects of positive attitudes towards career counseling and did not carry out any further statistical analyses. Thus, it was suggested that group members' positive attitudes towards career counseling did not have a moderating role in the influencing their pretest scores in this



study. No evidence could be found to support the Hypothesis 5a as it relates to positive attitudes towards career counseling.

*Hypothesis 5b: Students' negative attitudes towards career counseling, as measured by the Stigma subscale of the ATCCS, will have a moderating effect and will affect the scores obtained on the CDS, CTI, and CDSE-SF.*

To determine if any moderating effects existed due to negative attitude towards career counseling, I conducted a series of Pearson's product-moment coefficients between pretest scores on the ATCCS Stigma subscale and pretest scores on the other main scales and subscales. A separate  $r$  coefficient was calculated for each research group. Each of these resulting statistics were examined to see if any moderating effects were present in the research groups' scores for that particular scale. A Bonferroni correction was utilized when examining these scores. An adjusted  $p$  value equal to or less than .007 (.05/7) was required for significance. Table 4.28 contains the results for two-way ANCOVAs.

When compared at a .007 significance level, each  $r$  coefficient proved to be non-significant. When utilizing a less conservative significance level (.05), a statistically significant correlation was found between the pretest scores of the ATCCS Stigma subscale and the pretest scores of the CTI EC subscale for the single intervention group ( $r = .23, p = .04$ ). However, since this  $r$  coefficient did not meet the more conservative significance level, it was not considered to be a significant finding. Since no significant correlations were found, I discontinued his examination for moderating effects of positive attitudes towards career counseling and did not carry out any further statistical analyses. Thus, it was suggested that group members' negative attitudes towards career counseling did not have a moderating role in the influencing their pretest scores in this study. No

evidence could be found to support Hypothesis 5b in regards to negative attitudes towards career counseling.

*Hypothesis 6: Students' attitudes towards participation in course requirements occurring outside of the classroom, as measured by the Attitudes towards Participation in Course Requirements Occurring Outside of the Classroom scale, will have a moderating effect and will affect the scores obtained on the CDS, CTI, and CDSE-SF.*

To determine if any moderating effects existed due to attitudes towards participation in course requirements occurring outside of the classroom, a series of Pearson's product-moment coefficients were conducted. The correlations were between the pretest scores on the Attitudes towards Participation in Course Requirements Occurring Outside of the Classroom Scale and the pretest scores on the other main scales and subscales. A separate  $r$  coefficient was calculated for each research group. Each of these resulting statistics were examined to see if any moderating effects were present in the research groups' scores for that particular scale. A Bonferroni correction was utilized when examining these scores. An adjusted  $p$  value equal to or less than .007 (.05/7) was required for significance. Table 4.29 contains the results for two-way ANCOVAs.

When compared at a .007 significance level, each  $r$  coefficient proved to be non-significant. Even when utilizing a less conservative significance level (.05), these statistics were still non-significant. They suggest that group members' attitudes towards participation in course requirements occurring outside of the classroom did not have a moderating role in the influencing their pretest scores in this study. No evidence could be found to support the portion of Hypothesis 6 relating to attitudes towards participation in

course requirements occurring outside of the classroom. Table 4.30 provides a summary of the findings for all of research questions.

Table 4.1

*Descriptive Statistics for scores obtained on the CDS Certainty subscale*

	Dual Intervention			Single Intervention		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Pretest	85	4.31	1.94	84	5.73	1.90
Post-Test	85	5.76	1.83	84	6.46	1.59

Table 4.2

*Descriptive Statistics for scores obtained on the CDS Indecision subscale*

	Dual Intervention			Single Intervention		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Pretest	85	34.25	7.23	84	33.23	8.55
Post-Test	85	33.07	8.04	84	30.94	9.49

Table 4.3

*Descriptive Statistics for scores obtained on the CTI Total Score*

	Dual Intervention			Single Intervention		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Pretest	85	51.54	10.22	84	50.24	10.81
Post-Test	85	48.88	10.00	84	47.06	11.42

Table 4.4

*Descriptive Statistics for scores obtained on the CTI Decision Making Confusion subscale*

	Dual Intervention			Single Intervention		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Pretest	85	51.51	11.40	84	49.51	10.57
Post-Test	85	48.98	10.18	84	47.77	10.39

Table 4.5

*Descriptive Statistics for scores obtained on the CTI Commitment Anxiety subscale*

	Dual Intervention			Single Intervention		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Pretest	85	54.46	9.68	84	50.94	11.52
Post-Test	85	51.64	10.61	84	47.73	11.12

Table 4.6

*Descriptive Statistics for scores obtained on the CTI External Conflict subscale*

	Dual Intervention			Single Intervention		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Pretest	85	48.46	12.46	84	50.54	14.08
Post-Test	85	50.56	11.70	84	50.15	13.57

Table 4.7

*Descriptive Statistics for scores obtained on the CDSE-SF Total Score*

	Dual Intervention			Single Intervention		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Pretest	85	3.48	0.56	84	3.74	0.58
Post-Test	85	3.83	0.58	84	3.88	0.62

Table 4.8

*Descriptive Statistics for scores obtained on the ATCCS Value subscale*

	Dual Intervention			Single Intervention		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Pretest	85	39.02	5.57	84	37.44	7.25
Post-Test	85	38.24	5.98	84	37.20	7.49

Table 4.9

*Descriptive Statistics for scores obtained on the ATCCS Stigma subscale*

	Dual Intervention			Single Intervention		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Pretest	85	17.67	6.13	84	17.51	7.31
Post-Test	85	15.82	6.34	84	17.50	7.52

Table 4.10

*Inter-Item Correlation Matrix for Pre-test Scores on the Attitudes towards Participation in Course Requirements Outside of the Classroom Scale*

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8
Item 1	1	-.34**	.39**	-.21**	.22**	-.20**	.05	.21**
Item 2	-.34**	1	-.47**	.17*	-.22**	.25**	.04	-.37**
Item 3	.39**	-.47**	1	-.12	.30**	-.19*	.00	.26**
Item 4	-.21**	.17*	-.12	1	-.35**	.50**	-.02	-.37**
Item 5	.22**	-.22**	.30**	-.35**	1	-.23**	.07	.23**
Item 6	-.20**	.25**	-.19*	.50**	-.23**	1	-.13	-.64**
Item 7	.05	.04	.00	-.02	.07	-.13	1	.13
Item 8	.21**	-.37**	.26**	-.37**	.23**	-.64**	.13	1

Note: N = 169

\*\* Correlation is significant at the .01 level (2-tailed).

\* Correlation is significant at the .05 level (2-tailed).

Table 4.11

*Inter-Item Correlation Matrix for Posttest Scores on the Attitudes towards Participation in Course Requirements Outside of the Classroom Scale*

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8
Item 1	1	-.31**	.51**	-.15	.29**	-.12	.02	.12
Item 2	-.31**	1	-.46**	.17*	-.42**	.29**	-.12	-.30**
Item 3	.51**	-.46**	1	-.26**	.46**	-.27**	.13	.32**
Item 4	-.15	.17*	-.26**	1	-.48**	.60**	.09	-.44**
Item 5	.29**	-.42**	.46**	-.48**	1	-.45**	-.0	.40**
Item 6	-.12	.29**	-.27**	.60**	-.45**	1	.05	-.50**
Item 7	.02	-.12	.13	.09	-.0	.05	1	-.01
Item 8	.12	-.30**	.32**	-.44**	.40**	-.50**	-.01	1

Note: N = 169

\*\* Correlation is significant at the .01 level (2-tailed).

\* Correlation is significant at the .05 level (2-tailed).



Table 4.12

*Expected Cronbach's Alpha Coefficient if Individual Items were Deleted from the Pre-test of Attitudes towards Participation in Course Requirements Occurring Outside of the Classroom Scale*

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Item	Alpha if Item were Deleted
Item 1	.67
Item 2	.66
Item 3	.66
Item 4	.66
Item 5	.66
Item 6	.63
Item 7	.74
Item 8	.63

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Table 4.13

*Expected Cronbach's Alpha Coefficient if Individual Items were Deleted from the Posttest of Attitudes towards Participation in Course Requirements Occurring Outside of the Classroom Scale*

Item	Alpha if Item were Deleted
Item 1	.69
Item 2	.68
Item 3	.63
Item 4	.66
Item 5	.63
Item 6	.65
Item 7	.77
Item 8	.66

Table 4.14

*Descriptive Statistics for scores obtained on the Attitudes towards Participation in Course Requirements Occurring Outside of the Classroom Scale*

	Dual Intervention			Single Intervention		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Pretest	85	15.94	4.01	84	17.04	4.75
Post-Test	85	14.52	4.06	84	16.23	5.04

Table 4.15

*Results of t-tests examining Equivalence of Pretest Scores for all of the Main Constructs*

Scale/ Subscale	Research Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
CDS Indecision	Dual Intervention	85	34.25	7.23	0.84	167	.40
	Single Intervention	84	33.23	8.55			
CDS Certainty	Dual Intervention	85	4.31	1.94	-4.81	167	.00**
	Single Intervention	84	5.73	1.90			
CTI Total Score	Dual Intervention	85	51.54	10.22	0.81	167	.42
	Single Intervention	84	50.24	10.81			
CTI DMC	Dual Intervention	85	51.51	11.40	1.18	167	.24
	Single Intervention	84	49.51	10.57			
CTI CA	Dual Intervention	85	54.46	9.68	2.15	167	.03*
	Single Intervention	84	50.94	11.52			
CTI EC	Dual Intervention	85	48.46	12.46	-1.02	167	.31
	Single Intervention	84	50.54	14.08			
CDSE-SF Total Score	Dual Intervention	85	3.48	0.56	-2.96	167	.03*
	Single Intervention	84	3.74	0.58			

\*\* Correlation is significant at the .01 level (2-tailed).

\* Correlation is significant at the .05 level (2-tailed).

Table 4.16

*Results of One-way ANCOVA for Group Differences on the CDS Certainty subscale*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Intercept	1	296.27	296.27	140.22	.00
Group	1	.02	.02	.01	.92
CDS Certainty Pre-test	1	139.46	139.46	66.00	.00
Error	166	350.73	2.11		
Total	169	6825.00			

  

Dependent Variable: CDS Certainty subscale Posttest		Adjusted Mean	Std. Error
Dual Intervention		6.10	.16
Single Intervention		6.12	.16

Table 4.17

*Results of One-way ANCOVA for Group Differences on the CDS Indecision subscale*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Intercept	1	1087.26	1087.26	20.25	.00
Group	1	94.62	94.62	1.76	.19
CDS Indecision Pre-test	1	3985.88	3985.88	74.24	.00
Error	166	8912.40	53.69		
Total	169	186274.00			

  

Dependent Variable: CDS Indecision subscale Posttest		Adjusted Mean	Std. Error
Dual Intervention		32.76	0.80
Single Intervention		31.26	0.80

Table 4.18

*Results of One-way ANCOVA for Group Differences on the CTI Total Score*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Intercept	1	698.71	698.71	12.88	.00
Group	1	30.64	30.64	.57	.45
CTI Total Pre-test	1	10223.66	10223.66	188.45	.00
Error	166	9005.86	54.25		
Total	169	408362.00			

  

Dependent Variable: CTI Total Score Posttest	Adjusted Mean	Std. Error
Dual Intervention	48.40	.80
Single Intervention	47.55	.80

Table 4.19

*Results of One-way ANCOVA for Group Differences on the CTI Decision Making Confusion subscale*

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Intercept	1	2161.07	2161.07	36.59	.00
Group	1	.07	.07	.00	.97
CTI DMC Pre-test	1	7842.78	7842.78	132.80	.00
Error	166	9803.88	59.06		
Total	169	413252.00			

  

Dependent Variable CTI Decision Making Confusion subscale Posttest		Adjusted Mean	Std. Error
Dual Intervention		48.36	.84
Single Intervention		48.40	.84

Table 4.20

*Results of One-way ANCOVA for Group Differences on the CTI Commitment Anxiety subscale*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Intercept	1	945.00	945.00	15.61	.00
Group	1	73.09	73.09	1.21	.27
CTI DMC Pre-test	1	9661.15	9661.15	159.63	.00
Error	166	10046.69	60.52		
Total	169	438147.00			

Dependent Variable CTI Commitment Anxiety  
subscale Posttest

	Adjusted Mean	Std. Error
Dual Intervention	50.39	.85
Single Intervention	49.05	.86



Table 4.21

*Results of One-way ANCOVA for Group Differences on the CTI External Conflict subscale*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Intercept	1	6863.02	6863.02	60.40	.00
Group	1	92.71	92.71	.82	.37
CTI DMC Pre-test	1	7913.65	7913.65	69.65	.00
Error	166	18862.23	113.63		
Total	169	26782.98			

Dependent Variable CTI External Conflict subscale Posttest	Adjusted Mean	Std. Error
Dual Intervention	51.10	1.16
Single Intervention	49.61	1.17

Table 4.22

*Results of One-way ANCOVA for Group Differences on the CDSE-SF Total Scale*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Intercept	1	5.58	5.58	30.36	.00
Group	1	0.89	0.89	4.82	.03
CDSE-SF Pre-test	1	29.71	29.71	161.61	.00
Error	166	30.52	0.18		
Total	169	2570.78			

  

Dependent Variable CDSE-SF Total Scale Posttest	Adjusted Mean	Std. Error
Dual Intervention	3.93	.05
Single Intervention	3.78	.05

Table 4.23

Summary Table of the results of Two-Way ANCOVAs examining the Moderating Effects of Group Members' Gender upon their scores for all scales and subscales

Scale	<u>df</u>	<u>F</u>	<u>p</u>	Finding
CDS Certainty subscale	1, 164	1.05	.31	Non-Significant
CDS Indecision subscale	1, 164	.81	.37	Non-Significant
CTI Total Score	1, 164	.02	.88	Non-Significant
CTI DMC subscale	1, 164	.17	.68	Non-Significant
CTI CA subscale	1, 164	2.38	.13	Non-Significant
CTI EC subscale	1, 164	.53	.47	Non-Significant
CDSE-SF Total Scale	1, 164	.16	.69	Non-Significant

Table 4.24

Summary Table of the results of Two-Way ANCOVAs examining the Moderating Effects of Group Members' Ethnicity upon their scores for all scales and subscales

Scale	<i>df</i>	<i>F</i>	<i>p</i>	Finding
CDS Certainty subscale	4, 155	1.76	.14	Non-Significant
CDS Indecision subscale	4, 155	.55	.70	Non-Significant
CTI Total Score	4, 155	1.53	.20	Non-Significant
CTI DMC subscale	4, 155	2.30	.06	Non-Significant
CTI CA subscale	4, 155	.42	.79	Non-Significant
CTI EC subscale	4, 155	.35	.85	Non-Significant
CDSE-SF Total Scale	4, 155	4.20	.00*	Significant

\* Finding is significant at the .01 level

Table 4.25

*Summary Table of the results of Two-Way ANCOVAs examining the Moderating Effects of Group Members' Age upon their scores for all scales and subscales*

Scale	<i>df</i>	<i>F</i>	<i>p</i>	Finding
CDS Certainty subscale	4, 155	.43	.79	Non-Significant
CDS Indecision subscale	4, 155	2.00	.10	Non-Significant
CTI Total Score	4, 155	1.98	.10	Non-Significant
CTI DMC subscale	4, 155	1.89	.12	Non-Significant
CTI CA subscale	4, 155	.56	.70	Non-Significant
CTI EC subscale	4, 155	1.18	.32	Non-Significant
CDSE-SF Total Scale	4, 155	.64	.63	Non-Significant

Table 4.26

*Summary Table of the results of Two-Way ANCOVAs examining the Moderating Effects of Group Members' Year in School upon their scores for all scales and subscales*

Scale	<i>df</i>	<i>F</i>	<i>p</i>	Finding
CDS Certainty subscale	4, 158	1.17	.33	Non-Significant
CDS Indecision subscale	4, 158	1.74	.14	Non-Significant
CTI Total Score	4, 158	.60	.67	Non-Significant
CTI DMC subscale	4, 158	1.81	.13	Non-Significant
CTI CA subscale	4, 158	.21	.90	Non-Significant
CTI EC subscale	4, 158	.34	.85	Non-Significant
CDSE-SF Total Scale	4, 158	.99	.41	Non-Significant

Table 4.27

*Summary Table of procedures examining the moderating effects of pretest measures of positive attitude towards career counseling (ATCCS Value subscale) upon the pretest scores of all scales and subscales: Pearson product moment correlations & t-tests*

Scale/Subscale	Group	<i>n</i>	$r^2$	<i>p</i>	Finding
CDS Certainty	Dual	85	.00	.98	Non-Significant
	Single	84	-.28	.01*	Significant
CDS Indecision	Dual	85	.02	.85	Non-Significant
	Single	84	.12	.27	Non-Significant
CTI Total Score	Dual	85	-.11	.32	Non-Significant
	Single	84	.16	.15	Non-Significant
CTI DMC	Dual	85	-.09	.40	Non-Significant
	Single	84	-.04	.73	Non-Significant
CTI CA	Dual	85	.04	.69	Non-Significant
	Single	84	.25	.02	Non-Significant
CTI EC	Dual	85	-.08	.45	Non-Significant
	Single	84	-.09	.41	Non-Significant
CDSE-SF Total	Dual	85	.12	.26	Non-Significant
	Single	84	-.13	.24	Non-Significant

\* Finding is significant at the .05 level

Table 4.28

*Summary Table of procedures examining the moderating effects of pretest measures of negative attitude towards career counseling (ATCCS Stigma subscale) upon the pretest scores of all scales and subscales: Pearson product moment correlations & t-tests*

Scale/Subscale	Group	<i>n</i>	$r^2$	<i>p</i>	Finding
CDS Certainty	Dual	85	-.13	.24	Non-Significant
	Single	84	.16	.15	Non-Significant
CDS Indecision	Dual	85	-.01	.96	Non-Significant
	Single	84	.21	.06	
CTI Total Score	Dual	85	.17	.13	Non-Significant
	Single	84	.08	.47	Non-Significant
CTI DMC	Dual	85	.13	.23	Non-Significant
	Single	84	.15	.18	Non-Significant
CTI CA	Dual	85	.12	.30	Non-Significant
	Single	84	-.02	.84	Non-Significant
CTI EC	Dual	85	.16	.14	Non-Significant
	Single	84	.23*	.04	Significant
CDSE-SF Total	Dual	85	-.17	.12	Non-Significant
	Single	84	.06	.62	Non-Significant

\* Finding is significant at the .05 level

Table 4.29

*Summary Table of procedures examining the moderating effects of pretest scores of Attitudes towards Participation in Course Requirements Outside of the Classroom Scale upon the pretest scores of all scales and subscales: Pearson product moment correlations & t-tests*

Scale/Subscale	Group	<i>n</i>	$r^2$	<i>p</i>	Finding
CDS Certainty	Dual	85	.09	.42	Non-Significant
	Single	84	.18	.09	Non-Significant
CDS Indecision	Dual	85	-.06	.61	Non-Significant
	Single	84	-.09	.40	Non-Significant
CTI Total Score	Dual	85	.13	.24	Non-Significant
	Single	84	-.07	.53	Non-Significant
CTI DMC	Dual	85	.12	.29	Non-Significant
	Single	84	.05	.63	Non-Significant
CTI CA	Dual	85	.03	.82	Non-Significant
	Single	84	-.14	.21	Non-Significant
CTI EC	Dual	85	.13	.23	Non-Significant
	Single	84	.00	.99	Non-Significant
CDSE-SF Total	Dual	85	-.12	.27	Non-Significant
	Single	84	.11	.32	Non-Significant

Table 4.30

*Summary of Findings for Research Questions*

Research Hypothesis	Finding
Hypothesis 1a	Unsupported
Hypothesis 1b	Unsupported
Hypothesis 2a	Unsupported
Hypothesis 2b	Unsupported
Hypothesis 2c	Unsupported
Hypothesis 2d	Unsupported
Hypothesis 3 <i>(A significant difference between the dual intervention and single intervention group was found)</i>	Supporting Evidence Found
Hypothesis 4	Unsupported
Hypothesis 5a	Unsupported
Hypothesis 5b	Unsupported
Hypothesis 6	Unsupported



## Chapter Five

### Summary, Discussion, & Recommendations

#### *Summary*

The purpose of this study was to empirically investigate the effects and outcomes that occur from the utilization of a session of career counseling in combination with a career development course. To better understand the unique effects of this combined intervention, it was compared alongside a separate career development course. By comparing these two sets of career interventions, I hoped that a better understanding could be attained of how combining career counseling with a career development course might uniquely assist college students in making career-related decisions. I also hoped that the findings of this study would help to further the dialogue regarding the combining of various career interventions to assist college students.

The study examined the differences between students participating in the dual intervention and single intervention. Any resulting differences were measured by examining students' self-reports on a number of career-related assessments. These assessments measured constructs (career certainty/indecision, dysfunction career thoughts, and career decision-making self-efficacy) that have been identified as being central to the field of vocational psychology and career counseling. Hypotheses were postulated regarding the differences that were expected to be observed due to students' participation in either intervention and were then tested statistically to determine if there

might be sufficient evidence to support them. These hypotheses included the following statements:

Hypothesis 1a: Students in the dual intervention group will exhibit greater career certainty than those students in the single intervention group as reflected by significant increases on the Certainty subscale of the CDS.

Hypothesis 1b: Students in the dual intervention group will exhibit less career indecision than those students in the single intervention group as reflected by significant decreases on the Indecision subscale of the CDS.

Hypothesis 2a: Students in the dual intervention group will exhibit less dysfunctional career thoughts than those students in the single intervention group as reflected by significant decreases on the total scores of the CTI.

Hypothesis 2b: Students in the dual intervention group will exhibit less decision making confusion than those students in the single intervention group as reflected by significant decreases on the Decision Making Confusion subscale of the CTI.

Hypothesis 2c: Students in the dual intervention group will exhibit less commitment anxiety than those students in the single

intervention group as reflected by significant decreases on the Commitment Anxiety subscale of the CTI.

Hypothesis 2d: Students in the dual intervention group will exhibit less external conflicts than those students in the single intervention group as reflected by significant decreases on the External Conflict subscale of the CTI.

Hypothesis 3: Students in the dual intervention group will exhibit greater career decision-making self-efficacy those students in the single intervention group as reflected by significant increases on the total scores of the CDSE-SF.

In addition to examining group differences resulting from participation in the career interventions, this study also attempted to identify the presence of any moderating variables. I thought that potential moderating effects might occur due to some of the demographic characteristics (gender, ethnicity, age, and year in school) possessed by students. Since career counseling was a part of one of the interventions provided to students, I also considered it important to explore whether any attitudes regarding career counseling might have influenced their participation in the study and the scores they reported. Similarly, a scale was created to examine students' attitudes towards participation in course requirements occurring outside of the classroom. Since some of the students were required to participate in counseling session that occurred outside of the normal classroom parameters, there have might been some hostility or resentment towards being asked to do such things. Thus, this attitude was also examined to explore if

it played any moderating role. Since it was uncertain how all of these variables might play a moderating role, general hypotheses were postulated regarding the effects that might occur. These hypotheses were then tested statistically to determine if there might be sufficient evidence to support them. These hypotheses included the following statements:

Hypothesis 4: Certain demographic variables (gender, ethnicity, age, and year in school) will act as moderators and affect the strength scores obtained on the CDS, CTI, and CDSE-SF.

Hypothesis 5a: Students' positive attitudes towards career counseling, as measured by the Value subscale of the ATCCS, will have a moderating effect and will affect the scores obtained on the CDS, CTI, and CDSE-SF.

Hypothesis 5b: Students' negative attitudes towards career counseling, as measured by the Stigma subscale of the ATCCS, will have a moderating effect and will affect the scores obtained on the CDS, CTI, and CDSE-SF.

Hypothesis 6: Students' attitudes towards participation in course requirements occurring outside of the classroom, as measured by the Attitudes towards Participation in Course Requirements Occurring Outside of the Classroom Scale, will have a moderating effect and will affect the scores obtained on the CDS, CTI, and CDSE-SF.

The final sample for the study consisted of 169 undergraduate students enrolled in a large Southeastern university. Eighty five students participated in a career development course and a career consultation session, while 84 students only participated in a career development course. There were 88 women and 81 men who participated in the study. Their ages ranged from 18 to 27 years of age with 69 students being 18 years of age, 43 students being 19 years of age, 23 students being 20 years of age, 14 students being 21 years of age, 17 students being 22 years of age, and 3 students being between 23 to 27 years of age. The demographic composition of this sample included 145 European American/White students, 7 African American/Black students, 4 Hispanic/Latino students, 4 Asian students, 2 Native American students, 1 Middle Eastern student, 1 Pacific Islander students, and 5 Biracial students. Finally, there were 91 students in their first year of school, 32 students in their second year, 15 students in their third year, 23 students in their fourth year, and 8 students in their fifth year

To address Hypotheses 1-3 and their respective subcomponents, a series of one-way ANCOVAs was conducted using the different interventions offered to students as the independent variables, posttest scores as the dependent variables, and pretest scores as

the covariates. The majority of  $F$  statistics for these ANCOVAs did not yield significant results suggesting that there was no difference between the two intervention groups in regards to their levels of career certainty, career indecision, global dysfunctional career thoughts, decision-making confusion, commitment anxiety, and external conflict. However, the  $F$  score used to examine group differences on the CDSE-SF did yield a significant result. It suggested that after taking into account initial differences on the pretest scores of the CDSE-SF there was a significant difference in the posttest scores of these two groups. The dual intervention group had higher adjusted means than did the single intervention group. Thus, there was evidence to support Hypothesis 3, but no evidence to support any of the other main hypotheses for this study.

To address Hypothesis 4, a series of two-way ANCOVAs was calculated. A separate two-way ANCOVA was calculated for each of the four demographic variables (gender, ethnicity, age, and year in school) and paired with each of the three main scales (CDS, CTI, and CDSE-SF) and their respective subscales. This procedure yielded 28 separate two-way ANCOVAs. For each two-way ANCOVA, the independent variable was the different treatments offered to each group and the dependent variable was the posttest scores for each scale. The specific demographic variable being tested was utilized along with pretest scores for each scale as covariates. The majority of the  $F$  statistics for these ANCOVAs did not yield significant results suggesting that these demographic variables did not have moderating effects upon students' scores. However, a significant finding did occur for the interaction between group members' ethnicity and the interactions they received. This finding provided support for the moderating role of

ethnicity upon students' level of career decision-making self-efficacy. Thus, partial evidence was found to support the portion of Hypothesis 4 relating to ethnicity.

Finally, to address Hypotheses 5 (a and b) and 6, a series of Pearson's product-moment coefficients was conducted. These coefficients examined the relationship between each of the attitudes scales (ATCCS Value subscale, ATCCS Stigma subscale, and the Attitudes towards Participation in Course Requirements Occurring Outside of the Classroom Scale) and each of the three main scales (CDS, CTI, and CDSE-SF) and their respective subscales. This procedure yielded 21 separate  $r$  coefficients. None of these correlations yielded a significant result. Further analysis was discontinued due to insufficient findings to base them upon. Therefore, no evidence was found for any of the attitudinal variables having a moderating effect upon students' scores and Hypotheses 5 (a and b) and 6 could not be supported.

### *Discussion*

#### *Hypotheses 1a, 1b, 2a, 2b, 2c, 2d, and 3*

The first set of research hypotheses examined the differences that occurred in each group of students due to their participation in either the dual intervention (a counseling session and a career development course) or the single intervention (a career development course). These differences were examined across the constructs of career certainty, career indecision, dysfunctional career thoughts, decision-making confusion, commitment anxiety, external conflict, and career decision-making self-efficacy. It was assumed that any differences that were observed would be due to the interventions in which students' participated.

The findings of this study suggest that there were no differences in the levels of career certainty, career indecision, dysfunctional career thoughts, decision-making confusion, commitment anxiety, and external conflict experienced by each group of students. On two occasions, the research groups were found to have pre-existing differences in their levels of particular constructs (i.e. career certainty and commitment anxiety). These differences in pretest scores were accounted for during the statistical analyses. Even after accounting for these pre-existing differences, there were still no significant differences to be found between the groups. These results would appear to indicate that the combination of the career counseling session and career development course did not differ from the career development course alone in addressing students' career indecision, dysfunctional career thoughts, decision-making confusion, commitment anxiety, and external conflict. Also, the results indicated that the combination of the career counseling session and career development course did not differ from the career development course alone in increasing students' levels of career certainty. Based upon these results alone, it would be easy to "write off" the use of the career counseling session and career development course as a combined intervention and to state that the students would have been no worse off in simply participating in the course by itself.

However, a significant difference was found in the levels of career decision-making self-efficacy reported by each group. At first glance, the obtained posttest scores revealed that the single intervention had higher levels of career decision-making self-efficacy than the dual intervention group. This difference in scores was only a few hundredths of a point. Without the use of any statistics, such a small difference might



have been deemed to be negligible and it might have been determined that there was actually no difference between the groups. However, upon examining the pretest scores and running a test for equivalence, it was determined that the baseline levels of career decision-making self-efficacy were not similar at the time of the pretest measurement. The dual intervention group had scored lower on pretest measures of career decision-making self-efficacy than the single intervention group by more than a quarter of a point. While this difference was statistically significant, it can also be considered significant since the entire measure was based upon a 5-point Likert scale. With such a small scale of measurement, a quarter of a point difference may indicate a big difference in levels of career decision-making self-efficacy.

When a statistical procedure was used to account for the difference in pretest scores, the results revealed that the dual intervention group had significantly higher adjusted means than the single intervention group. Thus, the dual intervention group experienced a significantly larger increase in their levels career decision-making self-efficacy during the time between the pretest and posttest measurements than did the single intervention group. Such an increase is assumed to have occurred due to the interventions each group of students participated in and would indicate that the combination of counseling session and career development course was more effective in increasing career decision-making self-efficacy than the career development course by itself. Thus, evidence was found to support Hypothesis 3 of this study and to suggest that in at least one way the combination of interventions was superior to the use of the one intervention by itself.

While partial support was provided for the increased effectiveness of the combined career counseling session and career development course to assist college students, the question still remains of how significant this finding is. Career decision-making self-efficacy was only one of three main constructs used in this study, but was the only construct in which a significant change occurred. If the career decision-making process involves many different elements (e.g. interests, plans, choices, actions) and constructs (e.g. career indecision, thoughts, self-efficacy), then how noteworthy is the observation that an intervention(s) has helped to make a change in only one particular area. In the case of this study, the question may be “Does the involvement of career decision-making self-efficacy in a specific intervention make it superior to another intervention?” Another way of stating this question may be to ask “Just how important is career decision-making self-efficacy?”

Depending on the theory used to understand career decision-making self-efficacy, the importance of this construct will vary. According to Cognitive Information Processing Theory (CIP) (Peterson, Sampson, Reardon, 1991; Sampson, Lenz, Reardon, & Peterson, 1999), self-efficacy contributes to the decision-making process an individual utilizes to make a career choice. Self-efficacy can either enhance or hinder the process depending on the amount possessed by an individual. Still, CIP considers self-efficacy to be only one of a number of factors that are involved in this process. While self-efficacy is viewed to be influential, it is not viewed as being central to the career decision-making process. From this perspective, the finding that the dual intervention group reported higher levels of career decision-making self-efficacy than the single intervention group would be seen as a significant finding, but not an enormous finding. It would merely

suggest that two groups differed in only one particular area related to the career decision-making process (i.e. career decision-making self-efficacy). In this regard, the observed difference in the effects of the career counseling and course and the career course by itself would be seen to be minimal.

An alternative to the view of career decision-making self-efficacy presented by CIP theory is offered by Social Cognitive Career Theory (SCCT) (Lent, Brown, & Larkin, 1984). This theory was developed more recently and incorporates many of the same elements discussed by CIP. In SCCT, the individual is still viewed as engaging in a cognitively-based decision-making process that enables him/her to make career-related choices and action. However, the fundamental difference between these two theories is in the emphasis which SCCT places upon career decision-making self-efficacy. SCCT views self-efficacy as the central variable in the equation used to make career decisions. In this role, self-efficacy directly influences career choices, actions, and decision-making, and indirectly influences other related areas, such as outcome expectations and interests. Thus, from a perspective based upon SCCT, career decision-making self-efficacy would be considered to be one of the cornerstones necessary for successful plans to be made and actions to be carried out.

Support for the premises postulated by SCCT and its emphasis on career decision-making self-efficacy come from a variety of studies. A major source of support comes from a number of studies that have empirically linked self-efficacy to career indecision (Austin, Wagner, & Dahl, 2003; Bergeron & Romano, 1994; Betz & Taylor, 1994; Taylor & Betz, 1983). Since indecision is often viewed as one of the main difficulties to be addressed in the career decision-making process of university students, the evidence of

a relationship between self-efficacy and indecision would suggest that self-efficacy is indeed involved in this process. There is also further evidence which points towards the importance of self-efficacy over other career constructs. Taylor and Popma (1990) examined a number of career-related variables and their relationship with career indecision. Of all the variables studied, self-efficacy was the only variable to make a significant contribution to the prediction of career indecision. This finding was confirmed by Guay, Senecal, Gauthier, and Fernet (2003) who again found self-efficacy to be a significant predictor of career indecision. Finally, additional support for SCCT comes from studies which have found self-efficacy to influence a number of other variables that are peripheral to the career-decision making process. Self-efficacy has been found to be associated with occupational interests (Feehan & Johnston, 1999; Lapan, Boggs, & Morrill, 1989), vocational identity (Robbins, 1985), career exploration (Blustein, 1989), career barriers (McWhirter, Rasheed, & Crothers, 2000), and career maturity (Patton & Creed, 2001).

When the results of this current study regarding career decision-making self-efficacy are examined through the lens of SCCT, it seems that their importance is increased. No longer was it simply found that students who participated in the career course and counseling session reported higher levels of career decision-making self-efficacy than those students who only participated in the course by itself, but it appears that these students were assisted to make significant gains in an area that is crucial to the career decision-making process. Also, it would suggest that the combined intervention was more effective than the course by itself in assisting students in a way that is more meaningful than previously thought.

Still, no matter which perspective is used to understand this finding, a question still exists as to why similar findings were not found with the other constructs examined in this study. While the combined intervention was seen to aid students in increasing their career-decision-making self-efficacy, there were no other significant increases or changes to be found in these other career constructs. Although there is no current empirical support for a relationship between negative career thoughts and career decision-making self-efficacy (Sampson, Peterson, Lenz, Reardon, Saunders, 1996), there is a significant body of research supporting the relationship between career decision-making self-efficacy and career indecision (Austin, Wagner, & Dahl, 2003; Bergeron & Romano, 1994; Betz & Taylor, 1994; Taylor & Betz, 1983). Thus, it might be expected that with the increases in career decision-making self-efficacy there might also come respective changes in the levels of career indecision. However, the absence of these or other changes leaves some suspicion regarding the overall effectiveness of the combined intervention in comparison to the single intervention.

A possible explanation for the observed findings may be that additional time is needed for the positive gains made in self-efficacy to affect other areas of an individual's career decision-making process. The students in the dual intervention group might eventually experience the benefits that are associated with increased self-efficacy. Currently, there is very little research to confirm this premise. The majority of studies examining outcomes of career interventions using self-efficacy have mainly examined the effects shortly following an intervention. A recent study conducted by Creed, Patton, and Prideaux (2006) attempted to fulfill the need for a study of long-term effects by exploring the relationship of self-efficacy and indecision over a two year period with high school

students. They found that changes in career decision-making self-efficacy were not associated with a change in career indecision over time and that changes in career indecision were not associated with a change in career decision-making self-efficacy over time. These findings would suggest that there is no relationship between these two constructs and that the students who participated in the combined interventions for this study would not eventually experience decreases in their career indecision. However, Creed, Patton, and Prideaux noted in their comments that the period of two years may have been too long so that the effects of the interventions used might have worn off. Perhaps, if a shorter lag period after the interventions were utilized in the study, then a different set of results may have occurred. Additionally, the participants in the Creed, Patton, and Prideaux were high school students. Due to the different developmental needs of these two populations, a possibility remains that these findings are not generalizable to a college student population. Still, this study is important because it points out the need for more research into outcome effects in the period after a career intervention. Without more research in this area, it is difficult to make any further predictions or educated guesses using the current findings.

A second plausible explanation for the observed findings may be the strength of the interventions used. As mentioned earlier in this document, it has been suggested that four to five sessions of a career intervention (i.e. individual career counseling) may produce the optimal effect size for assisting students' with their career difficulties (Ryan, 1999; Whiston, Sexton, & Lasoff, 1998; Oliver & Spokane 1988). Since this study made use of an available situation and population, it was not possible to use more sessions of counseling as part of the dual intervention. Still, all of these studies did find moderate to

small effect sizes for one session of a career intervention. The modest findings of this current study seem to coincide with these suggested effect sizes. Therefore, the current findings may be due to the strength of interventions which were used. It is likely that if more sessions of career counseling were included as a part of this study then more numerous and pronounced effects might have been observed.

In summary, the results of this study indicated that the two sets of interventions (the combination of career course and career counseling session and the course by itself) produced outcomes that differed in one way. The dual intervention appears to have contributed to the increased levels of career decision-making self-efficacy experienced by student participants. The gains experienced by this group were larger than those experienced by those students who only participated in the career course. While this finding reveals one way in which the combining of these two interventions proved more effective than the single intervention, the lack of other observed differences leaves questions about the true effectiveness of the dual intervention. Additional research into the use of career courses and career counseling together, as well as, the use of other combinations of career interventions may eventually provide more information about the effectiveness of these interventions. Such knowledge would prove beneficial in the designing and implementation of future career interventions to assist college students with their career indecision and other career-related choices.

#### *Hypotheses 4, 5a, 5b, and 6*

The second set of research hypotheses examined the influence of certain participant-related variables as moderators upon students' levels of career certainty, career indecision, dysfunctional career thoughts, and career decision-making self-

efficacy. These participant-related variables were divided into two types (demographic and attitudinal) and were tested separately using different procedures. As part of these procedures, tests were run to examine for the moderating effects upon each of the different measures used in this study. Of all the demographic variables, only students' ethnicity was found to have a moderating role upon their career decision-making self-efficacy scores. None of the attitudinal variables were found to have any moderating effects upon students' scores. Thus, partial support was found for Hypothesis 4, but no support could be found for the Hypotheses 5a, 5b, and 6.

The finding that students' ethnicity served to moderate their levels of career decision-making self-efficacy would seem to be an important finding. Still, this finding must be cautiously interpreted since 85.8% of the students reported being European American or White. The remaining 14.2% of students represented a mixture of other Non-White, ethnicities. The observed moderating effect is likely due to the uneven distribution of ethnicities and a reflection of the overrepresentation of European American or White students. This distribution of ethnicities probably occurred due to the fact that the university at which this study was carried out is a Primarily White Institution. Thus, the observed moderating effect points to the influence of being European American or White upon students' career decision-making self-efficacy, but does not provide much information about the influence of being a Non-White student. However, without a larger sample of Non-White students, making a comparison between White (or European American) and other groups of students and to make a more specific statement regarding how ethnicity influences career decision-making self-efficacy would be difficult.



This study's observation regarding the moderating role of ethnicity points to a need for a better understanding of understand how career decision-making self-efficacy is gained and experienced by different ethnic groups. While there have been a number of studies examining ethnic differences in career decision-making self-efficacy (e.g. Betz & Gwilliam, 2002; Chung, 2002; Gloria & Hird, 1999), conflicting results have been found. There are currently no clear trends regarding mean differences in career decision-making self-efficacy across ethnic groups (Lindley, 2006). Additional research on how an individual's ethnicity may influence his or her career decision-making self-efficacy could provide valuable information that could be utilized in developing career interventions that more effectively aid students in specific ethnic groups (e.g. African Americans, Latinos, etc...) with their career-related difficulties.

In regards to the attitudinal variables, the findings of this study suggest that students' positive and negative attitude towards career counseling and their attitudes towards participation in course requirements occurring outside of the classroom did have any moderating effects upon the scores they reported. While this finding may not seem interesting, it is still an important observation. These attitudinal variables were examined to see if they might influence the pretest scores of students. The observation that there were no moderating influences upon the pretest scores for either group of students would indicate that there were no pre-existing differences between the groups in regards to these attitudes. Such a finding provides further evidence for the assumption that the differences in reported levels of career decision-making self-efficacy were due to students participation in the interventions of this study and not due to pre-existing attitudes they may have possessed.

### *Conclusion*

The current study provides initial support for the use of career counseling sessions with a career development course in assisting undergraduate students with their career choices. Combined intervention were shown to be more effective in increasing students' career decision-making self-efficacy, and to be at least as effective as the course by itself in addressing other related career issues (career certainty, career indecision, and dysfunctional career thoughts). While some limitations exist within the current study, it still provides valuable information that can be used to understand how these two interventions can be utilized together. Administrators, instructors, and counselors might use this information to assist them as they attempt to design interventions to assist students who undecided in their major or are experiencing other career-related difficulties. Finally, the results of this study offer ideas about how various career interventions (e.g. individual career counseling, classes, groups, computer programs, etc...) might be combined and researched. By noting the limitations, findings, and suggestions of this study, researchers might determine ways to improved ways to study this often-utilized, but under-researched topic.

### *Recommendations*

Based upon the experience of conducting this study and the results that were obtained, I would like to make a series of recommendations for future research that might be conducted in the area of combined career interventions. These recommendations might be divided into two categories. First, a number of recommendations are proposed for ways to make improvements if this study were to be repeated. Second, a number of recommendations are offered for ways to expand the current line of research into other

areas and related topics. Both sets of recommendations could provide assistance to other researchers who might attempt to replicate this study or expand this line of research to others areas, and might also lead to improve findings in those studies.

In regards to the current study, there are a number of steps that might be taken to improve upon the procedures which were used. First, a longitudinal design might be used when examining the changes that students experience in response to their participation in career interventions. By increasing the lag time between the end of the interventions and the posttest data collection, researchers might find that students are experiencing a greater amount of positive changes after having completed participation in a combined career intervention. Second, future studies should avoid using samples of convenience. Such arrangements often limit the generalizability or external validity of the obtained results. One possible sampling option would be to obtain a large number of participants from several universities/colleges. Such a sampling would allow for the exploration of similarities and differences across institutions and would assist with the generalizability of results. Third, studies involving individual career counseling should utilize four to five sessions as part of the intervention. Using four to five sessions might provide an opportunity to explore the full effects of this intervention in assisting college students. Fourth, studies, which collect data across a number of semesters, should attempt to have similar size groups from each semester. Having a representative sample from each semester would allow for better control of differences that might occur due to time. Finally, future research should attempt to better control for effects due to different counselors and instructors. When minimal controls are used to determine who will

facilitate interventions and how interventions will be led, then there is a greater likelihood for confounding to be introduced into the study.

While there are a number of ways to improve the procedures by which combined career interventions are studied, future research in this area might also be expanded to examine areas related areas. Such expansions might lead to more thorough understandings of how combined career interventions can assist college students and how other related variables are involved. One way in which future research might broaden its scope is by examining the use of other types of interventions. Such information would help researchers to better understand the contributions of these combinations or pairings and to make suggestions regarding their design and implementation. Second, researchers should examine other career-related variables when studying the combining of career interventions. Other variables to be examined should include: self-esteem, academic persistence, career maturity, and locus of control. By including other variables in research, a more complete understanding can be obtained of the different effects that might occur due to various combinations of career interventions. Third, the effects of race and ethnicity should be further studied regarding these interventions. By obtaining samples that contain more students of color, researchers will be better situated to explore the existence of the relationships between race/ethnicity and career-related variables. Finally, future research in this area should be expanded to examine other demographic factors that may interact with the effects of these career interventions, such as sexual orientation, socio-economic status, and international student status.

## REFERENCES

- Adalf, E. M., Gliksman, L., Demers, A., & Newton-Taylor, B. (2001). The prevalence of elevated psychological distress among Canadian undergraduates: Findings from the 1998 Canadian campus survey. *Journal of American College Health, 50*(2), 67-72.
- Allis, M. (1984). Review of the Career Decision Scale. *Measurement and Evaluation in Counseling and Development, 17*, 98-100.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55* (5), 469-480.
- Austin, R. K., Wagner, B., & Dahl, D. (2003). Reducing negative career thoughts in adults. *International Journal of Disability, Community, and Rehabilitation, 3*(2), Retrieved from [http://www.ijdc.ca/VOL03\\_02\\_CAN/articles/austin.shtml](http://www.ijdc.ca/VOL03_02_CAN/articles/austin.shtml)
- Baker, S. B., & Popowicz, C.L. (1983). Meta-analysis as a strategy for evaluating effects of career education interventions. *Vocational Guidance Quarterly, 31*(3), 178-86.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice Hall, 390-453.
- Barak, A., & Friedkes, R. (1981). The mediating effects of career indecision and subtypes on career counseling effectiveness. *Journal of Vocational Behavior, 20*(1), 120-128.

- Barak, A., & Friedkes, R. (1982). The mediating effects of career indecision and subtypes on career-counseling effectiveness. *Journal of Vocational Behavior*, 20(1), 120-128.
- Barrert, T. C., & Tinsley, H. E. A. (1977a). Measuring vocational self-concept crystallization. *Journal of Vocational Behavior*, 11(3), 305-313.
- Barrert, T. C., & Tinsley, H. E. A. (1977b). Vocational self-concept crystallization and vocational indecision. *Journal of Counseling Psychology*, 24(4), 301-307.
- Beck, A., & Weishaar, M. E. (2000). Cognitive therapy. In R. J. Corsini & D. Wedding (Eds.), *Current psychotherapies* (pp. 241-272). Itaska: F. E. Peacock.
- Beck, J. S. (1995). *Cognitive therapy: Basics and beyond*. New York: The Guilford Press.
- Bergeron, L. M., & Romano, J. L. (1994). The relationship among career decision-making self-efficacy, educational indecision, vocational indecision, and gender. *Journal of College Student Development*, 35(1), 19-24.
- Betz, N. E. (2004). Contributions of self-efficacy theory to career counseling: A personal perspective. *The Career Development Quarterly*, 52(4), 340-353.
- Betz, N. E., & Gwilliam, L. R. (2002). The utility of measures of self-efficacy for the Holland themes in African American and European American college students. *Journal of Career Assessment*, 10(3), 283-300.
- Betz, N.E., Hammond, M., & Multon, K. . (2005). Reliability and validity of five-level response continua for the Career Decision Self-efficacy Scale. *Journal of Career Assessment*, 13(2), 131-149.

- Betz, N. E., & Luzzo, D. A. (1996). Career assessment and the Career Decision-Making Self-efficacy Scale. *Journal of Career Assessment*, 4(4), 413-428.
- Betz, N. E., Klein, K. L., & Taylor, K. M. (1996). Evaluation of a short form of the Career Decision- Making Self-Efficacy Scale. *Journal of Career Assessment*, 4(1), 47-57.
- Betz, N. & Klein, K. (1997). Efficacy and outcome expectations influence career exploration and decidedness. *Career Development Quarterly*, 46(2), 179-189.
- Betz, N. E. & Serling, D. (1993). Criterion-related and construct validity of fear of commitment as an indicator of career indecisiveness. *Journal of Career Assessment*, 1(1), 21-34.
- Betz, N. E., & Taylor, K. M. (1994). *Manual for the Career Decision-Making Self-efficacy Scale*. Columbus: Department of Psychology, The Ohio State University.
- Betz, N.E., & Taylor, K. M. (2006). *Manual for the Career Decision Self-Efficacy Scale and CDMSE–Short form*. Columbus, OH: Department of Psychology, Ohio State University.
- Betz, N., & Voyten, K. (1997). Efficacy and outcome expectations influence career exploration and decidedness. *The Career Development Quarterly*, 46(2), 178-189.
- Blustein, D. L. (1989). The role of goal instability and career self-efficacy in the career exploration process. *Journal of Vocational Behavior*, 35(2), 194-203.
- Borgan, F. H. (1991). Megatrends and milestones in vocational behavior: A 20 year counseling psychology retrospective. *Journal of Vocational Behavior*, 39(3), 263-290.

- Borow, H. (1960). College courses in vocational planning. *Vocational Guidance Quarterly*, 9, 75-80.
- Brooks, J.E. (1995). Guide to developing a successful career course. *Journal of Career Planning & Employment*, 55(3), 29-33.
- Brown, S. D., & Lent, R. W. (1996). A social cognitive framework for career choice counseling. *The Career Development Quarterly*, 44(4), 354-366.
- Brown, S. D., & Ryan Krane, N. E. (2000). Four (or five) sessions and a cloud of dust: Old assumptions and new observations about career counseling. In S. D. Brown, & R. W. Lent (Eds.), *Handbook of counseling psychology* (3rd ed., pp. 740–766). New York: Wiley.
- Callender, J. C. & Osburn, H. G. (1979). An empirical comparison of coefficient alpha, Guttman's lambda - 2, and MSPLIT maximized split-half reliability estimates. *Journal of Educational Measurement*, 16(2), 89-99.
- Carney, C. G. (1977a). Career Decision scales compared. Unpublished data, Ohio State University, Columbus, OH.
- Carney, C. G. (1977b). Changes in early career decision resulting from a workshop intervention. Unpublished data, Ohio State University, Columbus, OH.
- Carter, E. M., & Hoppock, R. (1961). College courses in careers. *Personnel & Guidance Journal*, 39, 373-375.
- Carver, C. (1998). Resiliency and thriving issues, models, and linkages. *Journal of Social Issues*, 54(2), 245-266.
- Carver, D. S., & Smart, D. W. (1985). The effects of a career and self-exploration course for undecided freshmen. *Journal of College Student Personnel*, 26(1), 37-43.



- Cellini, J. V. (1978). *Locus of control as an organizing construct for vocational indecision and vocational differentiation*. Unpublished doctoral dissertation, Ohio State University, Columbus, OH.
- Chartrand, J. M., Camp, C. C., & McFadden, K. L. (1992). Predicting academic adjustment and career indecision. A comparison of self-efficacy, interest congruence, and commitment. *Journal of Counseling & Development, 33*(4), 293-300.
- Chickering, A. W., & Reisser, L. (1993). *Education and identity* (2<sup>nd</sup> ed.). San Francisco: Jossey-Bass.
- Chung, Y.B. (2002). Career decision-making self-efficacy and career commitment: Gender and ethnic differences among college students. *Journal of Career Development, 28*(4), 277-284.
- Cohen, C. R., Chartrand, J. M., & Jowdy, D. P. (1995). Relationships between career indecision subtypes and ego identity development. *Journal of Counseling Psychology, 42*(4), 440-447.
- Collins, M. (1998). Snapshot of the profession. *Journal of Career Planning & Employment, 58*(2), 32-36, 51-55.
- Costa, P. T., & McCrae, R. R. (1992). *Revised NEO Personality Inventory*. Odessa, FL: Psychological Assessment Resources, Inc.
- Creed, P., Patton, W., & Prideaux, L. (2006). Causal relationship between career indecision and career decision-making self-efficacy: A longitudinal cross-lagged analysis. *Journal of Career Development, 33*(1), 47-65.

- Crites, J. O. (1973). *Theory and Research Handbook for the Career Maturity Inventory*. Monterey, CA: CTB/McGraw Hill.
- Crites, J. O. (1978). *Career Maturity Inventory*. Monterey, CA: CTB/McGraw Hill.
- Dagley, J. C. (1999). The restoration of group process in career counseling groups. *The International Journal of Action Methods: Psychodrama, Skill Training, and Role Playing*, 51(2), 141-157.
- Dagley, J.C., & Salter, S.K. (2004). Practice and research in career counseling and development-2003. *Career Development Quarterly*, 53(2), 98-157.
- Davis, R. C., & Horne, A. M. (1986). The effect of small-group counseling and a career course on career decidedness and maturity. *The Vocational Guidance Quarterly*, 34(4), 255-262.
- Dorn, W., & Welch, N. (1985). Assessing career mythology: A profile of high school students. *The School Counselor*, 33(2), 136-142.
- Dryden, W. (1979). Rational emotive therapy and its contribution to career counseling. *British Journal of Guidance and Counseling*, 7(2), 181-187.
- Enright, M. S. (1996). The relationship between disability status, career beliefs, and career indecision. *Rehabilitation Counseling Bulletin*, 40(2), 134-153.
- Feehan, P. F., & Johnston, J. A., (1999). The self-directed search and career self-efficacy. *Journal of Career Assessment*, 7(2), 145-159.
- Ferguson, G.A., & Takane, Y. (2005). *Statistical analysis in psychology and education*. (6<sup>th</sup> ed.). Montréal, Quebec: McGraw-Hill Ryerson Limited.

- Folsom, B., Peterson, G., Reardon, R., & Mann, B. (2002). *Career course effects on academic behavior & retention*. (technical report. No. 34). Tallahassee, FL: Florida State University.
- Folsom, B., & Reardon, R. (2003). College career courses: design and accountability. *Journal of Career Assessment, 11*(4), 421-450.
- Fontaine, J. H. (2001). Career Thoughts Inventory. In B. S. Plake & J. C. Impara (Eds.), *The fourteenth mental measurements yearbook* (pp. 228-230). Lincoln, NE: Buros Institute of Mental Measurement.
- Free, M. L., Oei, T. P. S., & Appleton, C. (1998). Biological and psychological processes in recovery from depression during cognitive therapy. *Journal of Behavior Therapy and Experimental Psychiatry, 29*(3), 213-226.
- Fretz, B.R. (1981). Evaluating the effectiveness of career interventions. *Journal of Counseling Psychology, 28*(1), 77-90.
- Fuqua, D. R., Newman, J. L., & Seaworth, T. B. (1988). The relation of state and trait anxiety to different components of career indecision. *Journal of Counseling Psychology, 35*(2), 154-158.
- Garis, J. W., & Niles, S. G. (1990). The separate and combined effects of SIGI or DISCOVER and a career planning course on undecided university students. *Career Development Quarterly, 38*(3), 261-274.
- Gati, I., Osipow, W., & Fassa (1994). The scale structure of multi-item measures: Application of the split scale method to the Task-Specific Occupational Self-efficacy Scale and the Career Decision-Making Self-Efficacy Scale. *Journal of Career Assessment, 2*(4), 384-397.

- Gianakos, I. (1999). Patterns of career choice and career decision-making self-efficacy. *Journal of Vocational Behavior, 54*(2), 244–258.
- Gilbert, H. B. (1997, January). Career thoughts inventory: A review and critique. Paper presented at the Annual Meeting of the Southwest Educational Research Association, Austin, TX.
- Gillingham, W. H., & Lounsbury, J. E. (1979). A description and evaluation of a career exploration course. *Journal of College Student Personnel, 20*(6), 525-529.
- Glaize, D. L., & Myrick, R.D. (1984). Interpersonal groups or computers? A study of career maturity and career decidedness. *The Career Development Quarterly, 32*(3), 168-176.
- Gloria, A. M., & Hird, J. S. (1999). Influences of ethnic and nonethnic variables on the career decision-making self-efficacy of college students. *The Career Development Quarterly, 48*(2), 157-174.
- Gordon, V. N. (1995). *The undecided college student: An academic and career advising Challenge* (2<sup>nd</sup> ed.). Springfield, IL: Charles C. Thomas, Publisher.
- Gordon, V. N. (1998). Career decidedness types: A literature review. *Career Development Quarterly, 46*(4), 386-394.
- Guay, F., Senecal, C., Gauthier, L., & Fernet, C. (2003). Predicting career indecision: a self-determination theory perspective. *Journal of Counseling Psychology, 50*(2), 165-177.

- Halasz, T. J., & Kempton, C. B. (2000). Career planning courses and workshops (pp. 157-170). In D. A. Luzzo (Ed.), *Career counseling of college students: An empirical guide to strategies that work*. Washington, D.C.: American Psychological Association.
- Haney, T., & Howland, P. (1978). Career courses for credit: Necessity or luxury? *Journal of Collage Placement*, 38(2), 75-78.
- Hardesty, P. H. (1991). Undergraduate career courses for credit: A review and meta-analysis. *Journal of College Student Development*, 32, 184-185.
- Harmon, L.W. (1985). Review of the Career Decision Scale. In J.V. Mitchell Jr. (Ed.), *Ninth mental measurements yearbook: Volume II* (p.270). Lincoln: University of Nebraska Press.
- Hartman, R. & Betz, N. (2007). The five factor model and career self-efficacy. *Journal of Career Assessment*. 15(2), 145-161.
- Hayes, L. (1997). The undecided college student. *Counseling Today Online*. Retrieved from [www.counseling.org/ctonline/archives/ct1097/ct1097a3.htm](http://www.counseling.org/ctonline/archives/ct1097/ct1097a3.htm).
- Heppner, M. J., & Hendricks, F. (1995). A process and outcome study examining career indecision and indecisiveness. *Journal of Counseling and Development*, 73(4), 426-438.
- Herman, D. O. (1985). Review of the Career Decision Scale. In J.V. Mitchell Jr. (Ed.), *Ninth mental measurements yearbook: Volume II* (p.270). Lincoln: University of Nebraska Press.
- Holland, J. L., Daiger, D. C., & Power, G. (1980), *My Vocational Situation*. Palo Alto, CA: Consulting Psychologists Press.

- Holland, J.L., Magoon, T.M., & Spokane, A.R. (1981). Counseling psychology: Career interventions, research, and theory. *Annual Review of Psychology*, 32, 279-305.
- Hoppock, R. (1932). Courses in careers. *Journal of Higher Education*, 3, 365-368.
- Isaacson, L. E., & Brown, D. (1993). *Career information, career counseling, and career development* (5<sup>th</sup> ed.). Needham Heights, MA: Allyn & Bacon.
- Johnson, D.C., & Smouse, A.D. (1993). Assessing a career-planning course: Multidimensional approach. *Journal of College Student Development*, 34(2), 145-147.
- Jones, L. K. (1989). Measuring a three-dimensional construct of career indecision among college students: A revision of the Vocational Decision Scale –The Career Decision Profile. *The Journal of Counseling Psychology*, 36(4), 477-486.
- Kazin, R. I. (1976, August). *Educational/vocational indecision questionnaire: Replication of a factor analysis*. Paper presented at the meeting of the American Psychological Association, Washington, D.C.
- Keller, K. E., Biggs, D. A., & Gysbers, N. C. (1982). Career counseling from a cognitive perspective. *The Personnel and Guidance Journal*, 60(6), 367-371.
- Kelly, K. R., & Lee, W. (2002). Mapping the domain of career decision problems. *Journal of Vocational Behavior*, 61(2), 302–326.
- Kilk, K. L. (1997). The relationship between dysfunctional career thoughts and choosing an academic major. (Doctoral dissertation, University of Northern Colorado, 1997). *Dissertation Abstracts International*, 58 (08A), 3038.
- Krieshok, T. S. (1998). An anti-introspectivist view of career decision-making. *The Career Development Quarterly*, 46(3), 210-229.

- Krumboltz, J. D. (1990, March). *Helping clients change dysfunctional career beliefs*. Paper presented at the annual meeting of the American Association of Counseling and Development, Cincinnati, OH.
- Krumboltz, J.D., Becker-Haven, J.F., & Burnett, K.F. (1979). Counseling psychology. *Annual Review of Psychology, 30*, 555-602.
- Lam, D., & Cheng, L. (2001). Cognitive behaviour therapy approach to assessing dysfunctional thoughts. *Counseling Psychology Quarterly, 14*(3), 255-265.
- Lam, D. & Gale, J. (2004). Cognitive behaviour therapy: An evidence based clinical framework for working with dysfunctional thoughts. *Counseling Psychology Quarterly, 17*(1), 53-67.
- Lange, S. (1980). *An analysis of the effects of guided fantasy on selected career measures*. Unpublished doctoral dissertation, Ohio State University, Columbus, OH.
- Lapan, R. T., Boggs, K. R., & Morrill, W. H. (1989). Self-efficacy as a mediator of Investigative and Realistic General Occupational Themes on the Strong Interest Inventory. *Journal of Counseling Psychology, 36*(2), 176-182.
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior, 45*(1), 79-122.
- Lent, R. W., Brown, S. D., & Larkin, K.C. (1984). Relation of self-efficacy expectations to academic achievement and persistence. *Journal of Counseling Psychology, 31*(3), 356-363.

- Lent, R. W., Larkin, K. C., & Hasegawa, C. S. (1986). Effects of a focused interest career course approach for college students. *The Vocational Guidance Quarterly*, *34*(3), 151-159.
- Lent, R., Schmidt, J. A., & Larkin, K. (1985). A course in science and technology careers for returning adult students. *Journal of College Student Personnel*, *26*, 248-249.
- Leong, F. T. L., & Chervinko, S. (1996). Construct validity of career indecision: Negative personality traits as predictors of career indecision. *Journal of Career Assessment*, *4*(3), 315-329.
- Limburg, D. F. (1980). *A comparison of various student groups on career indecision*. Unpublished master's thesis, East Tennessee State University, Johnson City, TN.
- Lindley, L. D. (2006). The paradox of self-efficacy: Research with Diverse Populations. *Journal of Career Assessment*, *14*(1), 143-160.
- Lisansky, R.S. (1990). The effect of cognitive style of decision-making, level of career decidedness and completion of the life and career planning course on retention rate of undecided entering traditional-age college freshmen. (Doctoral dissertation, John Hopkins University). *Dissertation Abstracts International*, *51*(05-A), 1521.
- Long, B.E., Sowa, C. J., & Niles, S. G. (1995). Differences in student development reflected by the career decisions of college seniors. *Journal of College Student Development*, *36*(1), 47-52.
- Lustig, D., & Strauser, D. R. (2002). The relationship between sense of coherence and career thoughts. *Career Development Quarterly*, *51*(1), 2-11.



- Luzzo, D. A. (1993). Value of career decision-making self-efficacy in predicting career decision-making attitudes and skills. *Journal of Counseling Psychology, 40*(2), 194-199.
- Luzzo, D. A. (1996). A psychometric evaluation of the Career Decision-Making Self-Efficacy Scale. *Journal of Counseling and Development, 74*(3), 276- 279.
- Luzzo, D. A. & Day, M. A. (1999). Effects of Strong Interest Inventory feedback on career decision-making self-efficacy and social cognitive career beliefs. *Journal of Career Assessment, 7*(1), 1-17.
- Luzzo, D. A., & Ward, B.E. (1995). The relative contributions of self-efficacy and locus of control to the prediction of vocational congruence. *Journal of Career Development, 21*(4), 307-317.
- Maddux, J. E. (2002). Self-efficacy. In C. R. Snyder and S. J. Lopez (Eds.). *Handbook of positive psychology* (pp.277-287). New York: Oxford University Press.
- Maverick, L. A. (1926). *The vocational guidance of college students*. Cambridge, MA: Harvard University Press.
- Mau, W. C. (1995). Decision-making style as a predictor of career decision-making status and treatment gains. *Journal of Career Assessment, 3*(1), 89–99.
- McWhirter, E. H., Rasheed, S., & Crothers, M. (2000). The effects of high school career education on social-cognitive variables. *Journal of Counseling Psychology, 47*(3), 330-341.
- Mead, S., & Korschgen, A. J. (1994). A quick look at career development courses across the country. *Journal of Career Planning & Employment, 54*(2), 24-25.

- Multon, K. D., Heppner, M. J., Gysbers, N. C., Zook, C., & Ellis-Kalton, C.A. (2001). Client psychological distress: An important factor in career counseling. *Career Development Quarterly*, 49(4), 324-335.
- Murphy, L. L., Impara, J. C., & Plake, B. S., (Eds.). (1999). *Tests in Print V, Volume 1*. Lincoln, NE: Buros Institute of Mental Measurements.
- Myers, R.A., (1971). Research on educational and vocational counseling. In A.E. Bergin & S.L. Garfield (eds.), *Handbook of psychotherapy and behavior change: An empirical analysis* (pp. 863-891). New York: Wiley.
- Myers, R.A. (1986). Research on educational and vocational counseling. In A.E. Bergin & S.L. Garfield (eds.), *Handbook of psychotherapy and behavior change: An empirical analysis* (3<sup>rd</sup> ed., pp. 715-738). New York: Wiley.
- Niece, D., & Bradley, R.W. (1979). Relationship of age, sex, and educational groups to career decisiveness. *Journal of Vocational Behavior*, 14(3), 271-278.
- Oliver, L.W., & Spokane, A.R. (1988). Career-intervention outcome: what contributes to client gain?. *Journal of Counseling Psychology*, 35(4), 447-462.
- Oreshnick, C. A. (1991). Enhancing career decision-making self-efficacy via a university career course intervention (Doctoral dissertation, Iowa State University, 1991). *Dissertation Abstracts International*, 53(02B), 1072.
- Osipow, S.H. (1987). *Career Decision Scale Manual* (3<sup>rd</sup> ed.). Lutz, FL: Psychological Assessment Resources, Inc.

- Osipow, S.H., Carney, C. G., Barak, A. (1976). A scale of educational-vocational undecidedness: A typological approach. As cited in S. H. Osipow (1987). *Career Decision Scale Manual* (3<sup>rd</sup> ed.). Lutz, FL: Psychological Assessment Resources, Inc.
- Osipow, S. H., Carney, C. G., Winer, J. L., Yanico, B., & Koschier, M. (1976). *The Career Decision Scale*. Odessa, FL: Psychological Assessment Resources.
- Osipow, S. H., Carney, C. G., Winer, J. L., Yanico, B. J., & Koschier, M. (1987). *Career Decision Scale* (3<sup>rd</sup> rev.). Odessa, FL: Psychological Assessment Resources.
- Osipow, S. H., & Schweikert, D. (1981). The Career Decision Scale: A test of concurrent validity. *Psychological Reports*, 48(3), 759-761.
- Pascolo-Fabrizi, E., de Maria, F., Corigliano, N., Aguglia, E., & Gregori, D. (2001). Evaluation of psychoemotional distress in a student population. *New Trends in Experimental and Clinical Psychiatry*, 17, 49-58.
- Patton, W., & Creed, P. A. (2001). Developmental issues in career maturity and career decision status. *Career Development Quarterly*, 49(4), 336-351.
- Paulsen, A. (2001). *Construct validity of measures of career-related self-efficacy expectations*. Unpublished Ph.D. Dissertation, Department of Psychology, Ohio State University.
- Peng, H. (1996). The impact of career education courses on career beliefs and career decision making among business college students in Taiwan. (Doctoral Dissertation, Pennsylvania State University). *Dissertation Abstracts International*, 57(08-A), 3405.

- Peng, H., & Herr, E.L. (1999). The Impact of Career Education Courses on Career Beliefs and Career Decision Making among Business College Students in Taiwan. *Journal of Career Development, 25*(4), 275-290.
- Peterson, S. L., and delMas, R. C. (1998). The component structure of career decision-making self-efficacy for underprepared college students. *Journal of Career Development, 24*(3), 209-225.
- Peterson, G. W., Sampson, J. P., Reardon, R. C., & Lenz, J. G. (2002). A cognitive information processing approach to career problem solving and decision making. In D. Brown & L. Brooks (Eds.), *Career choice and development* (3rd ed., pp. 423–475). San Francisco: Jossey-Bass.
- Peterson, G. W., Sampson, J. P., & Reardon, R. C. (1991). *Career development and services: A cognitive approach*. Pacific Grove, CA: Books/Cole.
- Pickering, J. W., & Vacc, N. A. (1984). Effectiveness of career development interventions for college students: A review of published research. *Vocational Guidance Quarterly, 32*(3), 149-159.
- Quinn, M. T., & Lewis, R. J. (1989). An attempt to measure a career-planning intervention in a traditional course. *Journal of College Student Development, 30*, 371-372.
- Quinn, P. (1999). Self-efficacy: A mediating role in agriculture study. *Education in Rural Australia, 9*(2), 27-41.

- Reed, C. A., Lenz, J. G., Reardon, R. C., & Leirer, S. J. (2000). Reducing negative career thoughts with a career course: Technical report No.25. Retrieved from Florida State University, Center for the Study of Technology in Counseling and Career Development web site: <http://www.career.fsu.edu/techcenter/TR-25.html>.
- Reed, C., Reardon, R., Lenz, J., & Leirer, S. (2001). Reducing negative career thoughts with a career course. *Career Development Quarterly*, 50, 158-167.
- Reese, R. J., & Miller, C. D. (2006). Effects of a university career development course on career decision-making self-efficacy. *Journal of Career Assessment*, 14(2), 252-266.
- Robbins, S. B. (1985). Validity estimates for the Career Decision-Making Self-Efficacy Scale. *Measurement and Evaluation in Counseling and Development*, 18(2), 64-71.
- Rochlen, A. B. (2000) Brief review of the attitudes toward career counseling scale (ATCCS). In J. Maltby and C. A. Lewis (Eds.). *A handbook of psychological tests*. Edwin Mellen Press: Wales, UK.
- Rochlen, A. B., Blazina, C., & Raghunathan, R. (2002). Gender role conflict, attitudes toward career counseling, career decision-making, and perceptions of career counseling advertising brochures. *Psychology of Men & Masculinity*, 3(2), 127-137.
- Rochlen, A.B., Milburn, L., & Hill, C.E. (2004). Examining the process and outcomes of career counseling for different types of career counseling clients. *Journal of Career Development*, 30(4), 263-275.

- Rochlen, A.B., Mohr, J.J., & Hargrove, B.K. (1999). Development of the Attitudes Toward Career Counseling Scale. *Journal of Counseling Psychology*, 46(2), 196-206.
- Rochlen, A.B., & O'Brien, K.M. (2002). The relation of male gender role conflict and attitudes toward career counseling to interest in and preferences for career counseling styles. *Psychology of Men and Masculinity*, 3(1), 9-21.
- Rogers, W. B., & Westbrook, B. W. (1983). Measuring career indecision among college students: Toward a valid approach for counseling and practitioners and researchers. *Measurement and Evaluation in Guidance*, 16(2), 78-85.
- Rosenthal, B. S., & Schreiner, A.C. (2000). Prevalence of psychological symptoms among undergraduate students in an ethnically diverse urban public college. *Journal of American College Health*, 49(1), 12-18.
- Rounds, J. B., & Tinsley, H. E. A. (1984). Diagnosis and treatment of vocational problems. In S. D. Brown & R. W. Lent (Eds.), *Handbook of counseling psychology* (pp. 137-177). New York: Wiley.
- Ryan, N. E. (1999). Career counseling and career choice goal attainment: A meta-analytically derived model for career counseling practice. Unpublished Doctoral Dissertation, Loyola University, Chicago.
- Sacco WP, Beck AT. 1995. Cognitive theory and therapy. In EE Beckham & WR Leber (Eds.). *Handbook of Depression* (pp. 329–51). New York: Guilford.
- Sampson, J. P., Lenz, J. G., Reardon, R. C., & Peterson, G.W. (1999). A cognitive information processing approach to employment problem solving and decision making. *The Career Development Quarterly*, 48(1), 3-30.

- Sampson, J. P., Peterson, G. W., Lenz, J. G., Reardon, R. C., Saunders, D. E. (1996). *Career Thoughts Inventory (CTI) Test Booklet*. Lutz, FL: Psychological Assessment Resources, Inc.
- Sampson, J. P., Peterson, G. W., Lenz, J. G., Reardon, R. C., Saunders, D. E. (1998). *Career Thoughts Inventory (CTI) Test Booklet*. Lutz, FL: Psychological Assessment Resources, Inc.
- Sampson, J. P., Peterson, G. W., Lenz, J. G., Reardon, R. C., Saunders, D. E. (1999). The Use and Development of the Career Thoughts Inventory. Lutz, FL: Psychological Assessment Resources, Inc.
- Sampson, J. P. Jr, Peterson, G. W., Reardon, R. C., & Lenz, J. G. (2000). Designing career services to cost-effectively meet individuals needs. Unpublished manuscript, Florida State University, Center for the Study of Technology in Counseling in Career Development. Retrieved May 8, 2007, from <http://www.career.fsu.edu/techcenter/BOOKSUMBnew.html>
- Saunders, D. E. (1997). The contribution of depression and dysfunctional career thinking to career indecision. Doctoral Dissertation, Florida State University. Dissertation Abstracts International, 58(07), 3953B.
- Saunders, D.E., Peterson, G.W., Sampson, J.P., & Reardon, R.C. (2000). Relation of depression and dysfunctional career thinking to career indecision. *Journal of Vocational Behavior*, 56(2), 155-169.
- Sepich, R. T. (1987). A review of the correlates and measurements of career indecision. *Journal of Career Development*, 14(1), 8-23.

- Slaney, R. B. (1978). Factor replication of the Career Decision Scale. Unpublished data, Southern Illinois University, Carbondale, IL.
- Slaney, R.B. (1984). Relation of career indecision to changes in expressed vocational interests. *Journal of Counseling Psychology*, 31(3), 349-355.
- Slaney, R. B. (1985). Review of the Career Decision Scale. In D. J. Keyser & R. C. Sweetland (Eds.), *Test Critiques: Volume II* (pp.138-143). Kansas City, MO: Test Corporation of America.
- Slaney, R.B., Palko-Nonemaker, D., and Alexander, R. (1981). An investigation of two measure of career indecision. *Journal of Vocational Behavior*, 18(1), 335-345.
- Snyder, C. R., & Lopez, S. J. (Eds.). (2002). *Handbook of Positive Psychology*. London: Oxford University Press.
- Splete, H. (1996). Adult career counseling centers train career counselors. In R. Feller & G. Walls (Eds.), *Career transitions in turbulent times* (pp.405-415). Greensboro, NC: University of North Carolina, ERIC Counseling and Student Services Clearinghouse.
- Spokane, A. R., & Oliver, L. W. (1983). Outcomes of vocational intervention. In S. H. Osipow & W. B. Walsh (Eds.), *Handbook of vocational psychology* (pp. 99-136). Hillsdale, NJ: Erlbaum.
- Stead, G.B., Watson, M. B., & Foxcroft, C. D. (1993). The relation between career indecision and irrational beliefs among university students. *Journal of Vocational Behavior*, 42(2), 155-169.



- Stochel, A. (2006). *The ECHD 2050 project: A pilot study examining the effects of a single session of career counseling upon a career development course*. Unpublished manuscript, The University of Georgia.
- Strauser, D. R., Lustag, D. C., Keim, J., Ketz, K., & Malesky, A. (2002). Analyzing the differences in career thoughts based on disability status – Differences in Career Thoughts. *Journal of Rehabilitation*, 68(1), 27-32.
- Super, D. E. (1990). A life-span, life-space approach to career development. In D. Brown, L. Brooks, & Associates (Eds.), *Career choice and development: Applying contemporary theories to practices* (2<sup>nd</sup> ed.) (pp. 197-261). San Francisco: Jossey-Bass.
- Super, D. E., Savickas, M. L., & Super, C. M. (1996). A life-span, life-space approach to careers. In D. Brown, L. Brooks, & Associates (Eds.), *Career choice and development: Applying contemporary theories to practices* (3<sup>rd</sup> ed.) (pp. 121-170). San Francisco: Jossey-Bass.
- Sutera, J. L. (1977). *An exploratory inquiry of a residence hall career planning program*. Unpublished master's thesis, Ohio State University, Columbus, OH.
- Sweeney, M. L., & Schill, T. R. (1998). The association between self defeating personality characteristics, career indecision, and vocational identity. *Journal of Career Assessment*, 6(1), 69-81.
- Taylor, K. M. (1979a). The effects of a residential career exploration program on the level of career decidedness of college students. Unpublished data, Ohio State University, Columbus, OH.

- Taylor, K. M. (1979b). *The relationships among vocational indecision, fear of success, and locus of control as moderated by sex and ability*. Unpublished doctoral dissertation, Ohio State University, Columbus, OH.
- Taylor, K. M., & Betz, N. E. (1983). Applications of self-efficacy theory to the understanding and treatment of career indecision. *Journal of Vocational Behavior*, 22(1), 63-81.
- Taylor, K. M., & Popma, J. (1990). An examination of the relationships among career decision-making self-efficacy, career salience, locus of control, and vocational indecision. *Journal of Vocational Behavior*, 37(1), 17-31.
- Tinsley, H. E. A., Bowman, S. L., & York, D. C. (1989). Career Decision Scale, My Vocational Situation, Vocational Rating Scale, and Decisional Rating Scale: Do they measure the same constructs? *Journal of Counseling Psychology*, 36(1), 115-120.
- Titley, R., & Titley, B. (1980). Initial choice of college major: Are only the "undecided" undecided? *Journal of College Student Personnel*, 21(4), 293-298.
- Vernick, S. H. (2000). *The career thoughts inventory (CTI) in research and practice*. Retrieved May 13, 2003 from <http://www.career.fsu.edu/documents/careerthoughts%inventory/CTI%20Research%2OSummary%20and%20Table.doc>
- Ware, M. E. (1981). Evaluating a career development course: A two-year study. *Teaching of Psychology*, 8(2), 67-71.

- Wells, A. (2000). *Emotional disorders and metacognition: Innovative cognitive therapy*, Wiley, New York .
- Westbrook, B. W. (1980). Construct validity of the Career Decision Scale. Unpublished paper, North Carolina State University, Raleigh, NC.
- Westbrook, B. W., Simonson, S. S., & Arcia, M. A. (1976, August). *The use of the Career Maturity Inventory to examine construct validity among adults*. Paper presented at the meeting of the American Psychological Association, Toronto, Ontario.
- Whiston, S.C. (2002). Applications of the principles: Career counseling and interventions. *The Counseling Psychologist*, 30(2), 218-237.
- Whiston, S.C. (2003). Career counseling: 90 years old yet still healthy and vital. *The Career Development Quarterly*, 52(1), 35-42.
- Whiston, S.C., Brecheisen, B.K., & Stephens, J., (2003). Does treatment modality affect career counseling effectiveness?. *Journal of Vocational Behavior*, 62(3), 390–410.
- Whiston, S.C., Sexton, T.L., & Lasoff, D.L. (1998). Career-intervention outcome: a replication and extension of Oliver and Spokane (1988). *Journal of Counseling Psychology*, 45(2) ,150-165.
- Winefield, H. R. (1993). Study-work satisfaction and psychological distress in older university students. *Work & Stress*, 7(3), 221-228.
- Young, J. E. (1999). *Cognitive therapy for personality disorders: A schema focused approach* (3<sup>rd</sup> ed.). Sarasota, NY: Professional Resource Press.

Appendix A

Instructions for Administration of Pre-test Research Materials

(Fall 2006)

9/22/2006

402 Aderhold Hall  
(###) ###-####

Dear 2050 Instructors:

Please find enclosed in these envelopes research packets for the ECHD 2050 Project. I ask that you allow your students between 20 – 30 minutes of class time to complete these packets.

Please explain to the students that:

**“Andrew Stochel, a doctoral student in the counseling psychology department and who is an instructor of other sections of 2050 classes, is doing some research on the course and career counseling. He is requesting that you participate in his study as volunteer participants. This study will occur in two parts – the first part occurs today with the filling out of these packets and the second part will occur later Mid-November where you’ll be asked to fill out another packet.**

**Please read the Consent Form that is on top of the packet. If you agree to participate, please fill out your information on the 3<sup>rd</sup> page and then proceed to fill out the rest of the packet. Be sure to fill out every page and be careful because one page is double-sided – so don’t skip it. If you don’t want to participate, please wait quietly and return the packet with everyone else’s. When you are done, please return the entire packet to me so I can place them in these envelopes and return them to the researcher.**

Please pass out the packets to students and assist them if there are any questions. If there is a question, you feel unprepared to answer please refer them to me. My contact info. is on the consent form.

When students are done, please have them collect all of the forms and place them in the envelopes. I find that each envelope only holds approx. 10 packets, so be sure to use both envelopes for the forms. Then please seal the envelope and place it in Campus mail to be returned to me.

Thanks so much for your assistance.

Andrew Stochel

Appendix B

Instructions for Administration of Pre-test Research Materials

(Spring 2007)

1/21/2007

402 Aderhold Hall  
(###) ###-####

Dear 2050 Instructors:

Please find enclosed in these envelopes research packets for the ECHD 2050 Project. I ask that you allow your students between 20 – 30 minutes of class time to complete these packets.

From last semester data collection, it was found that when students were given packets to fill out at the end of class they were less likely to fill them out, so I encourage you to please allow them some class time to fill these out. The more students that can provide information for this project the better.

Please explain to the students that:

**“Andrew Stochel, a doctoral student in the counseling psychology department and who is an instructor of other sections of 2050 classes, is doing some research on the course and career counseling. He is requesting that you participate in his study as volunteer participants. This study will occur in two parts – the first part occurs today with the filling out of these packets and the second part will occur later Mid-November where you’ll be asked to fill out another packet.**

**Please read the Consent Form that is on top of the packet. If you agree to participate, please fill out your information on the 3<sup>rd</sup> page and then proceed to fill out the rest of the packet. Be sure to fill out every page and be careful because one page is double-sided – so don’t skip it. If you don’t want to participate, please wait quietly and return the packet with everyone else’s. When you are done, please return the entire packet to me so I can place them in these envelopes and return them to the researcher.**

Please pass out the packets to students and assist them if there are any questions. If there is a question, you feel unprepared to answer please refer them to me. My contact info. is on the consent form.

When students are done, please collect all of the forms and place them in the envelopes. I find that each envelope only holds approx. 10 packets, so be sure to use both envelopes for the forms. Then please seal the envelope and place it in Campus mail to be returned to me.

Thanks so much for your assistance.

Andrew Stochel

Appendix C

Pre-test Informed Consent



**ECHD 2050 – An Exploration of Career Interventions  
Informed Consent A**

Date: 8/24/2006

Dear ECHD 2050 Student:

I am a graduate student under the direction of Dr. Linda Campbell in the Department of Counseling and Human Development Services at the University of Georgia. I invite you to participate in a research study entitled *The ECHD 2050 - An Exploration of Career Interventions* that is being conducted under the auspices of the ECHD Undergraduate Review Committee.

The purpose of the study is to evaluate the combining of a session of career counseling with an academic course focusing on academic and career planning. It will attempt to understand the effects of participation in a career counseling session upon a student's decision in choosing a major/career path. Additionally, the study will examine how exposure to a career counseling session affects a student's opinion of career counseling. The information from measures in the research packet will be used to help the researcher answer these questions. In order to examine any changes that might occur over time due to career counseling and/or the course, this study will ask students to fill out survey packets twice: once in the beginning of the semester and again towards the end of the semester. At this time, students will be filling out the first set of survey packets in this study.

Students wishing to participate in this study must be at least 18 years of age. Those students wishing to participate should continue reading this document and ask any questions you may have before agreeing to be in the study. If you agree to participate after reading the remainder of this document, you are asked to print and sign your name on the third page of this form. Signing this form will indicate your wish to participate in the study. Then, proceed in filling out the research packet that accompanies this letter. This packet contains four different measures and an input sheet. **Do not put your name** on any of the measures in this research packet. Please fill out all of the measures and be sure to answer every question to the best of your ability. After completing the research packet, please give its contents back to the administrator. All of the documents included in the packet need to be returned to participate in this first part of the study.

You will be asked to participate in two surveys, one at the beginning of the semester and one at the end, each survey will take approximately 30 minutes. Please be aware that your participation is voluntary. You may refuse to participate or discontinue participation at any time. Even if you have already filled out this first research packet, this does not mean you are committed to filling out the second one later. When the

second research packet is distributed, you will again be asked if you wish to participate and are free to decline from participating in filling it out. Please be aware that you wish to not participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled. Also, your decision on whether or not to participate in this study will not affect your current or future relations with the instructor of this class or any one else affiliated with the University of Georgia. If you decide to participate, you are free to withdraw at any time without affecting your relationship/participation in the ECHD 2050 class. There are also no academic repercussions should you choose to discontinue your participation.

Participating in this study has minimal risks associated with it. First, the research packet asks you to provide some personal information about what you believe and think about yourself. You may be uncomfortable knowing that another person is examining this information. Also, you might be worried that someone else might gain access to this information. I am aware that this might be a concern of yours. Please be aware that it is my responsibility and highest concern as a researcher to maintain the confidentiality of the information you provide. In order, to ensure this confidentiality the research material will be kept in a file cabinet in a locked room and will only be shared with others on my research committee. Second, filling this packet out might lead you to find out something about yourself that you are not comfortable with or that troubles you. Please be aware that it is not my intention to make you uncomfortable. But in the case that this occurs, please feel free to talk with the administrator of the packets, or to contact me directly. I will be glad to try and help you resolve this difficulty.

Also, please be aware that there is no direct benefit from participating in this research. If you participate in a career counseling session, you understand that the benefits and risks associated with that activity are separate from those associated with this study.

As part of this study, I will be asking you to identify yourself by providing me your name. Your name will only be used so that I might be able to identify which research packets from second sampling belong to you. This procedure will allow me to track any changes in your scores. But, I will not be associating your names with the data when I look at the information you have provided me. After the first set of research packets returned to me, I will be assigning each packet a participant number. This number will be written on the bottom of this sheet and on measures you return to me so that I can store them separately without having your name attached to the measures you filled out. After the second research packets are returned to me, I will be matching up packets filled out by the same students. The participant number will be transferred to the second set of measures. The participant number will be detached from the bottom of the consent forms and they will be kept separately. When looking at the data, these numbers will be the only identifiers of which packets are yours. This is why it is important that your name only appear on the informed consent form. Additionally, other information (ethnicity, gender, etc...) that might identify who you are will be collected. Any personally identifying data that is collected from you throughout this study will be kept confidential. In any sort of

report that might be published, I will not include any information that will make it possible to identify a participant. However, your record for the study may be reviewed by my research committee to ensure that my research was carried out properly.

As the researcher of this study, I can be contacted for any further questions about the research, now or during the course of the project. Please feel to contact me using the contact information at the bottom of the page. Additional concerns can also be directed to Yvette Getch, Ph.D. (706-542-1685), the director of teaching assistants for all ECHD 2050 courses. Questions regarding your rights as a research participant should be addressed to The IRB Chairperson, University of Georgia, 612 Boyd Graduate Studies Research Center, Athens, Georgia 30602-7411; Telephone (706) 542-3199; E-Mail Address: IRB@uga.edu

If you agree to participate in the above described research project, please complete and return the accompanying research packet and return it to the administrator.

Thank you for your consideration!

Sincerely,  
 Andrew Stochel, M.A.  
 University of Georgia  
 Dept. of Counseling and Human Development Services,  
 402 Aderhold Hall  
 Athens, GA 30602  
 ###-###-####  
 astochel@uga.edu

**Statement of Consent:**

I have read the above information. I have asked questions and have received answers. I consent to participate in the study.

Name (Please Print) \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

Signature of Investigator or Person Obtaining  
 Consent \_\_\_\_\_

A summary email regarding the results of this research project will be available to those who wish to receive one upon the completion of this study. If you are interested in receiving such an email, please check the box below and write an email address at which you might be contacted.

\_\_\_\_\_

---

Participant #: \_\_\_\_\_

Appendix D  
Demographic Sheet A

Participant #: \_\_\_\_\_

## ECHD 2050 – An Exploration of Career Interventions Intake Sheet A

Please fill out the demographic sheet by choosing the answer that best represents yourself and placing your answer on the blank line.

1. **What is your gender?** \_\_\_\_\_  
(1) Male      (2) Female
  
2. **What ethnicity/race do you consider yourself?** \_\_\_\_\_  
(1) Asian      (2) African American/Black      (3) Hispanic/Latino(a)  
(4) Middle Eastern      (5) Native American      (6) Pacific Islander  
(7) European American/White      (8) Biracial – please  
specify \_\_\_\_\_      (9) Other
  
3. **What is your current year in school?** \_\_\_\_\_  
(1) First Year      (2) Second Year      (3) Third Year      (4) Fourth  
Year  
(5) Fifth Year      (6) Non-Matriculating
  
4. **What is your age?** \_\_\_\_\_
  
5. **Have you decided upon or declared a major?** \_\_\_\_\_  
(1) Yes      (2) No  
  
**If Yes, please specify your major/area of study:** \_\_\_\_\_
  
6. **Have you ever participated in an individual/group career counseling session?**  
\_\_\_\_\_  
(1) Yes      (2) No (If No, then move on to Question #7).
  
- If Yes, did this session occur while you have been enrolled in the ECHD 2050 course this semester?** \_\_\_\_\_  
(1) Yes      (2) No

**If Yes, please specify when you participated in the session (using the approximate number of months/years since that session) and the type of session (individual of group).** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**If Yes, in which setting did career counseling occur?** \_\_\_\_\_

- (1) Mental Health Services (e.g. a counseling center)**
- (2) A Career Center**
- (3) An classroom Setting**
- (4) A Business setting**
- (5) Other**

Below are statements pertaining to career counseling. Read each statement carefully and indicate the degree to which you agree or disagree by using the following scale:

**1 = Disagree, 2 = Somewhat Disagree, 3 = Uncertain, 4 = Somewhat Agree, 5 = Agree**

Please express your honest opinion in rating the statements. There are no “wrong” answers, and the only right ones are the ones you honestly feel or believe. It is important that you answer every item.

- 7. I do not enjoy doing assignments for classes that require me to participate in activities that occur outside the regularly scheduled class period.** \_\_\_\_\_

- 8. I believe that there is generally benefit to be found in engaging in activities that are required outside the classroom.** \_\_\_\_\_

- 9. There is little reason for instructors to ask students to engage in extra activities outside the classroom.** \_\_\_\_\_

- 10. If career counseling were a required part of a course, I would willingly participate.** \_\_\_\_\_

11. I do not agree with classroom policies that require students to participate in counseling type activities. \_\_\_\_\_
  
12. I believe that participation in career counseling could enhance my experience in the ECHD 2050 class. \_\_\_\_\_
  
13. I generally learn better by participating in group activities (e.g. classes) than by participating in activities where I receive one-on-one attention (e.g. career counseling). \_\_\_\_\_
  
14. I do not believe that participation in career counseling could provide me with any further additional benefit than that which I might gain through the ECHD 2050 course. \_\_\_\_\_



Appendix E

Instructions for Administration of Posttest Research Materials

(Fall 2006)

11/11/2006

402 Aderhold Hall  
(###) ###-####

Dear 2050 Instructors:

Please find enclosed in these envelopes posttest research packets for the ECHD 2050 Project. These packets are the last ones that I am distributing and will be asking you to have your students fill out. Please allow your students approximately 30 minutes of class time to complete these packets. In the first round of data collection, it was found that when students were given packets to fill out at the end of class they were less likely to fill them out, so I encourage you to please allow them some class time to fill these out. The more students that can provide information for this project the better. Also, please remind them that in order for this project to be successful those students who previously filled out research packets are asked to do so again. Even though some students may not have completed packets during the pretest administration, they are still welcomed to participate by filling out these posttest packets.

Please explain to the students that:

**“If you remember, earlier this semester you were asked to fill out some surveys for a research project. The research is part of a project examining the ECHD 2050 courses and career counseling. The time has come for the second half of this project to occur. The researcher is requesting student volunteers to participate in the study by filling out these research packets. In order for this study to work, it is especially important that those students who filled out packets the first time do so again. And even if you didn’t fill out a packet the first time, you are still invited to fill out these packets. The researcher will be looking at all of these packets to inform his research. So every participant counts.**

**Please read the Consent Form that is on top of the packet. If you agree to participate, please fill out your information on the 3<sup>rd</sup> page and then proceed to fill out the rest of the packet. Be sure to fill out every page. If you don’t want to participate, please wait quietly and return the packet with everyone else’s. When you are done, please return the entire packet to me so I can place them in these envelopes and return them to the researcher.”**

Please pass out the packets to students and assist them if there are any questions. If there is a question, you feel unprepared to answer please refer them to me. My contact info. is on the consent form.

When students are done, please have them collect all of the forms and place them in the envelopes. I find that each envelope only holds approx. 10 packets, so be sure to use both envelopes for the forms. Then please seal the envelope and place it in Campus mail to be returned to me.

Thanks so much for your assistance.  
Andrew Stochel

Appendix F

Instructions for Administration of Posttest Research Materials

(Spring 2007)

4/11/2007

402 Aderhold Hall  
(###) ###-####

Dear 2050 Instructors:

Please find enclosed in these envelopes posttest research packets for the ECHD 2050 Project. These packets are the last ones that I am distributing and will be asking you to have your students fill out. Please allow your students approximately 30 minutes of class time to complete these packets. In the first round of data collection, it was found that when students were given packets to fill out at the end of class they were less likely to fill them out, so I encourage you to please allow them some class time to fill these out. The more students that can provide information for this project the better. Also, please remind them that in order for this project to be successful those students who previously filled out research packets are asked to do so again. Even though some students may not have completed packets during the pretest administration, they are still welcomed to participate by filling out these posttest packets.

Please explain to the students that:

**“If you remember, earlier this semester you were asked to fill out some surveys for a research project. The research is part of a project examining the ECHD 2050 courses and career counseling. The time has come for the second half of this project to occur. The researcher is requesting student volunteers to participate in the study by filling out these research packets. In order for this study to work, it is especially important that those students who filled out packets the first time do so again. And even if you didn’t fill out a packet the first time, you are still invited to fill out these packets. The researcher will be looking at all of these packets to inform his research. So every participant counts.**

**Please read the Consent Form that is on top of the packet. If you agree to participate, please fill out your information on the 3<sup>rd</sup> page and then proceed to fill out the rest of the packet. Be sure to fill out every page. If you don’t want to participate, please wait quietly and return the packet with everyone else’s. When you are done, please return the entire packet to me so I can place them in these envelopes and return them to the researcher.”**

Please pass out the packets to students and assist them if there are any questions. If there is a question, you feel unprepared to answer please refer them to me. My contact info. is on the consent form.

When students are done, please have them collect all of the forms and place them in the envelopes. I find that each envelope only holds approx. 10 packets, so be sure to use both envelopes for the forms. Then please seal the envelope and place it in Campus mail to be returned to me.

Thanks so much for your assistance  
Andrew Stochel

Appendix G  
Posttest Informed Consent

**ECHD 2050 – An Exploration of Career Interventions  
Informed Consent B**

Date: 8/24/2006

Dear ECHD 2050 Student:

Please let me reintroduce myself; I am a graduate student under the direction of Dr. Linda Campbell in the Department of Counseling and Human Development Services at the University of Georgia. Earlier this semester, I invited you to participate in the first half of a research study entitled *The ECHD 2050 - An Exploration of Career Interventions*. The study is being conducted under the auspices of the ECHD Undergraduate Review Committee.

**At this time, I would like to invite you to participate in the second half of this study. Although most of this informed consent contains the same material as the first, I advise you to read the rest of this form and refamiliarize yourself with what is being asked of you. It will direct you in how to fill out the research packets and allow for you to be an informed participant of the study.**

As previously mentioned, the purpose of the study is to evaluate the combining of a session of career counseling with an academic course focusing on academic and career planning. It will attempt to understand the effects of participation in a career counseling session upon a student's decision in choosing a major/career path. Additionally, the study will examine how exposure to a career counseling session affects a student's opinion of career counseling. The information from measures in the research packet will be used to help the researcher answer these questions. In order to examine any changes that might occur over time due to career counseling and/or the course, this study asks students to fill out survey packets twice. At this time, students will be filling out the second set of survey packets in this study.

Students wishing to participate in this study must be at least 18 years of age. Those students wishing to participate should continue reading this document and ask any questions you may have before agreeing to be in the study. If you agree to participate after reading the remainder of this document, you are asked to print and sign your name on the third page of this form. Signing this form will indicate your wish to participate in the study. Then, proceed in filling out the research packet that accompanies this letter. This packet contains four different measures and an input sheet. **Do not put your name** on any of the measures in this research packet. Please fill out all of the measures and be sure to answer every question to the best of your ability. After completing the research packet, please give its contents back to the administrator. All of the documents included

in the packet need to be returned to participate in this first part of the study.

You will be asked to participate in two surveys, one at the beginning of the semester and one at the end, each survey will take approximately 30 minutes. Please be aware that Your participation is voluntary. You may refuse to participate or discontinue participation at any time. Even if you already filled out the first research packet, there is no commitment placed upon you to participate further. You are free to decline from participating in filling out this second packet. Please be aware that your refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled. Also, your decision on whether or not to participate in this study will not affect your current or future relations with the instructor of this class or any one else affiliated with the University of Georgia. If you decide to participate, you are free to withdraw at any time without affecting your relationship/participation in the ECHD 2050 class. There are also no academic repercussions should you choose to discontinue your participation.

Participating in this study has minimal risks associated with it. First, the research packet asks you to provide some personal information about what you believe and think about yourself. You may be uncomfortable knowing that another person is examining this information. Also, you might be worried that someone else might gain access to this information. I am aware that this might be a concern of yours. Please be aware that it is my responsibility and highest concern as a researcher to maintain the confidentiality of the information you provide. In order, to ensure this confidentiality the research material will be kept in a file cabinet in a locked room and will only be shared with others on my research committee. Second, filling this packet out might lead you to find out something about yourself that you are not comfortable with or that troubles you. Please be aware that it is not my intention to make you uncomfortable. But in the case that this occurs, please feel free to talk with the administrator of the packets, or to contact me directly. I will be glad to try and help you resolve this difficulty.

Also, please be aware that there is no direct benefit from participating in this research. If you participate in a career counseling session, you understand that the benefits and risks associated with that activity are separate from those associated with this study.

As part of this study, I will be asking you to identify yourself by providing me your name. Your name is only used to connect this second research packet to the first one you may have already filled out. Once I pair up the two research packets, I will use the participant number already assigned to first packet. This number will be printed on both packets and used to identify them as belonging to the same person. New numbers will be assigned for those students who only participated in the second sampling. Then, I will detach the participant number from the consent forms and they will be kept separate from the rest of the data. This is why it is important that your name only appear on the informed consent form. When looking at the data, these numbers will be the only identifiers of which packets are yours. Additionally, other information (ethnicity, gender,

etc...) that might identify who you are will be collected. Any personally identifying data that is collected from you throughout this study will be kept confidential. In any sort of report that might be published, I will not include any information that will make it possible to identify a participant. However, your record for the study may be reviewed by my research committee to ensure that my research was carried out properly.

As the researcher of this study, I can be contacted for any further questions about the research, now or during the course of the project. Please feel to contact me using the contact information at the bottom of the page. Additional concerns can also be directed to Yvette Getch, Ph.D. (706-542-1685), the director of teaching assistants for all ECHD 2050 courses. Questions regarding your rights as a research participant should be addressed to The IRB Chairperson, University of Georgia, 612 Boyd Graduate Studies Research Center, Athens, Georgia 30602-7411; Telephone (706) 542-3199; E-Mail Address: IRB@uga.edu

If you agree to participate in the above described research project, please complete and return the accompanying research packet and return it to the administrator.

Thank you for your consideration!

Sincerely,  
 Andrew Stochel, M.A.  
 University of Georgia  
 Dept. of Counseling and Human Development Services,  
 402 Aderhold Hall  
 Athens, GA 30602  
 ###-###-####  
 astochel@uga.edu

**Statement of Consent:**

I have read the above information. I have asked questions and have received answers. I consent to participate in the study.

Name (Please Print) \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

Signature of Investigator or Person Obtaining  
 Consent \_\_\_\_\_



A summary email regarding the results of this research project will be available to those who wish to receive one upon the completion of this study. If you are interested in receiving such an email, please check the box below and write an email address at which you might be contacted.

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Participant #: \_\_\_\_\_

Appendix H  
Demographic Sheet B

Participant #: \_\_\_\_\_

## ECHD 2050 – An Exploration of Career Interventions Intake Sheet B

Please fill out the demographic sheet by choosing the answer that best represents yourself and placing your answer on the blank line.

1. **Did you participate in the first part of this study by filling out a research packet?** \_\_\_\_\_ (1) Yes (2) No
  
2. **Did you participate in the free career counseling session(s) offered by the Center for Counseling and Personal Evaluation?** \_\_\_\_\_  
(1) Yes (2) No
  
3. **Have you participated in any other career counseling (e.g. at the Career Center) during the course of this semester?** \_\_\_\_\_  
(1) Yes (2) No

**If Yes, please place a check next to one of the following:**

- \_\_\_\_\_ a) General Meeting with a career consultant and orientation to the career center
- \_\_\_\_\_ b) Specific Session to talk about career/education plans with a career counselor assigned to your specific school/major.
- \_\_\_\_\_ c) Mock Interview session
- \_\_\_\_\_ d) Resume Review session
- \_\_\_\_\_ e) a Question & Answer Session regarding a specific career field (i.e. Real Estate)

4. **Have you decided upon or declared a major?** \_\_\_\_\_  
(1) Yes(2) No

**If Yes, please specify your major/area of study:**

\_\_\_\_\_

**If Yes, has this major changed since beginning of the ECHD 2050 course?**

- \_\_\_\_\_ (1) Yes (2) No

Below are statements pertaining to career counseling. Read each statement carefully and indicate the degree to which you agree or disagree by using the following scale:

**1 = Disagree, 2 = Somewhat Disagree, 3 = Uncertain, 4 = Somewhat Agree, 5 = Agree**

Please express your honest opinion in rating the statements. There are no “wrong” answers, and the only right ones are the ones you honestly feel or believe. It is important that you answer every item.

5. **I do not enjoy doing assignments for classes that require me to participate in activities that occur outside the regularly scheduled class period.**  
\_\_\_\_\_
6. **I believe that there is generally benefit to be found in engaging in activities that are required outside the classroom.** \_\_\_\_\_
7. **There is little reason for instructors to ask students to engage in extra activities outside the classroom.** \_\_\_\_\_
8. **If career counseling were a required part of a course, I would willingly participate.** \_\_\_\_\_
9. **I do not agree with classroom policies that require students to participate in counseling type activities.** \_\_\_\_\_
10. **I believe that participation in career counseling could enhance my experience in the ECHD 2050 class.** \_\_\_\_\_
11. **I generally learn better by participating in group activities (e.g. classes) than by participating in activities where I receive one-on-one attention (e.g. career counseling).**
12. **I do not believe that participation in career counseling could provide me with any further additional benefit than that which I might gain through the ECHD 2050 course.** \_\_\_\_\_

## Appendix I

### Items Used to Measure Attitudes towards Participation in Course Requirements Outside of the Classroom

- Item 1: I do not enjoy doing assignments for classes that require me to participate in activities that occur outside the regularly scheduled class period. \_\_\_\_\_
- Item 2: I believe that there is generally benefit to be found in engaging in activities that are required outside the classroom. \_\_\_\_\_
- Item 3: There is little reason for instructors to ask students to engage in extra activities outside the classroom. \_\_\_\_\_
- Item 4: If career counseling were a required part of a course, I would willingly participate. \_\_\_\_\_
- Item 5: I do not agree with classroom policies that require students to participate in counseling type activities. \_\_\_\_\_
- Item 6: I believe that participation in career counseling could enhance my experience in the ECHD 2050 class. \_\_\_\_\_
- Item 7: I generally learn better by participating in group activities (e.g. classes) than by participating in activities where I receive one-on-one attention (e.g. career counseling).
- Item 8: I do not believe that participation in career counseling could provide me with any further additional benefit than that which I might gain through the ECHD 2050 course. \_\_\_\_\_