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A Career Course Follow-Up: Does a Student Development Elective Make a Difference?

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A Career Course Follow-Up: Does a Student Development Elective
Make a Difference?

Jamie Marie Hansen

A dissertation submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of
Doctor of Philosophy

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ABSTRACT

A Career Course Follow-Up: Does a Student Development Elective Make a Difference?

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Doctor of Philosophy

Since its inception, work and career-related issues have been central to the aims and scope of counseling psychology as a discipline. One common career counseling intervention in the University setting is to offer elective, credit-bearing courses in career development and exploration to provide help and direction to college students as they decide on majors and prepare for careers. Much research has been conducted which suggests that the use of career courses in the university setting has strong, positive impact on students' career decision-making ability and other output variables. What is less established is the impact of these career courses on macro-level outcome variables like retention, graduation rate, and academic performance. This ex post facto study examined two samples of undergraduate students from an eight-year span (2000-2007): one that successfully completed the Student Development 117 course at the site university (*Career Exploration*) during that time (N = 3,546) and a reasonably matched sample of students who did not take the career course to act as the comparison group (N = 3,510). The two groups were compared to determine if students who completed the *Career Exploration* course differed significantly from non-course participants in terms of graduation rate, time to graduation (in semesters and credits), course withdrawals, and total cumulative GPAs. Results indicated that the *Career Exploration* course was not a significant predictor of whether or not students graduated in six years, the number of semesters it took students to graduate and the number of withdrawals students incurred. However, the *Career Exploration* course did significantly predict total number of credits (with course participants graduating with about five more credits than the non-course participants) and cumulative GPA at graduation (with course participants graduating with higher GPAs than the comparison group). Implications for future research and practitioners are discussed.

Keywords: college students, career development, university career course, retention, career course outcome, academic performance

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DESCRIPTION OF DISSERTATION STRUCTURE

This dissertation is written in a hybrid format designed to combine traditional dissertation requirements with a layout typical of journal publications. The preliminary pages are formatted to meet requirements for submission to the university, while the introduction, method, results, and discussion sections which follow are presented in a standard journal article format, conforming to the length and style requirements of most psychological and educational journals. A full review of the literature is included as an appendix to the body of the text. This dissertation includes two separate lists of references. The first is located at the end of the main text and contains only those references cited within the journal-ready article. The second list of references contains references cited within the literature review and can be found at the end of the appendix. Both the journal-ready article and the literature review conform to style guidelines of the American Psychological Association.

A Career Course Follow-Up: Does a Student Development Elective Make a Difference?

Few decisions in life carry greater meaning and significance than the selection of a suitable career. In fact, Parsons (1909) in his seminal book, *Choosing a Vocation*, claimed that “no step in life, unless it may be the choice of a husband or wife, is more important than the choice of a vocation” (p. 3). While this decision may be easier for some individuals than others, it remains clear that it is a demanding and challenging developmental task for a vast majority of the college-aged student population. Vocational psychology has long taken as its aim the vocational guidance of individuals with diverse abilities and needs. Widely accepted as the father of the discipline, Frank Parsons (1909) maintained that “There is no part of life where the need for guidance is more emphatic than in the transition from school to work—the choice of a vocation, adequate preparation for it, and the attainment of efficiency and success” (p. 4).

For over ninety years, colleges and universities across the United States have been offering formal career education and vocational guidance to assist their students in the complex process of career preparation and decision-making (Maverick, 1926). One particularly effective vocational intervention is offering a credit-bearing academic course in career development and exploration. These courses have been implemented with a number of purposes in mind: to promote psychological well-being, to increase retention to graduation, to contribute to economic efficiency by reducing the number of course and semester withdrawals of students and ultimately speed up the graduation process, and finally to utilize the dynamic benefits of group interventions for individual students.

With the first career courses appearing in colleges and universities in the early 1900s, the last century has produced an abundance of research evaluating the impact of these courses on various variables. Folsom and Reardon (2003) in a comprehensive literature review on the

subject, distinguished between what they termed outputs and outcomes of career interventions. This heuristic proves helpful in navigating the career course literature. “In this model, outputs refer to the skills, knowledge, and attitudes acquired by participants as the result of an intervention” (p. 427). Some examples of common outputs in studies looking at career courses include increased career maturity, more positive career-related thoughts, and increased career decision-making skills. “In contrast, outcomes of career service interventions refer to the resultant effects occurring at some later point in time” (p. 427). For example, common outcomes of interest when studying career courses include deciding on an academic major and efficient time to graduation. While the clear majority of studies conducted have examined the immediate outputs of career courses—such as career decision-making and confidence—few studies have looked at the long-term effects of career courses on variables such as time to graduation.

In an extremely detailed and fairly recent review of career course literature, Reardon, Folsom, Lee, and Clark (2011) examined 74 articles dealing with the effectiveness of career planning courses in colleges and universities throughout the country. In those 74 articles, Reardon et al. isolated 61 findings dealing with output effects, compared to 21 findings addressing outcome effects. The major theme of the output studies is that career courses tend to positively impact output variables including, vocational identity, career maturity, career decision-making, and cognitive development. While some studies have found that career courses also positively impact outcome variables, the nature of this influence is not always clear. In fact, more often in outcome research than output research, findings may even conflict (e.g., Folsom, 2000; Goodson, 1982; Smith-Keller, 2005) with some reporting significant differences between students that participated in a career course and those who did not on certain outcome variables (like retention to graduation and credits at graduation) and others finding no significant

differences on those outcome variables but significant differences in other outcome variables (such as course withdrawals and time to graduation).

Statement of the Problem

As the work of Folsom and Reardon (2003) and Reardon et al. (2011) has confirmed, there is no shortage of research suggesting that the use of career courses in the university setting has strong, positive impact on students' career decision-making ability and other output variables of interest—such as diminished career indecision, decreased negative career thoughts, reduced career anxiety, and increased career knowledge, self-knowledge and skills. What is lacking, however, is a consistent and convincing body of research that examines the student outcomes of these courses. Put another way, while the immediate impact of career courses on individual students seems clearly established (in a positive direction), the long-term effects of these courses on broader, macro-level variables like retention, graduation rate, and academic performance are not known. Since the site university devotes significant money and resources to the teaching of a career explorations course (with approximately 35 sections of around 25 students each being taught every year), it would be important to determine what kind of long-term impact this course is having on students.

While a handful of studies have examined long-term, outcome variables like retention, graduation rate, and academic performance in relation to career development courses (Folsom, 2000; Goodman, 1982; Smith-Keller, 2005), the results have been unclear and at times contradictory. For example, Smith-Keller (2005) reported a significant difference between course participants and non-course participants in terms of persisting to graduation and taking a different amount of credits to graduate (with course participants graduating with fewer credits than non-course participants), but Folsom (2000) found no such significant differences on those

variables but did find a significant difference in terms of course withdrawals. Additional research in the form of replicating the Folsom (2000) study would provide much needed information in clarifying and confirming past studies.

Statement of Purpose

The purpose of this research is to expand upon past research of the University's career services (Goodson, 1982) and replicate a study (Folsom, 2000) that examined the impact of a career course on outcome variables of interest including graduation, graduation rate, and academic performance. That is, in a general way, the purpose of this research is to contribute to a growing body of literature concerning the effectiveness of career courses at universities and colleges across the United States, in a way that is particularly needed (by examining outcome rather than output of the course). In a more context-specific way, the purpose of this research is to determine what impact the University's *Career Exploration* class is having on student outcome variables of interest to the institution.

Research Questions

This study will address the following research questions:

1. Do students who complete the *Career Exploration* course graduate at a rate significantly different from those who do not?
2. Do students who complete the *Career Exploration* course graduate in a significantly different amount of time than those who do not take the course?
3. Do students who complete the *Career Exploration* course take a different amount of credits to graduate compared with those who did not take the course?
4. Do those who take *Career Exploration* withdraw from courses at a rate significantly different than those who do not take the course?

5. Do students who take *Career Exploration* have significantly different cumulative GPAs at graduation than students who did not take the course?

Method

In order to outline the method of this study, I will first discuss the participants which comprised two samples (one experimental and one quasi-control). Next, I will describe the setting in which this study took place, including the particulars of the *Career Exploration* course which acted as the independent variable of the study. Finally, I will identify the research design I used in this study addressing both data collection and data analysis, and identifying appropriate statistical analyses for each of the five research questions.

Participants

Both groups in our sample were comprised of students at Brigham Young University during the years of 2000-2007. One group included students who enrolled in and successfully passed the *Career Exploration* class (with a grade of C-minus or better) and the other group included students who did not take the *Career Exploration* class. The comparison, non-class participant sample was initially drawn from the population in a mostly random fashion (the only constraint being that the student could never have taken STDEV 117). This yielded a significantly unbalanced comparison sample in terms of year in school with freshmen and sophomores comprising 75.7% of the *Career Exploration* course group and only 28.5% of the non-class participant group. It was thus decided to pull the data again, but to match the non-class participant group to the *Career Exploration* group on the variable year in school. No additional demographic information was used to match the groups to allow for as random a draw as possible and with the intention to control for group differences in the main analysis should they appear.

The combined total number of participants from the two groups was 7,056 undergraduates, 3,430 women (48.6%) and 3,626 men (51.4%). About 85% of the participants were classified as freshmen and sophomores and approximately 90% were White. Other ethnic groups represented included Hispanic (4.1%), Asian (2.6%), Hawaiian/Pacific Islander (1.8%), American Indian (0.8%), and Black (0.7%) with 29 participants listed as “Other” (0.4%). About one-third of participants (N=2255, 32%) were listed as “Open Major” while the other two-thirds (68%) had declared a major. Table 1 displays the breakdown of number of participants in each of the 10 major categories (including “Open Major”).

Table 1

Frequencies of Majors within University Colleges

College Name	Frequency	Percent	Cumulative %
Business	712	10.1	10.1
Education	189	2.7	12.8
Engineering & Technology	541	7.7	20.4
Family, Home, & Social Sciences	936	13.3	33.7
Fine Arts & Communications	817	11.6	45.3
Humanities	425	6.0	51.3
Life Sciences	651	9.2	60.5
Physical & Mathematical Sciences	351	5.0	65.5
Nursing	179	2.5	68.0
Open Major	2255	32.0	100.0

Group one. The first group was comprised of 3,546 undergraduates who had enrolled in and successfully passed (with a grade of at least a C-minus or better) the *Career Exploration*

course from the year 2000 to 2007. This group, considered the treatment group in the study, was referred to as the *Career Exploration* group and students in this group were referred to as course participants. Categorical demographic information for this group (and the second group) is presented in Table 2.

Table 2

Descriptive Statistics Comparing the Categorical Variables of the Career Exploration and Non-Course Participant Groups

Variable	Course Participants (N = 3,546)	Non-Course Participants (N = 3,510)
Class Level		
Freshman	1,785 (50.3%)	1,760 (50.1%)
Sophomore	1,228 (34.6%)	1,220 (34.8%)
Junior	391 (11.0%)	390 (11.1%)
Senior	142 (4%)	140 (4.0%)
Gender		
Male	1,863 (52.5%)	1,763 (50.2%)
Female	1,683 (47.5%)	1,747 (49.8%)
Ethnicity		
White/Caucasian	3,126 (88.2%)	3,201 (91.2%)
Hispanic	161 (4.5%)	125 (3.6%)
Asian	104 (2.9%)	82 (2.3%)
Hawaiian/Pacific Islander	75 (2.1%)	50 (1.4%)
American Indian	32 (0.9%)	25 (0.7%)
Black	29 (0.8%)	17 (0.5%)
Other	19 (0.5%)	10 (0.3%)
Major		
Open Major	1,582 (44.6%)	673 (19.2%)
Family, Home, & Social Sciences	415 (11.7%)	521 (14.8%)
Fine Arts & Communications	335 (9.4%)	482 (13.7%)
Business	330 (9.3%)	382 (10.9%)
Life Sciences	248 (7.0%)	403 (11.5%)
Engineering & Technology	187 (5.3%)	354 (10.1%)
Humanities	186 (5.2%)	239 (6.8%)
Physical & Mathematical Sciences	127 (3.6%)	224 (6.4%)
Education	77 (2.2%)	112 (3.2%)
Nursing	59 (1.7%)	120 (3.4%)

Group two. The second group of participants was comprised of 3,510 students who did not take the *Career Exploration* course and were matched to the *Career Exploration* group on the variable year in school. This group was considered the quasi-control group of the study and is referred to as the comparison group; students in this group were referred to as non-course participants. Demographic information representing continuous variables for this group (and the *Career Exploration* group) are presented in Table 3.

Table 3

Descriptive Statistics Comparing the Continuous Variables of the Career Exploration and Non-Course Participant Groups

Variable	Course Participants (N = 3,546)		Non-Course Participants (N = 3,510)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
H.S. GPA	3.667	.342	3.679	.335
ACT Score	25.96	3.737	26.55	3.474

Within the Major variable, the largest proportion of students in both groups was “Open Major.” To simplify the analysis, a new variable was dummy coded in which Open Majors were coded as 0 and students who had a major were coded as 1. Similarly, within the Ethnicity variable, the largest proportion of students in both groups was “White/Caucasian.” Since no remarkable trend was noted other than the discrepancy between Whites and all other ethnicities, a new variable was created in which Whites/Caucasians, considered in this context to be students in the ethnic majority were coded 0, and all other ethnicities (those in the ethnic minority) were coded 1. Table 4 depicts the frequencies in the two groups (*Career Exploration* and non-course participants) of these collapsed variables.

Table 4

Descriptive Statistics Comparing the Dummy-Coded Variables of the Career Exploration and Non-Course Participant Groups

Variable	Course Participants (N = 3,546)	Non-Course Participants (N = 3,510)
Major Status		
Open Major	1,582 (44.6%)	673 (19.2%)
Declared Major	1,964 (55.4%)	2,837 (80.8%)
Minority Status		
Majority	3,126 (88.2%)	3,201 (91.2%)
Minority	420 (11.8%)	309 (8.8%)

Setting

The setting in which the study took place was Brigham Young University (BYU). BYU is a large (enrollment around 30,000 depending on year), privately-owned institution of higher education affiliated with the Church of Jesus Christ of Latter-day Saints.

Career exploration course (STDEV 117). The career course that was the focus of this study is called *Career Exploration*. The University Catalog provides the following description for the course: “Applying theories of individual, academic, and career development to the university student. Exploring university opportunities and college majors; graduation planning.” In addition to this description, four learning outcomes for the course are identified thus:

1. Increase knowledge of college majors, career options, and additional world-of-work factors that influence career choice.
2. Develop greater awareness of personal qualities, interests, skills, and values that play a role in career-decision making.

3. Demonstrate increased confidence and ability to make decisions as well as progress towards making career decisions.
4. Display an awareness of and ability to access educational and career information resources.

It is important to point out that this course is taught by many individuals, including professors, psychologists, career specialists, and graduate students. While a common curriculum unites the various sections, it is also true that teachers are fairly free to adjust and adapt the lessons according to their interest and the needs of the class. This should be kept in mind as a potential confound to the study. The treatment group must not be viewed as uniform because different teachers teach the course, use different syllabi and course materials, and cover somewhat different content. That being said, all sections subscribe to the same learning outcomes (those listed above) and we can reasonably assume that the group who completed a career class did engage similar processes and contents regardless of the section in which they were enrolled.

Data Collection

The first step in the data collection was to make a request to the institutional research office to retrieve the needed data to answer our research questions. This request provided them with the variables of interest and the parameters of the two desired groups which ultimately produced our quasi-experimental group of students who completed the *Career Exploration* course and a partially matched sample (only matched on year in school). Only students who enrolled in the class and completed the class with a passing grade (of C-minus or better) during the years 2000-2007 were considered in this study. Next, the data were submitted to the appropriate statistical analyses to test for group similarity.

Specifically, we requested measures of graduation rate, time taken to graduate (in both semesters and credits), number of course withdrawals, and cumulative grade point average at graduation for two groups of students (those who enrolled in and completed *Career Exploration* during the years of 2000-2007—to allow enough time to have lapsed for it to be a reasonable expectation that students would have graduated when the data were pulled—and a cohort of students who did not take the course). By making this request, we were able to access the data without needing to extract identifying information for participants such as student names, university identification numbers, or social security numbers.

Research Design

This study used an ex post facto design in which archival data were accessed and analyzed to answer the aforementioned research questions. The study included two samples of students from an eight-year span (2000 – 2007): (a) those that completed the career course during that time and (b) a statistically comparable sample of students who did not take the career course to act as the comparison group. The independent variable in this study was the Student Development 117 course titled, *Career Exploration*. Those students who enrolled in and completed the class were included in the experimental or treatment condition. The dependent variables were persistence to graduation (measured by graduation in six years), graduation rate (time to graduation), credits taken to graduate, and number of course withdrawals executed by students. A cohort of students who did not enroll in the career class served as the comparison group.

Data Analysis

The first task of the data analysis was to test our two groups for similarity based on the identified comparison criteria (i.e., year in school, race, gender, high school grade point average

(GPA) and ACT score). Following the methodological example of Folsom (2000) whose study we aimed to replicate, we used a chi-square test of independence to compare between group frequencies for the race, gender, and year in school variables since this data was categorical in nature. Independent t tests were used to compare group means when it came to high school GPA and ACT scores. The null hypothesis in each of these tests was that there was no significant difference between the two groups on each factor. In the event that significant differences between the groups were found, we treated those particular variables as covariates during the main data analysis.

For the first research question concerning whether students who take the career class graduate at rate significantly different from those that do not, dummy coding was employed to create a new variable that represented whether students graduated in six years or not. As Smith-Keller (2005) described, “students who persisted to graduation within six years of matriculation into university were coded ‘1’ and those students who did not persist to graduation within the six-year time frame were coded ‘0’” (p. 43). A binary logistic regression was computed (since the dependent variable is categorical/dichotomous) to determine whether the *Career Exploration* course with covariates was a significant predictor (at the .05 level) of persistence to graduation.

The second research question (which asks about differences in time to graduation) was answered using multiple regression. For this research question, time was measured in terms of semesters (with a term being considered half a semester). Then the multiple regression was able to assess whether the *Career Exploration* course significantly predicted (at the .05 level) students’ time to graduation in the presence of the other covariates.

The third research question, concerning credits to graduation, was answered by employing multiple regression. Doing so determined whether participation in the *Career*

Exploration course was a significant predictor (at the .05 level) of students' total credits at graduation in the presence of the other covariates.

The fourth research question regarding course withdrawals was answered by calculating means and standard deviations using the total number of course withdrawals executed by those who did persist to graduation in the two groups. Using multiple regression, it was determined whether between group differences (at the .05 level) in terms of number of course withdrawals were accurately predicted by the *Career Exploration* course.

The fifth and final research question concerning cumulative GPA was also answered using multiple regression to determine if there were significant differences (at the .05 level) between the treatment and control groups. Specifically, *Career Exploration* was examined to see if it was a significant predictor of group differences in cumulative GPA.

Results

The purpose of this research was twofold: (a) to determine what impact the University's *Career Exploration* class is having on student outcome variables of interest to the institution and (b) to contribute to a growing body of literature concerning the effectiveness of career courses at universities and colleges across the United States, in a way that is particularly needed (by examining outcome rather than output of the course). Specifically, we examined the long-term impacts of completing a credit-bearing career exploration course on student and institutional outcomes of specified interest including: student retention, time taken to graduate (measured in terms of both semesters and credits), number of course withdrawals, and overall academic success (measured by total cumulative GPA at graduation). To examine the impact of the *Career Exploration* course, a group of students who did not take the class was used as a comparison sample and assessed on all of the same outcome variables.

The designated research questions were as follows:

1. Do students who complete the *Career Exploration* course graduate at a rate significantly different from those who do not?
2. Do students who complete the *Career Exploration* course graduate in a significantly different amount of time (in semesters) than those who do not take the course?
3. Do students who complete the *Career Exploration* course take a different amount of credits to graduate compared with those who did not take the course?
4. Do those who take *Career Exploration* withdraw at a rate significantly different than those who do not take the course?
5. Do students who take *Career Exploration* have significantly different cumulative GPAs at graduation than students who did not take the course?

Results to each research question will be detailed below. However, before addressing the five research questions, the results of the statistical analyses used to determine whether the two groups (the experimental or *Career Exploration* group and the quasi-control or comparison group) were reasonably matched will be presented.

Group Comparisons

Given that the quasi-control sample (the group of students who did not take *Career Exploration*) was only matched to the experimental group (encompassing the group of students you did take *Career Exploration*) on one criterion (year in school), the two groups were statistically compared on each of the other matching criteria (gender, ethnicity, major, high school GPA and ACT score), in order to assess whether or not the groups were reasonably matched before proceeding to answer the main research questions. These six dimensions were identified from the Folsom (2000) and Smith-Keller (2005) studies and replicated here to

maintain consistency and attempt to control for potentially confounding variables. Results to each of these six criteria-based comparisons will be discussed in turn.

Year in school. After initially pulling an unrestrained random sample of the students available who had not taken *Career Exploration*, it was discovered that the two groups were significantly mismatched in terms of year in school, with the non-class participants being much more heavily weighted towards juniors and seniors (freshman = 431, sophomores = 700, juniors = 846, seniors = 1995), while the *Career Exploration* group contained (predictably) many more freshmen and sophomores proportionately (freshman = 2090, sophomores = 2389, juniors = 1094, seniors = 343). A chi-square test of independence was calculated comparing the class level of *Career Exploration* course participants and non-course participants. A significant interaction was found ($\chi^2(3) = 2945.908, p < .001$) indicating that there was a significant difference between the two groups in terms of year in school compared to what would be expected proportionately. In an effort to procure a comparison group that was reasonably similar to the *Career Exploration* group in terms of year in school, the data was pulled again, this time by using the year in school make-up of the *Career Exploration* group to match the quasi-control group. For example, for every x number of freshman students in a given year that passed *Career Exploration* (with a C-minus or better), the registry was queried for that same number of freshman students in that year that did not take *Career Exploration* (these students were also checked to ensure that they never enrolled in the course during their time at the university). With the new data set, after excluding students who were identified as visiting students or otherwise nontraditional students, another chi-square test of independence was computed and no significant relationship was found ($\chi^2(3) = .034, p = .998$). It was thus concluded that there was no significant difference between the two groups in terms of class standing (freshman, sophomore, junior, or senior).

Gender. Considering that year in school was the only criterion used to match the two groups at the time of the data pull, the rest of the identified criteria were used to statistically assess for group similarity between the two groups (course participants and non-course participants). The next criterion used to compare the two groups for similarity was gender. A chi-square test of independence was calculated comparing the proportion of males to females in each of the two groups. No significant relationship was found ($\chi^2(1) = 3.768, p > .05$) and it was concluded that the two groups were reasonably matched in terms of gender. That is, both groups contained proportionately similar numbers of males and females.

Ethnicity. Ethnicity was initially coded into seven groups (White/Caucasian, American Indian, Asian, Black, Hawaiian/Pacific Islander, Hispanic, and Other). To simplify the analysis, these groups were collapsed into two broader categories: students considered to be in the minority (American Indian, Asian, Black, Hawaiian/Pacific Islander, Hispanic, and other) and those in the majority (White/Caucasian). A chi-square test of independence was calculated comparing the proportion of students in the minority to those in the majority both in the *Career Exploration* class and in the quasi-control group. A significant interaction was found ($\chi^2(1) = 17.607, p < .001$) indicating that groups were significantly different in terms of ethnicity. Specifically, students in the minority were found in the group of *Career Exploration* participants more than what would be expected based on proportions. In light of this finding, ethnicity was treated as a covariate in the main analysis.

Major. Students' majors at time of participation or non-participation in the *Career Exploration* course were coded into one of 10 categories based on the Colleges at the site university (Business, Education, Engineering & Technology, Family, Home, & Social Sciences, Fine Arts & Communications, Humanities, Life Sciences, Physical & Mathematical Sciences,

Nursing, and Open Major). Again to simplify the analysis and observing that the largest proportion of students in both the group of course participants and the non-course participants was “Open Major,” these 10 categories were collapsed into two: open major and declared major. A chi-square test of independence was calculated comparing the frequency of “Open-Major” students and “Declared Major” students in the *Career Exploration* and non-course participants groups. A significant interaction was found ($\chi^2(1) = 524.996, p < .001$) indicating that the two groups were significantly different in terms of major status. There were fewer students with an open major in the quasi-control group than was proportionately expected. Given this difference between groups, students’ major status was treated as a covariate in the main statistical analysis.

High school GPA. Another criterion used to compare the two groups was high school GPA. An independent-samples *t* test was calculated comparing the mean high school GPA of *Career Exploration* participants to the mean high school GPA of non-course participants. No significant difference was found ($t(6886) = 1.434, p > .05$). The mean of the *Career Exploration* participants ($m = 3.6671, sd = .34222$) was not significantly different from the mean of non-course participants ($m = 3.6788, sd = .33494$) indicating that two groups were reasonably similar in terms of high school GPA.

ACT score. The final criterion used to compare the two groups was ACT score. An independent-samples *t* test comparing the mean ACT scores of the *Career Exploration* group and the quasi-control group found a significant difference between the means of the two groups ($t(7016) = 6.925, p < .001$). The mean ACT score of the *Career Exploration* group was significantly lower ($m = 25.96, sd = 3.737$) than the mean ACT score of the non-course participants ($m = 26.55, sd = 3.474$). Since this criterion was found to be significantly different

between the two groups, ACT score was added to the list of covariates to be controlled for in the main analysis.

Research Questions

Having determined the degree to which the two groups (course participants and non-course participants) were reasonably matched, the main research questions were answered using the appropriate statistical analysis, treating major, ethnicity, and ACT score as covariates.

Retention to graduation in six years. A chi-square test of independence was calculated comparing the retention to graduation within six years in the two groups (the class cohort and non-class cohort). No significant relationship was found ($\chi^2(1) = .691, p = .423$) indicating that there was no significant difference between the class cohort and non-class cohort in terms of graduation within six years.

To control for the potential confounding effect of the covariates (ACT score, ethnicity, and major), a binary logistic regression was also computed to determine whether participation in the *Career Exploration* class could significantly predict whether participants graduated within six years or not (a dichotomous variable) in the presence of the covariates. A test of the full model against a constant only model was statistically significant, indicating that the predictors (participation in the *Career Exploration* class and the covariates, ACT score, ethnicity, and major) as a set reliably distinguished between those who did graduate within six years, and those who did not (chi square = 73.907, $p < .001$, with $df = 4$). Within the model, the STDEV 117 variable (*Career Exploration*) was not a significant predictor of graduation. Table 5 shows the logistic regression coefficient, Wald test, and odds ratio for each of the predictors.

Table 5

Logistic Regression Predicting Graduation in Six Years From STDEV117, Major/Minority Status, and ACT Score

Predictor	B	Wald χ^2	<i>p</i>	Odds Ratio
STDEV 117	.135	3.389	.066	1.145
Major	.130	2.809	.094	1.138
Minority	-.232	4.666	.031	.793
ACT	.075	57.264	.000	1.078

Employing a .05 criterion of statistical significance, minority status and ACT score had significant partial beta weights. Participation in *Career Exploration* (STDEV 117) was not a significant predictor of graduation within six years. It was thus concluded that there was no significant difference between the experimental and quasi-control groups in terms of retention to graduation (as measured by graduation in six years).

Time to graduation in semesters. The second research question asked if students who complete the *Career Exploration* course graduate in a different amount of time (measured in semesters) than those who do not take the course. A multiple linear regression was calculated predicting students' semesters to graduation based on being in *Career Exploration*, and the covariates (major status, minority status, and ACT score). A significant regression equation was found ($F(4, 7017) = 24.945, p < .001$), with an R^2 of .014. However, *Career Exploration* (STDEV 117) did not significantly predict differences in students' semesters taken to graduate ($\beta = .021, t = .411, p = .681$). It was thus concluded that there was no significant difference between the course and non-course participants in terms of the amount of time (in semesters) it took for them to graduate.

Time to graduation in credits. The third research question had to do with whether students in the *Career Exploration* class take a different amount of credits to graduate than those who do not take the course. A multiple linear regression was calculated to predict participants' total credits at graduation based on the *Career Exploration* course and the covariates (major status, minority status, and ACT score). A significant regression equation was found ($F(4, 7017) = 153.050, p < .001$), with an R^2 of .080. Participants' predicted total credits is equal to $91.113 + 4.78$ (STDEV 117) + 3.828 (Minority) + 2.239 (ACT), where STDEV 117 is coded as 0 = No, 1 = Yes; Minority is coded as 0 = Majority, 1 = Minority and ACT is a continuous score. STDEV 117, Minority, and ACT were all significant predictors. It was concluded that students who take the *Career Exploration* course differ significantly from the non-course participants in terms of total credits at graduation. Students who take *Career Exploration* graduate with 4.78 more credits than those who do not take the class.

Number of course withdrawals. The fourth research question that was posed was whether students who take *Career Exploration* withdraw from courses differently than those who do not. A multiple linear regression was calculated predicting students' number of withdraws based on being in *Career Exploration*, and the covariates (major status, minority status, and ACT score). A significant regression equation was found ($F(4, 7017) = 8.804, p < .001$), with an R^2 of .005. However, *Career Exploration* (STDEV 117) did not significantly predict differences in students' number of withdraws ($\beta = -.055, t = -1.366, p = .172$). It was thus concluded that there was no significant difference between the course and non-course participants in terms of the number of withdrawals students incurred.

Total cumulative GPA at graduation. The fifth and final research question of this study asked whether students who take *Career Exploration* have significantly different

cumulative GPAs than students who did not take the course. A multiple linear regression was calculated to predict participants' total cumulative GPAs at graduation based on the *Career Exploration* course and the covariates (major status, minority status, and ACT score). A significant regression equation was found ($F(4, 7017) = 350.411, p < .001$), with an R^2 of .167. Participants' predicted total GPA is equal to $2.357 + .035$ (STDEV 117) $- 0.091$ (Minority) $+ .039$ (ACT), where STDEV 117 is coded as 0 = No, 1 = Yes; Minority is coded as 0 = Majority, 1 = Minority and ACT is a continuous score. STDEV 117, Minority, and ACT were all significant predictors. It was concluded that students who take the *Career Exploration* course differ significantly from the non-course participants in terms of total cumulative GPA at graduation. Students who take *Career Exploration* graduate with cumulative GPAs 0.035 higher than students who did not take the course.

In conclusion, it was found that while the two groups (*Career Exploration* participants and non-course participants) were similar in terms of gender and high school GPA, they significantly differed in terms of major, ethnicity, and entering ACT score. Controlling for the effects of the covariates, the *Career Exploration* course was not a significant predictor of whether or not students graduated in six years, the number of semesters it took students to graduate, and the number of withdrawals students incurred. However, in the presence of the covariates, the *Career Exploration* course did significantly predict total number of credits (with course participants graduating with about five more credits than the non-course participants) and cumulative GPA at graduation (with course participants graduating with higher GPAs than the comparison group).

Discussion

This study examined the impact of a university credit-bearing career exploration course on measures of academic outcomes (retention, time to graduation, withdraws) and achievement (cumulative GPA). It was found that participation in the course did not make a significant difference in terms of retention, as measured by students' rates of graduation (within six years), time to graduation (in terms of semesters), and number of withdraws. However, the course was found to significantly predict students' total credits at graduation and their overall academic performance (measured by cumulative GPA).

Each research question with its accompanying results will be discussed in turn below. This discussion will address how the findings from this study compare with previous research (particularly Folsom, 2000; Goodson, 1982; Smith-Keller, 2005). I will also identify the contribution of this study to the field's understanding of credit-bearing career development courses as an effective career counseling intervention with university students. Following this summary of results, I will enumerate the potential limitations to this study and discuss implications both for future research and for practitioners (including career counselors and other university personnel). Finally, I will close this last section by sharing conclusions from the study as a whole.

Summary of Results

Retention to graduation in six years. Results indicated no significant difference between the *Career Exploration* group and the non-course participants in terms of graduation within six years. This finding mirrors that of Folsom (2000) who also found no significant difference. However, it differs from the results of Smith-Keller (2005) who found that students who had taken the career course at that university persisted to graduation at a rate significantly

higher than those who did not take the class. Although it is unclear whether Goodson (1982) was measuring retention to graduation, a significant difference was found between the students that took the career class and those that did not in terms of the percentage of students completing four years of college. It was reported that 67% of students who took the class completed four years of college at the time of the ten-year follow up, compared to 57% of students who did not.

While the *Career Exploration* course was not found to make a significant difference in terms of students graduating within six years, it should be noted that the graduation rate in that time for both the course participants (86.6%) and the comparison group (85.7%) were much higher than the national average of 59% (IES, 2015). Graduation rates are predictably different when one considers the type and acceptance rate of the institution—universities with less stringent admissions tend to have lower graduation rates while those with higher admission standards tend to have higher graduation rates. Given that BYU had an acceptance rate of 48.7% in Fall 2013 (U.S. News and World Report, 2015), and 55.0% in Fall, 2014 (BYU Admissions, 2015), these numbers are also higher than the national average for non-profit institutions who accept between 25.0-49.9 percent of applicants (77.5%) and these same institutions who accept between 50.0 and 74.9 percent of applicants (62.3%).

Time to graduation in semesters. Results indicated no significant difference between the STDEV 117 group and the comparison group in terms of time to graduation (measured in semesters). Course participants on average graduated in 10.26 semesters while students in the comparison group graduated in 10.15 semesters. This finding provided evidence that even in the presence of other covariates (major, ethnicity, and ACT score), participation in the *Career Exploration* course did not significantly predict the time it took students to graduate (as measured by semesters). Similar to the results to the first research question, this finding again

reflected Folsom's (2000) study, as he likewise found no significant difference between the two groups in his study on this variable (although time in that case was measured in months, not semesters). However, Smith-Keller's (2005) study did show a significant difference on this variable of time to graduation reporting that "students who had not taken the career course took significantly less time to complete their degrees and graduate, compared to students who took the course" (p. 64).

Time to graduation in credits. Time to graduation measured in terms of credits was one of two outcome variables for which there was a significant finding. Results indicated that the two groups (the *Career Exploration* group and the comparison group) differed significantly in the total number of credits at graduation with the *Career Exploration* group graduating with 4.78 more credits than the comparison sample, in the presence of the covariates. While non-course participants took 151.23 credits to graduate on average, students who took *Career Exploration*, graduated with 154.74 credits. Although this difference in means is 3.51, the multiple regression equation, which took into account the combined effects of the covariates, yielded a difference of 4.78 credits. This finding showed a trend similar to that found in Folsom (2000) who reported that "the adjusted mean number of credit hours taken to graduate by course participants was ($M = 110.85$)" and the "adjusted mean number of credit hours taken to graduate among non-participants was ($M = 109.90$)" (p. 108). In other words, in both studies, career course participants graduated with more credit hours than students who did not take a career course. Smith-Keller (2005) on the other hand, found that students who took the career course graduated with significantly less credit hours than those who did not.

While taken alone, this finding may seem to suggest that career course participants took longer to graduate, it is important to again note that there was no significant difference between

the groups in terms of semesters taken to graduate. Taken together then, it appears to bode well that while the students who took *Career Exploration* may have taken a few more credits to graduate, they did so in the same amount of time (semesters) as their non-class peers. It is bears noting as well that although there was a difference of 4.78 credits between the course participants and the non-course participants, the *Career Exploration* course itself accounted for two of those credits. Hypothesized by some (Folsom, 2000; Reardon et al., 2011; Smith-Keller, 2005) to serve an efficiency function—that is, that career courses help students determine what they want to major in and thus enable them to take courses more intentionally geared toward their major requirements from an earlier point in their education—it may also be that career courses empower students to use their courses as opportunities to explore different major and career options. This may explain in part why students who took *Career Exploration* graduated with more credits than non-course participants.

Number of course withdrawals. Interest in this outcome variable stemmed in part from the desire to replicate Folsom (2000) and in part as an alternative to another variable of interest, number of major changes to which we did not have access. The university does not have a central way of tracking if and how many times students change their majors. Folsom (2000) stated that number of course withdraws was of interest in studies of this nature because “if career course participants gain a clearer career focus, then one possible outcome is less within-course starting and stopping and hence less course withdrawals executed in comparison with students who did not complete the career development course” (p. 110). Contrary to Folsom, results of this study indicated no significant difference between course-participants and non-course participants in number of course withdrawals executed. This supported the conclusion that students who take *Career Exploration* withdraw from classes at a rate similar to students who do

not take the career course. Smith-Keller (2005) likewise found no significant difference between what she called the class cohort, and non-class cohort in terms of course drops.

Total cumulative GPA at graduation. The fifth and final outcome variable we examined was total cumulative GPA at graduation. Results indicated that the two groups were significantly different in terms of total GPA at graduation and that students in the *Career Exploration* group graduated with higher cumulative GPAs than the comparison group. While the difference in GPAs was marginal (.035), it remains a meaningful finding that even in the presence of the covariates (major, ethnicity, and ACT score), STDEV 117 significantly contributed to the outcome variable, cumulative GPA at graduation. That is, students who enrolled in and successfully completed the *Career Exploration* class (with a grade of C-minus or better) graduated with a .035 higher cumulative GPA than students who did not take the class.

Limitations

This study is limited in its scope due to several factors that ultimately constrain the generalizability of the results. These factors include: variability in the *Career Exploration* course, data collection occurring entirely at one, somewhat unique university, differences between the quasi-experimental and the comparison groups, and the presence of non-traditional students in the sample.

Variability in STDEV 117. As was stated previously in describing the Student Development 117, *Career Exploration* course, this course is taught by many different teachers (career counselors, psychologists, graduate students, and other higher education personnel) who are generally free to adapt the course curriculum according to their desires. While the stated learning outcomes of the course are consistent and do not vary by teacher, the course content and syllabus are not guaranteed to be so. This limitation may also be applied to one of the inclusion

criteria for the *Career Exploration* group; that is, variability in students' experience of taking STDEV 117. The *Career Exploration* group included students who had enrolled in and successfully completed STDEV 117; this was operationalized to include those students who passed the course with a grade of C-minus or better. Since the *Career Exploration* course is not considered to be too academically rigorous, it may be assumed that those who received a grade of C or C-minus likely did not gain the same awareness, knowledge, and skills as those students who scored higher in the class. Thus, a higher grade may have served as a better discriminator between students who met class objectives and showed evidence of what they learned in the class and students who took the class but may not have internalized or embodied the learning outcomes.

One university, one class. It should be noted that the scope of this study (and the generalizability of the results) are limited by the fact that it only examined one credit-bearing career course at one university. While this course seems to be similar in content and process to other career development courses at other universities, future research should examine the impact of multiple career courses (at multiple sites) simultaneously to see if similar results occur. This will be discussed further in a later section.

Between group differences. Although the effect of between group differences was controlled for in the data analysis, there is one significant group difference that should be kept in mind as a potential confound. As was presented in Table 4, the quasi-experimental group and the comparison groups were significantly different in terms of major status. Specifically, nearly half of the students in the *Career Exploration* group were Open Majors (44.6%) compared to less than a fifth of students in the comparison group (19.2%)—meaning that over 80% of the comparison group had declared a major compared to only 55.4% of the *Career Exploration*

group. While this difference was statistically controlled for in the analysis—this variable was treated as a covariate in the data analysis—it brings up the question of whether having more similarly matched groups to begin with might have altered the results.

Nontraditional students in sample. Failure to collect the demographic variable of age of the students made it difficult to track which students might be non-traditional students. This can be seen as a potential confound in that non-traditional students take varied paths to graduation and the research questions motivating this study were more focused on the traditional, entering first time freshmen and whether taking the *Career Exploration* made a difference to those students on certain outcome variables. Some non-traditional students were identified using the major variable—students who were described in that variable as “Visiting Students,” “Continuing Education Students,” or “BGS” (which stands for Bachelor of General Studies and is a program aimed at helping students who didn’t graduate return at a later time of life to complete a degree) were all excluded from the sample. However, when considering that some students in the sample took between 3 and 6 semesters to graduate (and these remained in the analysis), it can be assumed that these students were nontraditional in the sense that they most likely had a fair amount of college credit already to be able to graduate that quickly (i.e., transfer students). Given that these students comprised less than 2% of the sample as a whole, it is not likely that they represented a significant confound in the study.

Implications for Future Research

As a result of this study, certain implications for future research bear enumerating. First, this and other studies like it (Folsom, 2000; Goodson, 1982; Smith-Keller, 2005) were each conducted at one university and examined the impact of one career development course. Future research should consider a multi-site approach in which multiple, similarly structured career

development courses are assessed simultaneously for these same outcome variables of interest. In addition, future research should seek to compare one-credit career courses with two- and three-credit career courses. This study examined a 2-credit hour course, Folsom's (2000) study examined a 3-credit hour course, Smith-Keller (2005) reported on a 1-credit hour course and Goodson's (1982) study reported on a non-credit bearing career course. These differences should be studied empirically to determine if career courses of different credit configurations impact student outcomes differently.

In connection to one of this study's limitations, future research might look at only students who received a grade of B-minus or better in the career course (Folsom, 2000). As it can likely be assumed that career courses in general do not carry the same academic rigor as other classes, it may even be worthwhile to include only students who got an A or A-minus in the career course to more discriminately delineate between students who presumably benefitted most from the class and those who did not meet learning objectives.

Implications for Practitioners

The practitioners for whom this study is relevant are not only those in career counseling, and those who teach the course, but also for personnel in higher education more generally and anyone who interacts with college students and can make recommendations to those students. It is not only helpful to know that *Career Exploration* is an option for undecided students; it is also validating to be able to show that this course has a significant impact on student outcomes (e.g., students who took the class graduated with significantly higher GPAs than those in the comparison group). Perhaps it makes little difference to students that those who pass the *Career Exploration* class tend to graduate with five more credits in the same amount of time (semesters) as students who do not take the course. But as we start to consider what those five credits

represent—conceding that two of the credits account for the *Career Exploration* course itself—additional credits can be seen to represent not only additional coursework but the added knowledge and educational experience that coursework provides. What is more, these credits are accumulated *in the same amount of semesters* as the comparison group which suggests that this additional coursework is being completed in an efficient manner that does not incur the unnecessary financial cost of extra semester(s) of tuition and living expenses.

In addition, it is worth noting that while this course seems to be drawing generally equally from men and women (recall that our two groups were not significantly different in terms of gender), there was a higher than expected proportion of minority students in the *Career Exploration* course and this can be seen to have implications for those who work with ethnically diverse students. It appears that this student development class is being recommended to or pursued more by those in the ethnic diversity at the site institution, which further justifies its continued implementation as it is reaching a historically marginalized and underserved population of students.

It also bears highlighting that the groups were originally found to be significantly different in terms of entering ACT score (with students in the *Career Exploration* course having *lower* ACT scores than their non-course participant peers). Given this between-group difference, it appears all the more noteworthy that course participants graduated with significantly higher cumulative GPAs than those in the comparison group. Put another way, assuming that ACT scores and GPAs measure some part of what they purport to measure, course participants, who had a lower readiness for college to begin with (as measured by their ACT scores) graduated in the end with higher academic performance (as measured by total GPA at graduation) than non-course participants. Extrapolating some, one could argue that although initially comprising a

group of students some might expect to under-perform compared to their peers (whether that be considering their significantly different composition in terms of race or in terms of ACT score), *Career Exploration* students ended up performing at equal or higher levels on multiple dimensions (i.e., comprising both significant findings of no difference and significant findings in which the *Career Exploration* group could be said to have outperformed the comparison group, this includes: time to graduation measured in semesters, retention to graduation as measured by graduated in six years, number of course withdrawals incurred and total cumulative GPA at graduation).

Conclusions

This study served two main purposes: (a) to follow up on a study that was conducted at this university over thirty years ago (Goodson, 1982) and determine what impact the University's *Career Exploration* class is having on student outcome variables of interest to the institution and (b) to make a contribution to the growing body of literature concerning the effectiveness of career courses at universities and colleges across the United States, in a way that is particularly needed (by examining outcome rather than output of the course). This was accomplished by replicating portions of Folsom's (2000) and Smith-Keller's (2005) studies in an attempt to provide needed clarity surrounding their conflicting findings. Specifically, a two-credit, career development course entitled, *Career Exploration* was treated as the independent variable in the study while the following outcome variables were identified as dependent variables of interest: retention to graduation (within six years), time to graduation (measured by semesters and credits), number of course withdrawals, and overall academic success (measured by cumulative GPA at time of graduation). To try to isolate the impact of the course, a semi-random

comparison group comprising students who did not take the class was likewise assessed on each outcome variable.

Results revealed no significant differences between the two groups in terms of retention to graduation (within six years), semesters to graduate, and number of course withdrawals. However, results indicated statistically significant differences between the quasi-experimental group and the comparison group in terms of credits taken to graduate (with course-participants graduating with more credits than non-course participants) and cumulative GPA (with course-participants graduating with higher cumulative GPAs than non-course participants).

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Appendix

Review of Literature

Since its inception, work and career-related issues have been central to the aims and scope of counseling psychology as a discipline. Beginning with the work of Parsons (1909) and on through more contemporary theorists (e.g., Super, Krumboltz, Gottfredson, and Savickas among others), many have theorized and written about the unique challenges involved in deciding on a career and the most effective ways to intervene with individuals who struggle to know how to decide on a career path. Interestingly, many have made it the focus of their own careers to research and/or provide career and vocational counseling to those in need of such guidance (with counseling psychologists typically appearing on the forefront of this charge).

Few decisions in life carry greater meaning and significance than the selection of a suitable career. In fact, Parsons (1909) in his seminal book, *Choosing a Vocation*, claimed that “no step in life, unless it may be the choice of a husband or wife, is more important than the choice of a vocation” (p. 3). While this decision may be easier for some individuals than others, it remains clear that it is a demanding and challenging developmental task for a majority of the college-aged student population (Hoppock, 1932). As Elkins (1975) pointed out, the rising costs of tuition to attend college and a restricted job market has students feeling added pressure to decide on an academic major and future career in a timely and satisfactory manner. While the job market has certainly altered considerably in the nearly 40 years that have transpired since this assertion was made, the financial cost of attending college continues to be a top concern of and burden for college students today. Haney & Howland (1978) likewise emphasized the influential role of financial cost in career decision-making by noting a trend to offer career development

courses aimed at freshmen and sophomores “before too much time, energy, and money have been invested in an unsatisfying direction” (p. 76).

What follows in this literature review is a comprehensive look at historical and contemporary research in the field of career counseling (variably referred to as career, work, or vocational counseling and guidance) with particular attention to the intervention of career exploration courses in the university setting to provide direction to college students as they decide on their preferred majors and prepare for careers. In order to accomplish this comprehensive overview, I will begin by discussing some of the reasons that motivate implementation and use of career exploration courses as a career intervention. I will then relate a brief history of career counseling, emphasizing the use of career courses, which will set the stage for a description of the current prevalence of career courses in colleges and universities across the country. This will provide a useful context for examining and summarizing the findings of relevant research studies conducted on the effects of career courses for students. Finally, I will conclude by evaluating the state of the current available research and make a case for the viability and timeliness of the proposed study.

Reasons for Career Courses

Many reasons have been cited to explain why career courses were developed and implemented in the college and university setting. For the purposes of this review, I will extrapolate and identify four: the connection of careers to psychological well-being, retention to graduation, economic efficiency, and the benefits afforded by group career interventions as in the case of career exploration courses. Each will be discussed in turn.

Careers and psychological well-being. It has been well established that work satisfaction and career stability are connected to psychological health and well-being. (Blustein,

2008; Brown & Brooks, 1985; Brooks & Brown, 1996). Conversely, it has also been established that career difficulties and obstacles are connected to such psychological problems as anxiety and depression, particularly in the young adult population of college students (Brown & Strange, 1981).

Career courses are seen as one way to intervene with individuals and promote mental health. Particularly from the perspective of counseling psychology, this is a role and responsibility that is a natural extension of the aims of the discipline and was a part of its founding philosophy from its beginning (Fretz, 2001; Howard, 1992). This compatibility was not always the case, however, at least not concerning the presence of career courses at colleges and universities. As Borow (1960) observed, “The hard core intellectualism which so many colleges are now vigorously espousing permits little room for classes which have as their chief aim, that of helping the student attain an increased measure of psychological well-being” (p. 76). Clearly, this was a sentiment that has since shifted significantly from one of reluctance and uncertainty to active acceptance on most American campuses of higher education.

Retention. One of the most oft-cited reasons explaining the need for career development courses in higher education is that of retention and addressing the common problem of attrition among university student populations (Noel, Levitz, & Saluri, 1985; Tinto, 1993; Upcraft & Gardner, 1989; Yorke, 1999). According to Tinto (1993), there is a “massive and continuing exodus from higher education” in which more students leave their college before completing a degree than those who stay (p. 1). While this national tendency may not be as prevalent at Brigham Young University (the site for this study), it certainly is a concern that students are not progressing to graduation in a timely manner.

Economic efficiency. Of particular interest to university administrators and students alike is the financial cost of attending college. It has been argued that participation in a career development course could lessen the financial burden on students by expediting the process. If students have a clearer view of their goals and purposes at the university, they may be enabled to pursue those goals and experience fewer obstacles in the meantime, particularly those tied to career indecision and doubt. As Folsom (2000) has pointed out, whatever we can do to increase efficiency is of utmost importance to higher education as a whole.

In view of ever increasing administrative costs experienced in higher education combined with increasing enrollments in many parts of the country, efficiency in the pursuit and award of degrees is of central concern to higher education administrators and state systems of higher education (p. 113).

Group benefits of classes. Many have also argued that there are distinct benefits that come from a group intervention approach to career concerns. These benefits tend to fall into one of two categories: the interactions of group and the efficiency of group. As early as 1960, Borow recognized the interaction benefit of utilizing groups in vocational guidance:

Where educational and vocational guidance are concerned, there are potential interaction advantages of the group setting as a learning environment which cannot easily be duplicated in the private relationship between student counselee and adult counselor. But these are rational arguments, and it is necessary to repeat that not much evidence is at hand on the comparative outcomes of group vocational guidance and individualized vocational counseling. (p. 80)

Ripley (1975) was also a proponent of a group career intervention, but more on the side of efficiency. She advocated the use of large career classes, arguing that the experience of the

large class could be extremely valuable and convenient in reaching large numbers of students. Davis & Horne (1986) likewise identified the efficiency benefit of group interventions by comparing a small group counseling approach with a career course. They found that the career course was just as effective, leading the researchers to conclude that career courses warranted further research and implementation as a cost-effective solution reaching more people.

A History of Career Courses

In order to trace the historical implementation of career exploration courses, it will be helpful to use a sequential, linear approach. It bears noting, however, that my intention in so doing is to make a rich history accessible in a convenient and intelligible way. As Robinson (1995) has argued, using a sequential approach like this to relate a dynamic history is more a matter of convenience than accuracy and it should not be taken to mean that a complex, sociocultural history (as in the case of the history of career development courses) can be reduced to dates and events of the past. That being said, to fully understand the current state of the research on career development courses, it is helpful to first make an accounting of the work and writings of its earlier theorists and researchers.

Since Frank Parsons is commonly known as the founder and father of Vocational Psychology (historically referred to as Vocational Guidance), I will start by introducing the reader to Parsons and recount his influence on career counseling generally, largely drawing upon his most well-known written work, *Choosing a Vocation* (1909). Following the work of Parsons, I move on to discuss some of the earliest recorded instances of career courses in higher education, roughly corresponding to the decades of the 1920s and 1930s. Next, I relate what I have called a proliferation of career courses which took place in the 1970s. Due to a general shift in focus that appears to occur in the 1980s—with most available literature turning from

description of career courses to evaluation of the impact of said courses—I will conclude this history at the close of the 1970s and relegate the remainder of the literature to my later discussion of the effects of career courses on student outcomes. It bears repeating that not all research prior to the 1980s dealt with course description rather than course evaluation. Notable exceptions will be identified. However, since the vast majority of studies published during this time—from the 1930s through the 1970s—dealt with career course description, it represents a useful theme to encapsulate general trends in the research.

The theory and influence of Frank Parsons (1854-1908). Although a thorough exposition on the life and achievements of Frank Parsons is beyond the scope of the current review, the reader is referred to other works to find such tributes (e.g., Davis, 1969; Mann, 1950; Jones, 1994; and O'Brien, 2001). Suffice it to say that Parsons' influence on the field (and founding) of vocational psychology cannot be overstated. Long before Holland (1996) released his theory on the importance of matching personality characteristics with corresponding characteristics of the job environment, Parsons (1909) wrote, "To win the best success of which one is capable, his best abilities and enthusiasms must be united with his daily work" (p. 5). Indeed, the man (or woman) who successfully achieves such a task has "laid the foundations of success and happiness" (p. 3). Similarly, Savickas's narrative approach has clear roots in the work of Parsons who also emphasized the importance of interviewing individuals. "Ancestry, family, education, reading, experience, interests, aptitudes, abilities, limitations, resources, etc., are inquired into with a vigor and directness that are not possible in a written research" (p. 7). Parsons even found it useful to inquire about clients' hobbies and spare time interests (a common theme of questions in the career-style interviewing popularized by Savickas).

Parsons (1909) theorized that choosing a vocation well required three broad factors. The first factor was a clear and thorough understanding of one's self. This understanding must include, according to Parsons, being aware of and understanding one's "aptitudes, abilities, interests, ambitions, resources, limitations, and their causes" (p. 5). The second factor Parsons identified had to do with knowing adequate and appropriate information regarding the various careers (particularly those under consideration of the individual). That is, the deciding individual needs a knowledge of what is required to be in a certain line of work (qualifications), what he/she can expect to make in terms of money (compensation), pros and cons of the job (costs and benefits), and what potential there is for growth and promotion (prospects). Parsons described the third and final factor required for wisely choosing a career as "true reasoning on the relations of these two groups of facts [understanding of self and knowledge of careers]" (p. 5).

Perhaps the most fundamental (and oft repeated) theme in Parsons' work was an emphasis on taking seriously the task of choosing a vocation. "There is no part of life where the need for guidance is more emphatic than in the transition from school to work—the choice of a vocation, adequate preparation for it, and the attainment of efficiency and success" (p. 4). He often compared the "building of a career" with the "building of a house" pointing out that building a career is just as difficult and problematic as constructing a house, but not nearly as carefully attended to.

...few ever sit down with pencil and paper, with expert information and counsel, to plan a working career and deal with the life problem scientifically, as they would deal with the problem of building a house, taking the advice of an architect to help them. (p. 4)

It may be appropriate to say that Parsons wrote with the purpose of providing a blueprint, of sorts, for the complex process of career decision-making. While he emphasized that "no person

may decide for another what occupation he should choose,” Parsons also felt strongly that “it is possible to help him so to approach the problem that he shall come to wise conclusions himself” (p. 4).

Earliest career courses (1920s and 1930s). While there is some debate about where and when the first for-credit college course in career development or exploration took place, it is evident that some universities in the nation included vocational guidance as a key component of freshmen orientation to college as early as 1911 (Maverick, 1926). Folsom and Reardon (2003) cited a career course offered for women at Barnard College, Columbia University with the title *Professional Occupations: Their Scope, Functions, and Newer Developments* as one of the first of its kind, beginning in 1921. According to Carter & Hoppock (1961), career courses have been offered since 1923, when Edgar J. Wiley taught one of the earliest recorded units on careers as part of his class, *Problems of Contemporary Civilization*. In a large study that took place from 1920-1921, Harvard working with the United States Bureau of Education (Maverick, 1926) reported that the College of the Pacific in California offered a class called *Vocational Opportunities for Women* (an elective course for academic credit) in 1917. They also found a course at Montana State called *College Education*, offered since 1917 and required of freshmen during their first quarter, which served as orientation and discussed the importance of choice of curriculum.

Many (Folsom, Peterson, Reardon, & Mann, 2005; Folsom & Reardon, 2003; Smith-Keller, 2005) consider the first comprehensive course in career development to be the University of Minnesota’s *Vocational Planning* course which has been offered since 1932 (Borow, 1960). While we may not know with certainty which can be most accurately described as the inaugural

college career course, it seems clear that the offering of such courses has a long standing tradition in American universities and colleges.

Catalog descriptions. It is interesting to note that a study of the catalog descriptions of career courses offered by Hoppock (1932), Carter & Hoppock (1961), and Borow, (1960) yields certain common curricular features that can be used to describe what most career courses tend to entail. This can be seen especially in examining stated course aims. The course aim of *Occupations 112* offered at the Agricultural and Technical College of North Carolina was to “help the individual student find his place in the world of occupations...Special attention is given to the personal qualifications for the various occupations” (Hoppock, 1932, p. 366). A course which was entitled simply, *Guidance*, and offered at Bluffton College in Ohio, sought to orient students to college “as well as to bring them face to face with vocational choices” (p. 366). Also in Ohio, at Oberlin College, a course called *Vocational Information – Selection of a Vocation* “provide[d] students with a technique for analyzing themselves and also ma[de] available information concerning a number of occupations of interest to college students” (p. 367). Finally, at Union University in Tennessee, *Vocational Education – Vocational Guidance or How to Choose a Career* “aid[ed] the students in taking their own measure physically, mentally, and spiritually, in analyzing their own talents, capabilities, desires, in analyzing the requirements of the various vocations and thus enabling them to choose intelligently among them” (p. 368).

Many if not all of the course catalog descriptions made some mention of providing accurate information about careers to help students make informed decisions. Hoppock and Tuxill (1938) held that “the majority of individuals are likely to be more rational about their vocational choices when they make them with accurate knowledge of vocations than when they make them without such information” (p. 360). Similarly, Stevens and Hoppock (1956) also

noted that even though courses did vary in title and content, all the courses were made with the intent to increase student awareness of occupations open to them, what various careers require and what they offer.

Devlin (1974) categorized career courses into three main types (which even the earliest catalog descriptions seem to support): (a) the job-oriented course designed to give upperclassmen resources and aid in their career preparation (with an emphasis on constructing “effective job-hunting campaigns”), (b) the occupational-information course (with the emphasis on offering information about careers), and (c) “career dynamics” courses (made to help students develop learning skills which would ultimately enable them to gain insight into the relationship between self and the world of work) (p. 64).

A transition in focus. As I have attempted to illustrate, it appears that most of the available literature prior to the 1970s dealt with description rather than evaluation of career development courses—with notable exceptions (Babcock & Kaufman, 1976; Bartsch & Hackett, 1978; Evans & Rector, 1978; Ganster & Lovell, 1978; Stone, 1948). While early researchers speculated that implementing career courses would prove to be an effective intervention, much of what they did was write to the convincing of those in power and influence in the college setting that career courses were not only needed and potentially extremely helpful, but also viable as an accredited course. Borow (1960) was quite explicit on the matter when he admitted that his own writings were nothing more than “rational arguments” and that “not much evidence is at hand on the comparative outcomes of group vocational guidance and individualized vocational counseling” (p. 80). Fortunately, the state of the research has obviously changed considerably in the more than fifty years that have passed since Borow’s statement and we now do have a great deal of information about the effects of group career counseling interventions

compared to individual career counseling (e.g., Brown & Krane, 2000; Hardesty, 1991; Oliver & Spokane, 1988; Whiston, Sexton, & Lasoff, 1998).

Hoppock & Tuxill (1938) recognized the need for research that would evaluate the use of the career courses across the country. In a statement that would prove prophetic in its scope, both in the sense of referring to the need for evaluative research on the effectiveness of career courses and in their estimation of the need for these types of courses for the average undergraduate, these researchers wrote the following about this developing literature:

Virtually no attempt has as yet been made to evaluate the effectiveness of any of the courses offered, nor has any really comprehensive exposition been attempted of the basic educational needs for such courses. A few textbooks are available...a voluminous literature is developing rapidly in this area. Much of it is vague, some of it inaccurate, but with all of its limitations it is far better than the naïve concepts of the average undergraduate. (p. 360)

A proliferation of career courses (1970s). As previously indicated, the 1970s was a time of immense growth in the number of universities and colleges offering career development courses. Florida State University initiated a career development course in 1973 (Lee & Anthony, 1974) which has since become the subject of substantial research in this area (Folsom, 2000; Folsom et al., 2005; Folsom, Reardon, & Lee, 2005; Reardon, Folsom, Lee, & Clark, 2011; Reardon, Leierer, & Lee, 2007; Reed, Lenz, Reardon, & Leierer, 2000). Elkins (1975) described a career workshop offered during freshman orientation at State University of New York College at Plattsburgh.

Responding to a common concern that career course classes should be kept small to preserve the benefits of one-to-one contact, Ripley (1975) argued that large class sizes should

also be considered and described how the University of Oregon was taking advantage of a large class format to reach more students in the career development course they established in 1973. Similar career courses were introduced at the following universities during this time: University of Maryland in 1975 (Touchton, Wertheimer, & Cornfeld, 1977), University of Alabama in 1975 (Comas & Day, 1976), Southwest State University in 1976 (Bechtol, 1978), Central Michigan University in 1977 (Gillingham & Lounsbury, 1979), University of Nebraska-Lincoln (Heppner & Krause, 1979), and Southern Illinois University, (Evans & Rector, 1978).

Prevalence of Career Courses

One of the earliest systematic explorations into the prevalence of vocational guidance practices in American colleges and universities was conducted by the faculty of Stanford University from 1911-13 (Maverick, 1926). As part of the larger project, a self-study was conducted by committees established for the express purpose of investigating what was currently being done in the departments of the university to provide “individual training and vocational guidance” to its students (p. 9). Interestingly, the Department of Electrical Engineering offered a course for freshmen (instituted in 1911-12) aimed at providing their students with “an idea of the real conditions of industrial life” (p. 10). In 1912, the committees broadened the scope of their investigation by sending a questionnaire to the heads of colleges and universities in the United States. Among many other interesting findings, this survey revealed that Reed College had offered a 1911-12 course under the title of “College Life” with the following description: “History and meaning of the college; choice of studies; methods of study; student activities; college ethics; the choice of a vocation” (p. 22).

In 1920, the United States Bureau of Education teamed up with Harvard University and conducted a nation-wide study survey of vocational guidance in American colleges and

universities. A detailed report of the study was written by Lewis Maverick (1926) in *The Vocational Guidance of College Students*. Questionnaires were mailed to administrative heads of every university and college in the country. While the questionnaire did not distinguish between types of career courses offered, 23 institutions indicated that they offered some sort of vocational orientation course.

With the assistance of the Vocational Guidance Association, Hoppock (1932) compiled and reproduced course catalog descriptions from eighteen institutions of career exploration courses “designed to aid college students in choosing careers” (p. 366). A few years later, a similar study of catalogs (Hoppock & Tuxill, 1938) revealed a considerable increase in the number of schools offering a career course; they found 85 such course descriptions in 71 schools. Nearly twenty years later, Stevens and Hoppock (1956) described in more detail the career courses of eleven colleges and reported that such courses were “still new enough to be offered in only a small percentage of institutions” (p. 502).

In 1961, Carter and Hoppock reported 46 courses offered by 40 colleges “to inform students about occupational or employment opportunities open to them at graduation” (p. 373). Three years later, Calvert, Carter, and Murphy (1964) surveyed all two and four year colleges and universities. Improving upon similar surveys of the past, Calvert et al., eliminated courses that had deceiving titles by examining course content in addition to course titles and removed courses that did not actually deal with career development and exploration. They also sent the survey to all institutions listed in *Higher Education* while previous studies used various sampling techniques, included junior colleges where previous studies did not, and only examined credit courses. In so doing, these researchers found that among the 1,023 colleges and universities that responded, only 70 (6.8%) offered what they termed “occupational adjustment courses” (p. 680).

That percentage increased slightly in the next ten years, as Devlin (1974) reported that about 10% of the responding institutions in his survey were offering career course, with another 15% indicating that they were in the planning stage of initiating such a course.

Two additional studies answered slightly different but related questions concerning the prevalence of career education services. The first was about how many colleges were offering for-credit career courses. Haney and Howland (1978) surveyed 2,400 four-year and two-year colleges (of which 916 responded), and found that 353 (38.5%) offered courses for credit. The second study involved surveying how many colleges had a formal career services office on their campus. Reardon, Zunker, and Dyal (1979) found that of the 299 useable questionnaires returned, 249 (83%) institutions said yes. In addition, 29% of these institutions reported offering a career planning course for credit.

More recent surveys indicate that career exploration courses have only increased in popularity. Mead and Korschgen (1994) sent a questionnaire to two institutions in each of the 50 states in the country. Of the 61 who responded (representing 32 of the 50 states), 38 (62%) reported offering a career course at their school. Collins (1998) found that 29.8% of respondents offered a career preparation course for credit while Halasz and Kempton (2000), reported that a little more than two thirds of the respondents in their study indicated having some sort of career course available for students.

Effects of Career Courses

With the first career courses appearing in colleges and universities in the early 1900s, the last century has produced an abundance of research evaluating the impact of these courses on various variables. Folsom and Reardon (2003) in a comprehensive literature review on the subject, distinguished between what they termed outputs and outcomes of career interventions.

“In this model, outputs refer to the skills, knowledge, and attitudes acquired by participants as the result of an intervention” (p. 427). Some examples of common outputs in studies looking at career courses are increased career maturity, more positive career-related thoughts, and increased career decision-making skills. “In contrast, outcomes of career service interventions refer to the resultant effects occurring at some later point in time” (p. 427). For example, common outcomes of interest when studying career courses are deciding on an academic major and efficient time to graduation. While the clear majority of studies conducted have examined the immediate outputs of career courses—such as career decision-making and confidence—few studies have looked at the long-term effects of career courses on variables such as time to graduation (with notable exceptions).

Since the majority of studies from the 1980s through the present have to do with output variables, my summary of this portion of the literature will be necessarily brief in order to cover the breadth of available research. After sifting through the output studies, I will turn my attention to the studies of outcome variables, spending more time on the particular studies that the current project attempts to replicate (Folsom, 2000/Folsom et al., 2005; Goodson, 1982; and Smith-Keller, 2005). I conclude this portion of the literature review with a discussion of the available meta-analyses on the effectiveness of career interventions (career courses included as such).

Output studies. In an extremely detailed recent review of career course literature, Reardon, Folsom, Lee, and Clark (2011) examined 74 articles dealing with the effectiveness of career planning courses in colleges and universities throughout the country. In those 74 articles, Reardon et al. isolated 61 findings dealing with output effects (compared to 21 findings addressing outcome effects). Much like I have argued in this review, research in this area (i.e., of the evaluative rather than descriptive sort) was rare before 1970s and early 1980s. However,

around this time (the early 1980s) research expanded at an impressive rate. It will be helpful to categorize these studies by their methodological design.

Pretest/Posttest design. The vast majority of studies of this kind and time (output studies from the early 1980s to the present) were conducted using a pretest-posttest methodological design. All of the studies presented herein are of this sort and in roughly chronological order. Johnson, Smither, and Holland (1981) used a measure called My Vocational Situation and one of their own invention and found that students who participated in one of two career development seminars being offered raised their level of vocational identity. Barker (1981) used a different measure but found a similar result. Using the Assessment of Career Decision-Making (and an instrument she designed herself), she found that the course under examination, *Career Planning and Decision Making for College*, yielded a positive effect on students' career decision-making ability and selection of a major. Rayman, Bernard, Holland, and Barnett (1983) looked at the subscales of the My Vocational Situation in a pre- and post- administration to college students of a career class undecided about their major. They reported large main effects for the Identity and Occupational Information scales but not for the Barriers scales. Using two comparison courses, Stonewater & Daniels (1983) found that the students in the guidance course increased in their cognitive development.

Remer, O'Neill, and Gohs (1984) looked at multiple effects of a life-career development course using eight career inventories. In an article published in the *Journal of Counseling Psychology*, these researchers reported that participants were significantly less intuitive and dependent and more rational in their decision-making styles. They reported being more certain of their major and career choices and tended to collect more career information. Finally, participants had fewer vocational identity problems after completion of the course. Once again

using My Vocational Situation, Ware (1985) found that a career course designed for upper-level college students increased the students' job search skills, their knowledge about themselves, and the world of work.

Carver and Smart (1985) used a pre- and post- administration of the Career Maturity Inventory and the Career Decision Scale and found that the career and self-exploration course under examination had a positive effect on academic major selection, career decidedness, and career maturity. Relying upon the same measures, Davis and Horne (1986) compared the effect of a career course with small-group career counseling and found no significant difference between the two treatments. Both provided students with significant increases in career decidedness and maturity. Lent, Larkin, and Hasegawa (1986) sought to discover whether a focused interest career course approach would yield similar findings to other studies looking at generic career development courses. They found that the course reduced career indecision and increased career information and self-knowledge.

In 1987, Roger Bash completed his dissertation at Florida State University (a pioneering institution in the field of career course development and research) on the changes in cognitive structures experienced by students of a career course. Bash used eight instruments administered as pre- and post- tests. While many of the research questions yielded insignificant results, a positive effect was detected for career choice certainty and satisfaction.

One of the earliest studies conducted in the 1990s continued to verify what previous studies had been evidencing in the previous decade. Incorporating two popular computer-based career interventions (SIGI and DISCOVER), Garis and Niles (1990) found that career courses had a positive effect on career decidedness for students at two universities involved in the study. Similarly, Oreshnick (1991) found that participation in a career course was related to significant

gains in career decision-making self-efficacy. Higbee and Dwinell (1992) used a different measure (the Student Development Task Inventory) but found that students enrolled in a self-awareness course required for “underprepared” (p. 26) students demonstrated growth on a series of developmental tasks including establishing and clarifying purpose—which involves having well-defined educational goals and plans, a synthesized understanding of themselves and the world of work, lifestyle planning and life management, etc.—academic autonomy, a salubrious lifestyle, and intimacy.

In 1993, Johnson and Smouse used a multidimensional approach to assess a career-planning course. They found that the course had a positive effect on career decidedness. Henry (1993) likewise found that a career development course positively impacted vocational identity. The connected variable of career maturity was shown by Robinson (1995) to be improved by the career development course under consideration.

In a rare published study that found no significant gains in career decision among its students after participating in a career decision-making course, Kern (1995) did find that students enrolled in the course had higher indecision scores to begin with than the control group of the study. Kern suggested that this still provides evidence that supports continued use of career courses as a career education intervention because students with higher career indecision did enroll in the class.

Using the Career Thoughts Inventory, Reed, Reardon, Lenz, and Leierer (2001) found that students who took the career development course at the university showed significant decreases in their negative career thoughts. With the Career Decision Scale, Peng (2001) found that a career education course offered to freshmen students in Taiwan, decreased career indecision. Using multiple inventories (the Career Decision Scale, the Career Maturity Inventory

and the Career Factors Inventory), Hung (2002) found increased career certainty and decreases in career indecision, generalized indecisiveness, and choice anxiety.

Examining a group of racially and ethnically diverse college freshmen, Osborn, Howard, and Leierer (2007) found that these students' dysfunctional career thoughts were significantly diminished following a career development course. Interestingly, these researchers also discovered that freshmen with the highest level of dysfunctional career thinking showed the most dramatic decrease after the course regardless of gender, race or ethnicity. In a similar vein, Scott and Ciani (2008) found that students reported significantly more adaptive self-efficacy beliefs and a stronger sense of vocational identity after a career course and that the course was particularly effective for women's judgments of efficacy for career planning and problem solving.

In a slightly different study, Tracy (2008) looked at whether adherence to RIASEC as a career schematic was associated with positive career development outputs. He found that through career course instruction, student changes in adherence to RIASEC were associated with changes in career certainty, career decision-making self-efficacy, and interest-occupation congruence.

In a dissertation comparing the outcomes of two instructional approaches to a career development course, Salter (2008) reported that both courses yielded positive changes in career certainty and decidedness, negative thinking and career self-efficacy. Similarly, Bollman's (2009) dissertation, using the Career Decision Self-Efficacy Scale-Short Form (CDSE-SF) found that scores significantly increased for students from the pre-course to the post-course administration.

Due to the rising popularity of teaching career courses from a constructivist perspective, Grier-Reed, Skaar, and Parson's (2009) study assessing a constructivist career course was timely

and relevant. Results indicated that students in the career courses showed increased empowerment and certainty with significant decreases in career indecision. Grier-Reed and Skaar (2010) released another study exploring outcomes in their constructivist career course a year later in which they found a similar increase in empowerment or career self-efficacy, but no accompanying decrease in career indecision. Although not assessing a constructivist career course, Fouad, Cotter, and Kantamneni (2009) found that students who participated in a college career course reported that their career decision-making difficulties decreased, career self-efficacy increased, but perceptions of barriers did not change significantly.

In an even more recent study, Thompson and Feldman (2010) found that students participating in a *Let Your Life Speak* course, showed an increased sense of calling, life/work meaning, and a greater confidence in their ability to achieve goals. Also dealing with output variables (though deceiving since they refer to their data as outcome data) Reese and Miller (2010) found that students maintained their improvements in career decision-making self-efficacy after alterations were made to the course.

Mixed methods. While many of the studies assessing output effects of career courses clearly relied heavily on the pre/post design, a handful of studies took advantage of other methodological options. These studies are presented and summarized here.

Johnson, Nichols, Buboltz Jr., and Riedesel (2002) used a quasi-experimental design to assess the impact of a holistic career and life-planning course offered to college students. These researchers included a control group, which also completed the battery of measures concerning personal growth. They found that the course participants reported increased vocational identity and career decision-making self-efficacy with associated decreased career indecision.

Three more studies used nonequivalent comparison groups (Chien, Fischer, & Biller, 2006; Reese & Miller, 2006; and Shearer, 2009). Chien et al. (2006) reported that Taiwanese college students who participated in a metacognitive and planned happenstance career training course showed significant increased career competencies across several areas including cognitive, metacognitive, affective, and behavioral dimensions. In the Reese and Miller (2006) study, students who completed the course showed increased decision-making self-efficacy and also seemed to lower perceived career-decision difficulties. Finally, Shearer (2009) found that low intrapersonal intelligence scores predicted undergraduates with moderate to high levels of confusion.

Outcome studies. As previously indicated, Reardon et al. (2011) in an extensive, comprehensive literature review, summarized the findings of 74 articles on the effectiveness of career courses in American higher education. Of the 82 findings identified in these articles, 61 were output-related and 21 addressed outcome effects. In my own survey of the literature, I found a similar dearth of outcome studies when compared to the abundance of output studies in the evaluation of career courses' impacts. Since we now arrive at the portion of this research that best situates my study, I will briefly identify a couple of studies that examine outcome effects of career courses and then provide a more in-depth description of two studies in particular that this study replicated (Folsom, 2000, 2005; Smith-Keller, 2005).

A particularly relevant study to the current discussion is one that was conducted over thirty years ago, on the campus of Brigham Young University (Goodson, 1982). A short-term career class (in the form of an orientation seminar) offered to undecided students in 1966 was evaluated 10 years later to assess how its students fared in comparison to students who had not taken the course on a number of outcome variables. Data analyses indicated that a significantly

higher percentage of students originally enrolled in the class graduated during the 10-year period than the control group of those who had not taken the class. No significant differences were found between the two groups in the number of changes of college major. As far as a gender effect, while no significant differences were found among the men of the two groups, a significantly greater percentage of the women who took the class completed four years of college. It should be noted that Goodson indicated that “follow-up studies might focus on evaluating the impact of recently developed, longer-term, credit career classes” (p. 1).

A more recent outcome study was conducted by Sidle and McReynolds (2009) who investigated the relationship between a freshman year experience course offered at the university and student retention and success. Although not exactly a career exploration course, many orientation courses include significant career components (Maverick, 1926) and the results are instructive:

Students who participated in the course were found to continue their enrollment to the fall term of their second year at a higher rate, complete more of the first academic year, earn higher cumulative grade point averages, and have higher ratios of earned credit hours in relation to the number of credit hours attempted (Sidle & McReynolds, 2009, p. 434.)

Folsom, 2000/Folsom et al., 2005. In 2000, Byron Folsom submitted his dissertation for Florida State University which detailed and reported an *ex post facto* study examining the for-credit career development course that had been offered at their institution for nearly 25 years. Specifically, they used criterion sampling to look at students who completed the course between 1989-1990 and 1993-1994, yielding a sample size of 544. In order to be included in the study, students had to have completed all 3 units of the course and earned a grade of B-minus or higher (on a traditional academic scale of A-F). A comparison sample of students that did not take the

career course were matched to the course participants based on race, gender, high school grade point average (GPA), SAT score, class year, major category, and initial year of matriculation ($n = 544$). The outcomes for which they assessed both groups included “retention to graduation, time taken to graduate, the number of credit hours taken to graduate, the number of course withdrawals executed by students, and academic success as indicated by cumulative GPA at graduation” (p. xii).

Chi square tests of independence were used to compare between group differences concerning race, class level, and major category while matched sample t tests were used to compare group means on the following criteria: SAT scores, high school GPAs, and year of matriculation. Based on results of these statistical tests, the researchers concluded that the groups were adequately matched according to gender, race, and high school GPA. However, significant differences were found between groups when it came to SAT score, class level, and year of matriculation so it was decided to treat these three criteria as covariates in the data analysis. It was noted that even though between group differences were found concerning academic major field category, this variable could not be entered as a covariate in the study because it consisted of nominal data and thus was not controlled for. According to Folsom (2000), “...data analysis proceeded with the understanding that this uncontrolled factor should be considered in the interpretation of results” (p. 75).

The two groups (course participants and a matched sample) were compared using MANCOVA. They found no statistically significant difference between course participants and non-participants in terms of graduation, time to graduation (in months), and cumulative GPA. Interesting, there were statistically significant group differences on the outcome variable of credit hours to graduation but in the opposite direction than expected with non-participants

graduating with about 1 credit less than course participants. “Although this result was statistically significant, effect size of (ES = .03) indicated the absence of practical significance” (p. 108). The one statistically and practically significant finding reported was number of course withdrawals executed, with course participants withdrawing less, on average, than course non-participants (though the difference was slight).

Smith-Keller, 2005. In a replication of Folsom (2000), Smith-Keller’s (2005) dissertation also examined long-term student outcomes following a career development course. In her study, Smith-Keller compared students who had taken the class from 1994-1998 (N=349) with a quasi-control sample (N=759) who were “matched as closely as possible...based on entering ACT score and gender” (p. iii). The study asked basically the same questions as Folsom’s with two additional research questions: “To what extent does gender relate to differences in persistence rates of university students who have taken a one-credit career course compared to those students who have not?” and “To what extent does entering ACT score of students in the study relate to differences in persistence rates of university students who have taken a one-credit career course compared to those students who have not?” (p. 6).

Smith-Keller (2005) used *t* tests of difference in her statistical analysis and found that students who took the career course had a persistence rate that was significantly higher than the Nonclass Cohort; they took fewer credits to graduate on average (140.88 compared to 162.51); students in the Class Cohort took less time to graduate than the Nonclass Cohort. Interestingly, unlike Folsom (2000), Smith-Keller found no significant difference in groups in terms of number of course withdrawals (or drops). Finally, Smith-Keller found a significant gender effect with women persisting to graduation at a higher rate than the men (in both groups); similarly, students

with higher ACT scores (from both groups) graduated at higher rates compared to a low ACT score group.

Meta-analyses. To conclude this summary of studies on the effects of career development courses, I will present the available meta-analytic findings relevant to this discussion. One of the earliest studies to use meta-analysis to examine the effectiveness of vocational interventions generally was that of Spokane and Oliver (1983). In the *Handbook of Vocational Psychology*, they published a chapter in which they reported the results of their meta-analysis of vocational intervention studies published between 1950 and 1980. They isolated 90 studies that met their criteria for inclusion and of those 52 had a control group in addition to one or more experimental groups. Spokane and Oliver (1983) were able to locate and access the data necessary to calculate effect sizes (any study that did not provide them with the needed data was excluded from the analysis). The meta-analysis yielded a mean effect size (ES) of .85 across all 52 studies: a significant difference was found between the average subject who received a vocational intervention and the mean of the non-treated controls.

Especially relevant to the proposed study, Spokane and Oliver (1983) identified 28 of the 52 studies used some sort of structured workshop, supportive group, or class intervention as the treatment variable (this constituted the largest group of controlled studies). This was the subject of the author's second conclusion of the meta-analysis, namely, that "the outcome status of the average client receiving group/class vocational interventions exceeded that of 87% of untreated controls" (p. 118). Individual interventions were also seen to be more effective than untreated controls (with an average effect size of .87). Overall, the authors concluded that vocational interventions on the whole have beneficial effects.

Five years later, Oliver and Spokane (1988) expounded upon their earlier analysis and used “more sophisticated coding and analysis procedures to examine the relations between study characteristics and outcomes” (p. 447). This time around, the authors located 58 studies containing a combined 7,311 subjects with 240 treatment-control comparisons. Significantly, class interventions were found to be the most effective but required the most intervention hours, while individual career counseling produced more client gain per intervention hour than any other treatment mode. Also improving upon their previous meta-analysis, Oliver and Spokane (1988) noted that clear differences in effectiveness among the various treatment modes meant that clinicians and professionals should consider this finding in intervention selection.

In a 1998 replication of Oliver and Spokane’s 1988 meta-analysis, Whiston et al. examined career intervention studies published between 1983 and 1995. 47 studies were identified with 268 treatment-control comparisons. A smaller effect size was found—0.45 as compared to the 0.82 effect size Oliver and Spokane (1988) found—but the difference was slight (less than half a standard deviation). Overall, the authors concluded that their findings supported Oliver and Spokane’s assertion that career interventions are effective.

Hardesty (1991) targeted career courses specifically in her meta-analysis, which included “both the analysis of the differential outcome between groups as well as the analysis of the quantity of gain reported for undergraduate courses” (p. 184). Eight studies using a control group were found and used in the differential analysis and eight studies using pretest and posttest data were included in the gains analysis (some studies appeared in both groups). Hardesty found a weighted mean effect size of .44 for career maturity and .36 for career decidedness in the improvement direction of experimental groups over control groups. Additionally, the weighted mean effect sizes for gains achieved by students in the courses were .40 for maturity and .48 for

decidedness. Results from this meta-analysis confirmed the particular effectiveness of undergraduate career courses for credit in increasing career maturity and career decidedness.

State of the Research

As the work of Folsom & Reardon (2003) and Reardon et al. (2011) confirmed, much research has been conducted which suggests that the use of career courses in the university setting has strong, positive impact on students' career decision-making ability and other output variables of interest—such as diminished career indecision, decreased negative career thoughts, reduced career anxiety, and increased career knowledge, self-knowledge and skills. What is less established is the long-term impact of these career courses on outcome variables like retention, graduation rate, and academic performance. This is an area of the research that is not only lacking but at times seems to conflict. More research on outcomes could clarify and further validate the continued use of career courses in universities and colleges.

While Ripley's (1975) prediction has proven correct that career planning courses would continue to grow in popularity to the extent of becoming "commonplace" on college campuses, more can be done to assess the consequential impact of these courses on student and institutional outcomes. As Reardon et al. (2011) iterated, "the ultimate value of career courses in higher education will probably be most affected by outcome research that documents the impact of courses on student retention in college and the quality of work and life roles after college" (p. 7).

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