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The Effect of a Career Development Course on the Dysfunctional Career Thoughts of Racially and Ethnically Diverse College Freshmen

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Abstract

Pre- and posttests revealed that the dysfunctional career thoughts of 158 racially and ethnically diverse college freshmen were significantly reduced following a 6-week, 1-credit-hour career development course. Freshmen with the highest level of dysfunctional career thinking indicated the most dramatic decrease. These reductions in dysfunctional career thinking occurred irrespective of students' gender or race/ethnicity.

Committing to a career choice is one of the main psychosocial tasks that college students face. Undergraduate career courses have been shown to have a positive effect on students in general (Folsom & Reardon, 2000; Oliver & Spokane, 1988; Whiston, Sexton, & Lasoff, 1998). Career courses have also resulted in reduction of negative traits, including career indecision (D. C. Johnson & Smouse, 1993; P. Johnson, Nichols, Buboltz, & Riedesel, 2002; Peng, 2001; Quinn & Lewis, 1989) and dysfunctional career thoughts (Reed, Reardon, Lenz, & Leierer, 2001), as well as increases in positive traits, such as career decidedness (Hardesty, 1991; P. Johnson et al., 2002) and vocational identity (Remer, O'Neill, & Gohs, 1984). Other positive effects of career courses have included gains in self-concept (Carver & Smart, 1985) and self-esteem (Wachs, 1986). In addition, Folsom, Peterson, Reardon, and Mann (2002) found that students who completed an undergraduate career planning course had higher graduation rates as compared with the general student population (81% compared with 69%) and graduated with fewer credit hours on average than the general population (110 compared with 132), thus saving the student time and money because they enter the workforce earlier.

Although the positive effect of undergraduate career courses has been consistently demonstrated, the majority of the studies exploring this area used 3-credit-hour classes and included students of all levels (i.e., freshmen, sophomores, juniors, and seniors) as the focus. Four-year colleges and universities often offer a career planning course, and community colleges have also traditionally provided many career-related courses for freshmen. From a programming perspective, knowing whether or not a 1-credit-hour course can achieve positive career development effects is important, regardless of the type of school offering such courses.

We used the research design similar to the one used by Reed et al. (2001) as a model for this current study. Reed et al. examined the impact of a 3-credit-hour undergraduate career course on dysfunctional career thinking, as measured by the Career Thoughts Inventory (CTI; Sampson, Peterson, Lenz, Reardon, & Saunders, 1996a). Dysfunctional career thinking has been defined as a perceptual way of viewing oneself in a manner that "inhibits career problem solving and decision making" (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996b, p. 2).

Dysfunctional career thoughts are similar to Ellis's concept of irrational beliefs in that they often are absolute statements that include words like should, must, or ought and take the form of overarching generalizations with words such as always and never. Examples of dysfunctional career thoughts are "I get so overwhelmed with making a career decision that I just can't get started" and "I'm never good at making decisions." Recent studies have found dysfunctional career thoughts to be a strong indicator of career indecision (Osborn, 1998; Saunders, Peterson, Reardon, & Sampson, 2000), accounting for 61% of the variance in career indecision (Saunders et al., 2000), as measured by the Career Decision Scale (Osipow, Carney, Winer, Yanico, & Koschier, 1976). Sampson et al. (1996b) suggested that cognitive restructuring may be one intervention counselors can use to help clients combat dysfunctional career thoughts.

For their study on dysfunctional career thinking, Reed et al.'s (2001) sample comprised 181 undergraduates (126 women, 55 men), with an ethnic distribution as follows: American Indian (1%), African American (13%), Hispanic American (4%), Caucasian (75%), other (3%), and not classified (3%). Freshmen made up 18% of the sample. Using the CTI (Sampson et al., 1996a) as a pre- and posttest measure of dysfunctional career thoughts, Reed et al. found that dysfunctional career thoughts were significantly reduced by the end of the semester in a 3-credit-hour course. Students with the highest levels of dysfunctional career thoughts at pretest registered the most dramatic reductions at posttest with respect to total dysfunctional thoughts, thoughts related to decision-making confusion and thoughts related to external conflict, as indicated by scores on the CTI scales of the same name. There was not a significant change in thoughts related to commitment anxiety, as measured by this CTI scale. There seemed to be no connection with gender or race/ethnicity for students whose dysfunctional career thoughts were reduced as a result of taking the career course.

The purpose of this current study was to determine if the findings noted in Reed et al.'s (2001) study would be found for an ethnically diverse group of freshmen in a 6-week, 1-credit-hour career course. Although gender and race/ethnicity were not significant factors in the Reed et al. study, these factors had not been examined with respect to a shortened career class structure. It is important to consider gender and race/ethnicity in initial studies because sometimes differences related to gender and race/ethnicity do exist. For example, Creed and Patton (2003) found gender to be a significant correlate with career development knowledge, work commitment, indecision, and school commitment. Other studies have shown gender differences for career maturity, with some showing women being more mature (Fouad, 1988; Luzzo, 1995; Rojewski, Wicklein, & Schell, 1995) and other studies failing to show any differences for gender (Kelly & Colangelo, 1990; Watson, Stead, & De Jager, 1995). An additional purpose of the current study was to focus specifically on freshmen outcomes. Therefore, our questions remained the same as those presented in Reed et al.'s study:

1. Are student gender and/or race/ethnicity related to the nature of career thoughts from the beginning to the end of a 6-week, 1-credit-hour career course?
2. Do dysfunctional career thoughts (as indicated by scores on the CTI) of freshman change from the beginning to the end of a 6-week, 1-credit-hour career course?
3. Do career thoughts related to decision-making confusion, commitment anxiety, and external conflict change from the beginning to the end of a 6-week, 1-credit-hour career course?

Method

Participants

This study was conducted at a southern, national research university, with a student population of 42,000 students, 4,182 of whom were freshman. Students in the sample were enrolled in a 6-week, 1-credit-hour career course and were all participating in the Freshman Summer Institute (FSI) program. The FSI is a university diversity initiative that promotes the academic success of 1st-year students and encourages higher graduation rates by providing academic support and by coordinating campus services. Students accepted into the FSI were considered “alternate admits” by the university. The alternate admit status was defined as students whose high school grade point average (GPA) suggested the potential for academic success but whose test scores did not meet the university admission standards. The goal of the program was to augment academic preparation for students from educationally or economically disadvantaged backgrounds through the introduction of general studies courses and a career planning course during the summer, with the goal of enhancing and increasing academic success during the fall semester. The FSI is a 6-week summer program that requires all students to live on campus and take courses with other FSI participants. The students, all recent high school graduates, were selected to participate in the FSI based on a review of admission applications, academic records, test scores, and letters of recommendation by the FSI staff.

One hundred and fifty-eight freshmen participated in the study. The participants were freshman attending college for the first time, ranging in age from 17 to 20 years, with an average high school GPA of 3.31, with 5% having a 4.0+, 18% with a 3.5–4.0, 69% having a 3.0–3.49, and 8% having a 2.5–2.99. There were 117 women (74.1%) and 41 men (25.9%). Ethnic diversity of the sample was as follows: 61 African Americans (38.0%), 14 Asian Americans (8.9%), 23 Hispanic Americans (14.6%), and 61 Caucasians (38.6%). The sample was actually more diverse than that of the overall university profile, which was 11.3% African American, 12.2% Hispanic American, and 6.1% Asian American. This was possibly because the FSI was a diversity initiative, making the target population diverse by design.

Course Instructors

In addition to standardization of the course materials, the text, and the syllabus, all career specialists who were instructors for the course participated in the same training prior to teaching the class. All specialists were actively engaged in choosing the text, establishing the course outcome, confirming the key concepts for each class session, designing the syllabus, defining interventions, and creating class activities prior to teaching the first class. Following the initial training, weekly meetings were held in which instructors had the opportunity to discuss and review class content, interventions, and assessment of how well students understood the concepts. There was a conscious effort to make each instructor’s delivery of course content and treatment of students as similar as possible.

Career Development Course

The career development course, using lecture, interactive group activities, reflective homework exercises, and reading assignments, was designed to teach students how to (a) understand the world of work; (b) recognize negative thoughts and how to reframe these in a more positive manner; (c) understand and implement career development theories and

decision-making skills; (d) identify their personal interests, skills, abilities, and values; (e) identify and use a variety of Web, printed, and professional contact resources to explore and assess career options; (f) relate their personal characteristics and career goals to academic majors; and (g) create a customized career action plan. Students also learned about campus resources and services that provided assistance with making decisions about a career and choice of a major. Eight sections of the course were offered during the 2003 summer semester, with a ratio of 1 instructor for every 19.8 students.

At the end of the 6-week course, students were able to describe how the career development process model and the career-decision making models are used to make an informed career decision; define their interests, abilities, skill sets, personality type, and work values and explain the importance of these components in making a career choice; identify and effectively use printed, Web-based resources for occupational research; identify majors related to potential occupations of interest; describe campus resources that provide assistance with decisions about a career and choice of a major; and articulate a personal career action plan. Students' levels of competence in understanding and applying concepts were measured through tests and completed homework assignments.

Measures

The CTI (Sampson et al., 1996a) was used at the beginning and end of the course as a pretest–posttest instrument to measure student's dysfunctional thinking related to career problem solving and decision making. The CTI is based on the cognitive information processing (CIP; Sampson, Reardon, Peterson, & Lenz, 2004) theoretical approach to career development and career services. The CTI is a self-administered, objectively scored measure of dysfunctional thinking in career problem solving and decision making. The 48-item CTI yields a total score and scores on three construct scales: Decision Making Confusion (DMC; 14 items), which reflects an inability to initiate or sustain the decision-making process because of disabling emotions and/or a lack of understanding about the decision-making process itself; Commitment Anxiety (CA; 10 items), which reflects an inability to make a commitment to a specific career choice, accompanied by generalized anxiety about the outcome of the decision-making process, with the anxiety perpetuating the indecision; and External Conflict (EC; 5 items), which reflects an inability to balance the importance of one's own self-perceptions with the importance of input from significant others, resulting in a reluctance to assume responsibility for decision making. Respondent rate items using a 4-point rating scale (0 = strongly disagree to 3 = strongly agree).

The CTI can be completed in 7 to 15 minutes and can be scored and profiled in 5 to 10 minutes. The higher the CTI score, the greater the level of dysfunctional career thinking. It has been shown to be a reliable and valid measure of dysfunctional career thinking for high school students, college students, and adults, with internal consistency coefficient alphas for the total score ranging from .93 to .97, for the DMC scale ranging from .90 to .94, for the CA scale ranging from .79 to .91, and for the EC scale ranging from .74 to .81 (Sampson et al., 1996a). Sampson et al. (1996a) also reported several findings of evidence for the CTI's strong content, construct, and criterion-related validity. Table 1 presents the means, standard deviations, standard errors of measurement, and F statistics for the CTI total scores and construct scale scores at pre- and posttest.

Next, we assessed the intercorrelation coefficients among the CTI construct scale scores, pre- and posttest (see Table 2). Moderate correlations were found among the pretest scale scores, ranging from .38 to .65. Likewise, moderate correlations on the posttest scale scores ranged from .51 to .64. In addition, the pretest–posttest correlation on the students’ CTI total score was .59. The correlation of the DMC pretest and posttest scale scores was .55, CA scale scores .57, and EC scale scores .50. These moderate but significant positive correlations suggest that the three factors (decision making confusion, commitment anxiety, and external conflict) are related, yet distinct, in terms of the global construct of dysfunctional career thinking under investigation in the current study.

Procedure

During the first class, students were given the homework assignment to complete the CTI test booklet, to read *Improving Your Career Thoughts: A Workbook for the Career Thoughts Inventory* (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996c), and to complete the *Improving Your Career Thoughts* workbook exercise. The workbook exercise required students to write their negative career thoughts and then re-write each statement in a more positive manner. Students were informed that the CTI and workbook exercises would help them assess their thoughts about careers, but no other discussion regarding the CTI was provided. The assignment was due when the second class met.

----Insert Table 1 About Here----

At the second class, instructors used the CTI test as a springboard for discussing the concept of dysfunctional career thinking as well as the impact that negative thinking has on making a career decision. In small groups, students reviewed the workbook exercise they had completed for homework and helped each other evaluate how successful they had been in reframing a negative career thought into a positive one. The instructor provided assistance to groups, as needed.

Before the third class, the instructor reviewed each student’s CTI scores and workbook exercise to identify students who needed individual assistance in understanding how to reframe their career statements. Students who needed more personalized, one-on-one help in reframing a career statement were offered an individual appointment with the instructor.

----Insert Table 2 About Here----

During the third class, instructors instituted a classroom rule that in all future classes, any student making a negative career statement would be asked to reframe the statement in a positive manner. Students were asked to self-monitor their own statements as well as to help monitor other students’ career statements made in class. Class lectures, group exercises, and the in-class positive reframing statement rule were all means to continually reinforce the importance of positive career thoughts for the enhancement of career decision making. At the fifth class period, students were given the assignment to complete a second CTI and return it at the final class period. During the sixth class period, the second CTIs were collected.

Results

Question 1: Changes in Career Thoughts Related to Gender and Race/Ethnicity

Our initial question pertained to any differences in career thoughts related to student gender and race/ethnicity. Using the pretreatment scores on the DMC, CA, and EC scales as dependent variables, we conducted a multiple analysis of variance (MANOVA) to assess whether there were any significant initial differences between the students based on gender or race/ethnicity. These scores were submitted to a 2 (gender) \times 2 (minority group, majority group) \times 2 (precareer course, postcareer course) repeated measures MANOVA. Analyses including gender and race/ethnicity as independent variables for the precourse and the postcourse measurement revealed no gender or race/ethnicity effects, or the interaction of gender and race/ethnicity. The findings were as follows: gender, $F(1, 150) = 2.71$, $p = ns$; race/ethnicity, $F(3, 150) = 1.39$, $p = ns$; and the interaction of gender and race/ethnicity, $F(3, 150) = 1.41$, $p = ns$. There were no significant interactions between the course outcome and the independent variables, Course Outcome \times Gender, $F(1, 150) = 0.00$, $p = ns$, Course Outcome \times Race/Ethnicity, $F(3, 150) = 1.58$, $p = ns$, and the three-way interaction Course Outcome \times Gender \times Race/Ethnicity, $F(3, 150) = 1.54$, $p = ns$.

Question 2: Changes in Dysfunctional Career Thoughts

Our second question examined the effect of career planning courses on changes in dysfunctional career thoughts, as measured by the CTI total score. The analyses regarding this question used a one-group repeated measures (precourse test, postcourse test) MANOVA design (see Table 1). A 3 (level of dysfunctional career thinking) \times 2 (pretest vs. posttest) MANOVA with repeated measures was performed, using the CTI-total score. The within-subject variable was the CTI-total score. The MANOVA revealed a significant effect for the career course on the CTI-total score. We found a significant multivariate career course effect on the students' CTI-total scores, Wilks's lambda = .79, $F(1, 157) = 40.94$, $p < .0005$, $\eta^2 = .21$ (see Figure 1 and Table 1). The CTI-total postcourse test score ($M = 34.53$, $SD = 23.00$) was significantly lower than the precourse test score ($M = 44.40$, $SD = 21.04$), which indicates that overall dysfunctional career thinking was reduced by the end of the career planning course.

The following groups were developed on the basis of precourse CTI-total scores to examine the influence of the level of precourse dysfunctional career thinking on CTI-total scores at the end of the course: high-level group (scores ranging from 54 to 101), medium-level group (scores ranging from 36 to 53), and low-level group (scores ranging from 0 to 35) based on their precourse CTI-total score (after checking for equivalency in level of career thinking at the beginning of the course). The average scores for the high-, medium-, and low-level groups were 67.08 ($SD = 10.40$), 45.48 ($SD = 5.71$), and 20.66 ($SD = 9.83$), respectively (see Figure 1).

There was a significant interaction between the Levels of Dysfunctional Career Thinking \times Career Course, Wilks's lambda = .87, $F(2, 155) = 11.88$, $p < .0005$, $\eta^2 = .13$, indicating that the effect of the career course was not the same for the three pretreatment levels of dysfunction. The high-, medium-, and low-level groups reduced their CTI-total scores by 18.89 points ($SD = 18.81$), 8.94 points ($SD = 17.67$), and 1.75 ($SD = 17.98$), respectively. Planned pairwise contrasts among the groups provided the most direct test of the career course influence on the change in

dysfunctional career thinking. As shown in Table 1, pairwise contrasts revealed that each group had a significantly greater reduction in dysfunctional career thinking than the next. For example, the high-level group had significantly greater changes in CTI-total scores than did the medium-level group, and the medium-level group had significantly greater changes than did the low-level group.

Question 3: Changes in Three Kinds of Career Thoughts

The third research question addressed potential changes for students with respect to negative thoughts related to decision making confusion, commitment anxiety, and external conflict change when compared from the beginning to the end of a 6-week career development course. The analyses regarding this question used one-group repeated measures (pre-test, posttest) MANOVA design. We performed a 3 (level of dysfunctional career thinking) x 2

---Insert Figure 1 About Here---

(precourse vs. postcourse) MANOVA with repeated measures, using scores on the three CTI construct scales (DMC, CA, and EC).

The main effect of the career course was significant, Wilks's lambda = .80, $F(3, 153) = 12.72$, $p < .0005$, $\eta^2 = .20$. Students who completed the career planning course significantly reduced their dysfunctional career thoughts. The univariate tests using scores on the three CTI construct scales indicated a significant reduction of dysfunctional career thinking. Significant changes were noted in scores on the DMC scale, $F(1, 155) = 12.29$, $p = .001$, $\eta^2 = .07$; CA scale, $F(1, 155) = 36.99$, $p < .0005$, $\eta^2 = .19$; and EC scale, $F(1, 155) = 5.10$, $p = .025$, $\eta^2 = .03$.

The influence of the precourse dysfunctional career level on postcourse dysfunctional thinking as measured by the DMC, CA, and EC scales of the CTI was also examined. The main effect of Levels of Dysfunctional Career Thinking was significant, Wilks's lambda = .63, $F(6, 306) = 30.37$, $p < .0005$, $\eta^2 = .37$; that is, the three groups established by the pretest scores were significantly different from one another on the posttest as measured by the DMC, EC, and CA scales. Univariate tests for the three CTI subscales were significant: DMC, $F(2, 155) = 90.25$, $p < .0005$, $\eta^2 = .54$; CA, $F(2, 155) = 62.91$, $p < .0005$, $\eta^2 = .45$; and EC, $F(2, 155) = 32.68$, $p < .0005$, $\eta^2 = .30$.

Follow-up pairwise tests for the three precourse group levels on the DMC, EC, and CA scales were conducted. The groups remained significantly different from one another at $p < .001$, even though all three groups' means scores on the CTI subscales were reduced at posttest. The DMC, CA, and EC subscale posttest means for the students in the high-level group were 13.58, 16.24, and 5.56, respectively. These means were significantly greater ($p < .001$) than the means for students in the medium-level group (6.88, 12.46, and 4.38, respectively). Likewise, the medium-level group's scale means were greater ($p < .001$) than the low-level group's means (2.59, 6.88, and 1.99, respectively).

The interaction of Levels of Dysfunctional Career Thinking x Career Course was also significant, Wilks's lambda = .85, $F(6, 306) = 4.28$, $p < .0005$, $\eta^2 = .08$, indicating that the effect of the career course was not the same for all of the levels of dysfunctional career thinking. The univariate test for the DMC subscale indicated a significant interaction, $F(2, 155) = 12.91$, $p < .0005$, $\eta^2 = .14$. Follow-up pairwise tests for DMC subscale were significant at $p <$

.001. That is, for the students in the high-level group, the career course significantly reduced DMC scores more than for students in the medium- and low-level groups. Likewise, the medium-level group experienced a significantly ($p < .001$) greater reduction in DMC scores than did students in the low-level dysfunctional career thoughts group. The mean reductions for the high-, medium-, and low-level groups on the DMC subscale were 4.26, 0.65 and -0.62 points, respectively.

The univariate test of the Levels of Dysfunctional Career Thinking \times Career Course on the CA scale, $F(2, 155) = 4.60$, $p = .011$, $\eta^2 = .06$, was also significant. Pairwise comparisons indicated that students in the high-level group had a greater reduction ($M = 4.87$, $SD = 7.31$) on their posttreatment scores than did students in the medium- ($M = 2.88$, $SD = 5.50$) and low- ($M = 1.22$, $SD = 5.56$) level groups. Likewise, the members of the medium-level group experienced significantly ($p < .001$) greater changes in scores on the CA subscale than did the members of the low-level group. However, there was not a significant Levels of Dysfunctional Career Thinking \times Career Course interaction on the EC subscale, $F(2, 155) = 2.06$, $p = ns$.

Discussion

The purpose of the current study was to examine the effect of a 6-week, 1-credit-hour undergraduate course on the dysfunctional career thoughts of college freshmen. MANOVA results indicated that this course was effective in significantly reducing overall dysfunctional career thoughts, as well as dysfunctional thoughts specific to decision-making confusion, commitment anxiety, and external conflict for college freshmen. Similar to the Reed et al. (2001) study, college freshmen with the highest level of dysfunctional career thoughts had the most dramatic decrease in those thoughts at posttest. Also similar were the findings that neither gender nor race/ethnicity was related to dysfunctional career thoughts. Given that dysfunctional career thoughts have been previously identified as a main factor in career indecision (Osborn, 1998; Sampson et al., 1996b; Saunders et al., 2000), the availability of an intervention that significantly reduces these dysfunctional career thoughts for a large group of students suggests that such career courses might prove to be a cost-effective and efficient tool for reducing career indecision among college freshmen.

Students who were categorized in the low-level dysfunctional career thoughts group actually saw a small increase in dysfunctional career thoughts specific to decision-making confusion and external conflict. A similar result was seen in Reed et al.'s study with the EC subscale and the low-level dysfunctional career thoughts group. According to the CTI developers (Sampson et al., 2004, p. 91), "Lower CTI Total scores tend to reflect limited dysfunctional career thinking and are best interpreted at the item level." Perhaps students who begin a career course with very low levels of dysfunctional career thoughts are subsequently made aware of the complexities involved with career decision making, and this new awareness is reflected in the way in which they respond to items (e.g., instead of choosing strongly disagree, they choose a less strong stance of disagree) at the end of the semester. Given that this is the second study that has found this particular result, further research is merited to identify why EC scores have a tendency to increase at the conclusion of a career course.

Some limitations to this study exist. First, because of the number of assignments and types of interactions involved in the career course (e.g., large-group lecture, small-group discussions, individual student meetings with instructors), it is impossible to determine which of these interventions, or combination of interventions, had the greatest effect on reducing dysfunctional career thoughts. In addition, some students may have reduced their dysfunctional career thoughts as a function of developing career maturity or because of experiences outside of the career course (Reed et al., 2001). A second limitation is the lack of a control group that would have allowed outcome comparisons. For example, a control group could allow for comparison of factors such as time in the course, gender or other demographics, or first time in college. Therefore, the results of the current study should be viewed as tentative.

All instructors received the same training and were actively involved in discussions and a review of the career course for each given week. Although the preparation for instructors was similar, the number of instructors made it difficult to establish that the treatment was presented in exactly the same manner in every class. An individual instructor's different delivery style may have had an influence, even if the content, class exercise, and readings had all been the same.

Another limitation of the current study is that students were enrolled in the career course as part of a formal program with other first-time college students and were taking the course in the summer. Because the program is highly structured, students do not have the opportunity to interact with other freshman outside of the FSI program and/or to have exposure to upperclassmen. Thus, it would not be advisable to generalize the results of this study to all college freshmen. However, the results of the current study do show positive gains for freshmen involved in a 6-week career course provided within a diversity initiative program such as the FSI. Our results suggest that instruction and practice on how to recognize and reframe dysfunctional career thinking within a formal course provides an effective way to decrease dysfunctional career thinking with the particular group of first-time college freshman that we studied.

We believe the results of the current study are of special interest for career centers and student affairs professionals for several reasons. First, students who completed this 6-week, 1-credit-hour career course significantly reduced negative career thoughts, as measured by the CTI. Negative thoughts impede career decidedness (Osborn, 1998; Saunders et al., 2000) and the ability to choose a major (Kilk, 1997). Being able to positively reframe negative thoughts may help college freshmen reduce their career indecision. Our results add support to the findings of Reed et al. (2001) that a career course can change students' negative thinking. In addition, this study adds to the existing knowledge base by demonstrating the effectiveness of a 6-week, 1-credit-hour career course for college freshmen of diverse ethnicities and genders.

The results of our study suggest that it is possible to reframe negative career thoughts in a 6-week, 1-credit-hour course (6 hours of class time), achieving effects of decreased negative thinking similar to results that have been found in semester courses of 14 to 15 weeks and a total of 45 hours of class time (Reed et al., 2001). Although negative career thinking was reduced with a 6-week course, further research is needed to determine the influence of a reduction of dysfunctional career thinking on specific desired outcomes such as career decidedness, GPA, career knowledge, and job search plan. In addition, longitudinal research

that would compare the long-term outcomes of a course on dysfunctional career thoughts for short and regular courses is also recommended.

The results of the current study have added to the knowledge of the impact of a 6-week, 1-credit-hour undergraduate career course on freshmen. We know that in this study, a 1-credit-hour course significantly decreased the dysfunctional career thoughts of a diverse group of freshmen, adding support to previous studies about the positive influence of career development courses on undergraduates (Folsom & Reardon, 2000; Oliver & Spokane, 1988; Whiston et al., 1998). A longitudinal follow-up of these students that examines changes in dysfunctional career thoughts would provide answers about the long-term effect of a short career course and could also answer questions about the long-term effects of dysfunctional career thoughts on GPA or the number of times a student's major is changed. Graduation rates and credit hours could also be examined and results compared with the Folsom et al. (2002) study.

Another area for extended research would be the effect of specific interventions on students with high, medium, and low levels of dysfunctional career thoughts. Does one type of intervention, such as cognitive restructuring or individual counseling, have a more dramatic effect with students in the high-level versus the medium- and low-level groups? What are the most cost-effective and efficient interventions for helping students learn to monitor and control dysfunctional career thoughts? The answers to these questions will help career course instructors to provide research-based interventions that are appropriate for students with varying degrees of dysfunctional career thinking.

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TABLE 1**Pre- and Posttest Career Thoughts Inventory (CTI) Scores With F Statistics**

Variable	Pretest Scores			Posttest Scores			F
	M	SEM	SD	M	SEM	SD	
Total CTI	44.41	1.67	21.04	34.53	1.83	23.00	60.96 ^a
High pre-CTI	67.27	1.36	10.20	47.89	2.93	21.91	
Mid pre-CTI	45.46	0.75	5.58	35.32	2.35	17.60	
Low pre-CTI	20.54	1.32	9.87	18.89	2.49	18.63	
Decision Making Confusion	8.41	0.55	6.97	6.97	0.52	6.60	82.96 ^a
High pre-CTI	15.89	0.66	4.96	11.32	0.91	6.79	
Mid pre-CTI	7.25	0.46	3.47	6.36	0.63	4.71	
Low pre-CTI	2.21	0.52	3.89	2.80	0.65	4.83	
Commitment Anxiety	13.35	0.57	5.95	10.36	0.57	7.18	15.05 ^a
High pre-CTI	18.55	0.48	3.58	13.64	1.05	7.85	
Mid pre-CTI	13.91	0.39	2.89	10.63	0.79	5.89	
Low pre-CTI	7.43	0.60	4.46	6.23	0.71	5.28	
External Conflict	4.27	0.23	2.87	3.67	0.28	3.53	105.42 ^a
High pre-CTI	6.25	0.37	2.75	5.05	0.42	3.14	
Mid pre-CTI	4.73	0.27	2.04	3.93	0.35	2.62	
Low pre-CTI	1.95	0.24	1.79	2.00	0.53	3.95	

^aThe difference between the pretest and posttest score on each scale is significant at $p < .001$.

TABLE 2

Intercorrelation Coefficients Among the Pre- and Posttest Career Thoughts Inventory (CTI) Scales

Variable	Pretest				Posttest		
	1	2	3	4	5	6	7
1. Total CTI	.86*	—					
2. Decision Making Confusion	.86*	.70*	—				
3. Commitment Anxiety	.70*	.48*	.51*	—			
4. External Conflict	.62*	.60*	.53*	.41*	—		
5. Total CTI	.60*	.67*	.48*	.36*	.87*	—	
6. Decision Making Confusion	.54*	.49*	.55*	.34*	.87*	.73*	—
7. Commitment Anxiety	.37*	.30*	.24*	.46*	.69*	.58*	.59*

*p < .001.

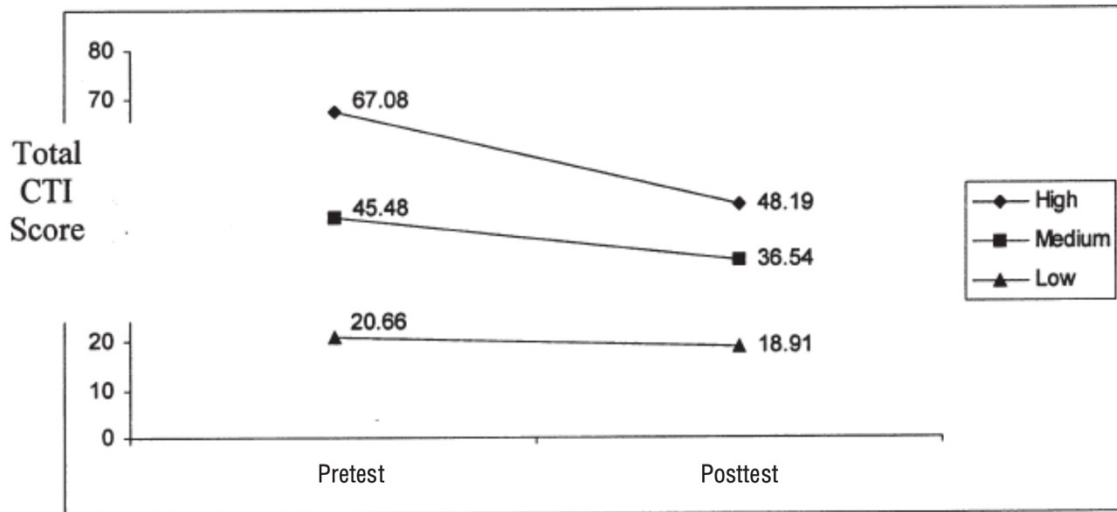


FIGURE 1

Changes in the Total Career Thoughts Inventory (CTI) Scores by Group

Note. High = high level of dysfunctional career thinking; Medium = medium level of dysfunctional career thinking; Low = low level of dysfunctional career thinking.