

AGRICULTURAL TRAVEL COURSES AND COMMITMENT TO CAREER CHOICE BY
STUDENTS IN COLLEGES OF AGRICULTURE

By

CHARLES PATRICK NEALIS

A THESIS PRESENTED TO THE GRADUATE SCHOOL
OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE

UNIVERSITY OF FLORIDA

2008

© 2008 Charles Patrick Nealis

To my grandfather, George Magruder.

ACKNOWLEDGMENTS

I would like to thank God for every blessing He has bestowed upon me and every joy those blessings have offered. This accomplishment is as much a product of the influence, guidance, and support of the individuals I have been blessed with as it is of my own efforts.

Tremendous thanks belong to my Mama and Dad for their unwavering love and support. I know words will never do, so I hope they will accept every success and every embrace as a continuous expression of my sincere love and gratitude. I would also like to thank my brothers, Jackson and Jacob, for their continued support and inspiration. Their enthusiasm for life, shared with me through both laughter and the occasional scuffle, motivates me to enjoy every moment of every day.

Special thanks and shout outs to all of my wonderful and incredible friends and family; Brian Huei, Dennis Neeld, Dom Almodovar, Jonny “Borneo” Walter, Aubrey Stoughton, Ben Hughes, Jon Sokoloff, Chris Kintner, Brian Estevez, Elio Chiarelli, Christy Windham, Anna Warner, Jennifer Cole, Bala Venkat, Nick Larsen, Turtle, Mama Cass, Allison Eckhardt, Diane Mashburn, Lisa Hightower, Aunt Rose, and Dr. Lori Snyder. They have made every experience, from grade school to graduate school, that much sweeter. To every one of them, both old and new; thank you for making every day better than last.

I would also like to thank Dr. Amy Harder, Dr. Brian Meyers, and Dr. Shannon Washburn for the guidance, kindness, patience, and knowledge they have offered me through this experience as members of my graduate committee. I have learned (and written!) more than I ever thought I could. Their enthusiasm, honesty, and passion for learning and success have made a significant impression on my life and I am truly grateful.

TABLE OF CONTENTS

	<u>page</u>
ACKNOWLEDGMENTS	4
LIST OF TABLES	8
LIST OF FIGURES	9
ABSTRACT.....	10
CHAPTER	
1 INTRODUCTION	12
Background.....	12
Statement of the Problem.....	17
Purpose of the Study	17
Objectives	17
Research Hypothesis	18
Operational Definitions	18
Limitations of the Study	20
Assumptions of the Study	20
Summary.....	21
2 REVIEW OF THE LITERATURE	22
Introduction.....	22
Commitment to Career Choice	22
Theoretical Framework.....	24
Anticipatory Behavior Involved in Making a Vocational Decision.....	25
Exploration	26
Crystallization	29
Choice.....	30
Clarification.....	30
Implementation.....	31
Adolescence as Exploration.....	32
Exploration of self and work in the home	34
Exploration in part-time work	35
Exploration in the school.....	36
Measuring Commitment to Career Choice	40
Chapter Summary	42
3 METHODS.....	43
Introduction.....	43
Research Design	43

Participants	45
Instrumentation	46
Data Collection	48
Analysis of Data	49
Chapter Summary	50
4 RESULTS	52
Objective 1: Demographic Characteristics and Background.....	52
Objective 2: Students’ Level of Commitment to Career Choices.	53
Objective 3: The Effect of the Intervention on Students’ Vocational Exploration and Commitment (VEC) and Tendency to Foreclose (TTF).....	54
Statistical Analysis of Change.....	54
Tendency to Foreclose.....	55
Vocational Exploration and Commitment.....	56
5 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	65
Summary of the Study	65
Problem Statement	65
Purpose and Objectives	65
Methodology.....	66
Objective One.....	67
Conclusions	67
Implications.....	68
Objective 2.....	70
Conclusions	70
Implications.....	71
Objective 3.....	72
Conclusions	72
Implications.....	73
Recommendations.....	74
Suggestions for Further Research.....	75
APPENDIX	
A INSTITUTIONAL REVIEW BOARD APPROVAL	77
B TRAVEL COURSE INSTRUCTOR INFORMATION REQUEST EMAIL	78
C SURVEY COMPLETION REQUESTS	79
Pre-Survey Email.....	79
Pre-Test Initial Contact E-mail.....	80
Pre-Test Follow-Up Contact Email	81
Second Pre-Test Follow-Up Contact Email	82
Third Pre-Test Follow-Up Contact Email	83
Final Pre-Test Follow-Up Contact Email	84

Post-Test Pre-Survey Email.....	85
Post-Test Initial Contact E-mail	86
Post-Test Follow-Up Contact Email.....	87
Second Post-Test Follow-Up Contact Email.....	88
Third Post-Test Follow-Up Contact Email.....	89
Final Post-Test Follow-Up Contact Email	90
 D ONLINE SURVEY	 91
Approved Informed Consent	91
Pre-Test Online Survey Web Pages.....	93
Post-Test Online Survey Web Pages	101
 LIST OF REFERENCES	 107
 BIOGRAPHICAL SKETCH	 113

LIST OF TABLES

<u>Table</u>	<u>page</u>
3-1 Travel Course Student Enrollment.....	51
3-2 Reliability.....	51
3-3 Class Participation by Students in Selected Travel Courses.....	51
4-1 Demographic Profile of Students Enrolled in Agricultural Travel Courses.....	58
4-2 Descriptive Statistics of Pretest CCCS and Posttest CCCS.....	59
4-3 Analysis of Covariance of Observed Gains for the Commitment to Career Choices Scale, Tendency to Foreclose Scale, and the Vocational Exploration and Commitment Scale.....	59
4-4 Summary of Participants' Responses on Individual Items of the Tendency to Foreclose Scale	60
4-5 Summary of Participants' Responses on Individual Items of the Vocational Exploration and Commitment Scale	62

LIST OF FIGURES

<u>Figure</u>	<u>page</u>
2-1 Paradigm of the processes of differentiation and integration in problem solving	25

Abstract of Thesis Presented to the Graduate School
of the University of Florida in Partial Fulfillment of the
Requirements for the Degree of Master of Science

AGRICULTURAL TRAVEL COURSES AND COMMITMENT TO CAREER CHOICE BY
STUDENTS IN COLLEGES OF AGRICULTURE

By

Charles Patrick Nealis

December 2008

Chair: Amy Harder

Cochair: Brian Meyers

Major: Agricultural Education and Communication

The purpose of this study was to determine if involvement in an exploration experience offered through an agricultural travel course affected students' commitment to career choice.

This study was administered to all students enrolled in five selected agricultural travel courses offered by the College of Agricultural and Life Sciences at the University of Florida and the College of Agriculture at Purdue University.

The sample consisted of 75 students enrolled in the purposive sample of agricultural travel courses during the 2008 spring and summer academic semesters. These participants completed a web-based version of the Commitment to Career Choices Scale before and after their agricultural travel experience. Independent variables in the study were age, gender, academic year, ethnicity, grade point average, previous work experience, motivations for participation, and parents' occupations. Dependent variables were occupations being considered and commitment to career choice as measured by the vocational exploration and commitment and tendency to foreclose subscales.

This study found agricultural travel courses affected participants in different ways. Some students exhibited a strengthening in their commitment to career choice, others a weakening in

their commitment to career choice, and some had no change in their level of commitment to career choice. It was found agricultural travel courses have a significant effect on participants' tendency to foreclose. Participants either became more or less open to other options regarding their career decision following their experience. Some participants identified new occupations being considered or had a change in their occupation of choice following their agricultural travel course experience. Overall, participants reported a greater number of agricultural careers being considered following the agricultural travel course experience.

This study also found the majority of participants were upperclassmen or graduate students and either of Caucasian or Hispanic background. Also, most of the participants had a grade point average of 3.1 or higher and half of the participants participated in the agricultural travel course for a non-career related reason.

CHAPTER 1 INTRODUCTION

Background

In 2005, the United States Department of Agriculture reported the number of employment opportunities in agricultural and natural resource areas outnumbered the quantity of qualified college graduates with degrees or specializations in these areas (Employment Opportunities, 2005). The demand for educated agriculturalists has continued to increase and the number of new positions available in the agriculture industry sector was still expected to outnumber the available graduates from agricultural programs through 2010 (Employment Opportunities, 2005).

Declining enrollment in agriculturally related areas contributed to the lack of qualified graduates in the job market. Studies have shown enrollment in agricultural subjects at universities in the United States has experienced an overall decline since 1977 and has only recently experienced a slight rebound (Dyer, Lacey, & Osborne, 1996; McCallister, Lee, & Mason, 2005; Russell, 1993). One explanation for this decline was the continued focus of agricultural courses on production agriculture, even though only three percent of the existing career opportunities in the agricultural sector existed in production (Knight, 1987; Orthel, Sorensen, Lermen, & Riesenber, 1989).

Much like the production focus in agricultural courses, the public's perception of agriculture failed to move into modernized conceptions of agriculture. Coon and Cantrell (1985, p. 22) referred to the public's perception of agriculture as a "kaleidoscope of leftover attitudes and images of what agriculture was in the '40s, '50s and early '60s." This viewpoint was not just limited to one generation, but was also suggested to be shared by the younger population. Students in high school and college were aware of the production orientation that existed and

their disinterest in this has affected their decision on enrollment in agricultural courses (Hoover & Scanlon, 1991).

Student perceptions regarding agricultural fields of study offered further explanation for the decline in enrollment. Agricultural areas of study were still seen as vocational and had not been associated with being accommodating to the pursuit of higher education (Knight, 1987). Various studies suggested students continued to stereotype individuals involved in agriculture as white males from agricultural backgrounds (Knight, 1987), and students remained unsure of their place in such an area (Hoover & Scanlon, 1991).

A suggested reason for the aforementioned perceptions students form, as well as their declined enrollment, is the influence of individuals to whom students look to for guidance. Studies have found parents often did not support or encourage their children to pursue degrees or careers in agriculture and counselors often failed to encourage or suggest enrollment in agricultural courses (Hoover & Scanlon, 1991; Osborne & Dyer, 2000; Washington & Rodney, 1984).

In addition to perceptions influenced by others, a lack of familiarity of, or background in, agriculture could have affected perceptions and influenced enrollment. As an increased proportion of the population moves into urban or suburban areas, students have increasingly less interaction with production agriculture (Sorenson, 1987). This lack of knowledge, especially in urban black youth, has been suggested to limit students' ability to make a commitment to the pursuit of a degree or career in an agricultural field (Case, 1993). Lack of knowledge, however, has not been found to translate to negative perceptions regarding agricultural subjects (Case). In a study involving urban and rural high school students, Frick, Birkenholz, Gardner and

Machtmes (1995) found evidence to suggest that, even if students had limited knowledge regarding agriculture, their perceptions involving agriculture were relatively positive.

The lack of an agricultural background has not been found to translate into a lack of interest in agricultural programs. Non-traditional agriculture programs, such as turf-grass management, have actually seen an increase in the enrollment of students coming from urban backgrounds (McCallister, Lee, & Mason, 2005). Hoover and Scanlon (1991) found students not enrolled in agricultural courses believed agricultural programs did not emphasize emerging technology or agricultural research nearly enough, suggesting that this could be an area of interest that could be emphasized to attract more students. Hoover and Scanlon further suggested students' perceptions of the future value of agricultural education affected their decision on enrollment in agriculturally related courses more so than their agricultural background.

In addition to the future value agricultural education held for students, it has been suggested that an agricultural education also contained future value for the industries that look to hire graduates from agricultural programs (Russell, 1993). Due to this importance, Russell suggested universities should change their focus from teaching and research surrounding farm commodities to developing and recruiting youth because the youth represent the major resource required for a viable and successful agriculture industry in the future. The Bureau of Labor Statistics (2004) reported demand for agricultural and food scientists alone was expected to grow up to nine percent by 2012.

With this expected growth of opportunities in the agricultural industries, the lack of awareness students have regarding these increasing opportunities is of concern. Many regularly used agricultural job classification systems excluded a bevy of career options that supported the agriculture industry, such as research, accounting, legal services, technical support, and logistic

support (Conroy, 1997). Students often did not know there was such an expansive system behind agriculture (Conroy). In a study conducted by Conroy (2000) using students who had no expressed interest in agricultural careers, every occupational interest students listed that they believed was unrelated to agriculture could be linked to an occupational opportunity in the agricultural field.

Along with the increasing opportunities, students were often unaware of the benefit associated with them. Because of the increasing demand for qualified employees and the expanding agricultural industry, wages remained very competitive with other non-agriculture industries (National Association of Colleges and Employers, 2004). The National Association of Colleges and Employers (2004) reported starting salaries in agricultural science fields for graduates with a Bachelor's degree in agriculture were competitive with other industries, averaging around \$30,000 a year. Unfortunately many students enrolled in high school and college courses, especially those from minority backgrounds, were unaware of the competitive salary levels found in agriculture (Leatherberry & Wellman, 1988). This information, and the continued increase in demand for agriculturalists, suggests measures should be taken in order to attract and retain more students in agriculturally related areas of study. Conroy (2000) suggested education systems should develop curricula that increase the awareness and importance of non-traditional and traditional agriculture, as well as the career opportunities these areas offered students.

Increased awareness of career opportunities is a very important part of the career decision-making process. Career exploration, which includes opportunity awareness, and crystallization lead to career choice and clarification, and ultimately contribute to the strength of an individual's

career choice commitment or decision (Tiedeman & O'Hara, 1963). This theory will be further discussed in Chapter 2.

In order to increase awareness and exploration, many researchers have suggested there was a great need for educational systems or career counselors to offer an intervention, such as non-traditional exploration or educational programs, to students to provide them the opportunity to explore the many different career options that exist (Ester, 2007; Hitch & Gore, 2005; Kelly & Lee, 2002; Ladany, et al., 1997; Raskin, 1989; Spokane, 1991). Experiences in school programs were especially noted for their influence in promoting career exploration in adolescents (Super, Crites, Hummel, Mosher, Overstreet, & Warnath, 1957).

In addition to the experiences offered in traditional classroom settings, different programs have been developed to enhance student experiences and exploration. Field based education experiences or programs, a form of experiential learning, have shown to be beneficial to students in many different ways because they enabled students to experience things that could not be delivered through traditional classroom settings or media (Zervanos & McLaughlin, 2003). Multiple benefits were offered through experiential learning, including the opportunity for students to improve their decision-making and problem solving skills, practice communication skills, and observe situations in real world settings (Bobbitt, Inks, Kemp, & Mayo, 2000).

Of specific interest to this study were the benefits of career exploration offered through experiential learning programs in the form of travel courses and the relationship they had with career choice commitment in collegiate students enrolled in agricultural programs. Travel courses are classes offered for credit through a college or university that include an experienced-based travel component of at least one week. Conroy (2000, p. 82) suggested a need existed for "curriculum materials that address nontraditional industry-wide occupations," however Conroy

predicted great difficulty in accomplishing this in a traditional classroom setting. Travel courses have the potential to reveal a large array of career choices available to students pursuing degrees in agricultural programs and provide the opportunity to interact with people who are already engaged in these careers. Gianakos (1999, p. 255-256) suggested students would benefit greatly from having “practical, career-oriented assistance in learning about other careers congruent with their self-assessed interests, values, and abilities.” Travel courses give students the option to enroll in a course that would offer an opportunity for such exploration and assistance. The exploration provided by travel courses may allow students to form a solid foundation in their career decision-making process and move towards narrowing their possible career options (Tiedeman & O’Hara, 1963; Super, 1957; Super et al., 1957).

Statement of the Problem

There is a need to examine college students’ awareness of agricultural career opportunities in order to meet increasing demands for educated agriculturalists in the agricultural job market. Specifically, there is a lack of knowledge on how an agricultural travel course affects career choice commitment for enrolled students. Agricultural travel courses hold the potential to increase students’ exposure to agricultural careers. Opportunities for agricultural career exploration may impact students’ interest in and commitment to their choices of agricultural careers.

Purpose of the Study

The purpose of this study was to determine if involvement in an exploration experience offered through an agricultural travel course affected students’ commitment to career choice.

Objectives

The following three objectives guided this study:

1. Describe the demographic characteristics and background of students in the College of Agricultural and Life Sciences at the University of Florida and the College of Agriculture at Purdue University who self-selected to participate in agricultural travel courses.
2. Describe students' level of commitment to career choices prior to and following an agricultural exploration intervention.
3. Describe the effect of the intervention on students' vocational exploration and commitment (VEC) and tendency to foreclose (TFF) as indicators of commitment to career choice.

Research Hypothesis

Based on the reviewed literature and research, it is hypothesized that the completion of an agricultural travel course will have a positive effect on students' level of commitment to career choices.

Operational Definitions

- **Career decision-making process:** “the process people go through when they search for viable career alternatives, compare them, and then choose one” (Gati & Asher, 2001, p. 7)
- **Career maturity:** an individual's readiness and capability to deal with age appropriate tasks regarding making a career decision (Super, 1990).
- **Commitment to career choice:** a process that encompasses the certainty one has in their career choice as well as one's “self-confidence about one's choices, a positive sense of one's vocational future, and an awareness of potential obstacles” (Blustein, Ellis, & Devenis, 1989, p. 344). The process contains two independent variables: an individual's vocational exploration and commitment and their tendency to foreclose (Blustein et al., 1989). In this study the level of commitment to career choice was

indicated by students' scores on the vocational exploration and commitment and tendency to foreclose components of the applied questionnaire.

- **Experiential learning:** “the process whereby knowledge is created through the transformation of experience” (Kolb, 1984, p. 38).
- **Information deficit:** the combination of the lack of information as well as the need for information (Kelly & Lee, 2002).
- **Self-exploration:** “an examination of one’s personal goals, values, skills, needs, and interests” (Werbel, 2000, p. 382).
- **Agricultural travel course:** a class offered for credit through a college or university focused on an agricultural area of study. In this study travel courses included an experience-based travel component of at least one week.
- **Vocational exploration and commitment:** a variable used to capture or describe the commitment process, from uncommitted and exploratory to highly committed and confident (Blustein et al., 1989). An individual’s level of vocational exploration and commitment was used to describe his or her progress in the career commitment process.
- **Tendency to foreclose:** the commitment to an idea of considerable importance without engaging in exploratory behavior (Marcia, Waterman, Matteson, Archer & Orlofsky, 1993). Making a career decision without exploring or investigating any alternatives is an example of foreclosure.
- **Crystallization:** the step following exploration in the anticipatory aspect of decision making. Alternatives become better defined and more thoroughly explored. Patterns begin to emerge in the alternatives and the individual is able to determine

the values and disadvantages of the different alternatives (Tiedeman & O'Hara, 1963).

- **Clarification:** the time following a decision when an individual has the opportunity to reflect upon the choice that he or she has made before acting upon the decision (Tiedeman & O'Hara, 1963).

Limitations of the Study

The following were limitations of this study:

1. Students who participated in the study were self-selected; therefore caution should be exercised in generalizing to a larger population.
2. Students who participated in the study were enrolled in the College of Agricultural and Life Sciences at the University of Florida or Purdue University; therefore caution should be exercised in generalizing beyond this population.
3. Little was known regarding the constructs and components of the different agricultural travel courses examined in this study.

Assumptions of the Study

Assumptions were made prior to and during this study. These assumptions are listed below.

1. A self-assessment instrument can accurately measure the vocational exploration and commitment as well as the tendency to foreclose of students involved.
2. Participants in this study honestly and accurately completed both the pre- and post-versions of the instrument without any outside influence.
3. Participants have access to and the knowledge of the technology involved in completing the online instrument.

Summary

This chapter justified the need for this research study, as well as provided background surrounding the issues and variables involved. The chapter described the present situation regarding enrollment in agricultural programs and the perceptions surrounding agriculture and agricultural opportunities. Also identified were the increasing demand for educated agriculturalists and the expanding opportunities for employment that it provides. The concepts of career decision-making process, commitment to career choice, and career awareness were explained, as well as how these concepts interact and why success in these areas is important for individuals beginning a career or educational program. The chapter also provided background information regarding experiential learning, specifically travel courses, and the role it may play in career exploration.

CHAPTER 2 REVIEW OF THE LITERATURE

Introduction

This chapter presents an overview of the relevant literature as it relates to the mechanisms of career development in making a career choice. The chapter presents theoretical and conceptual frameworks relevant to the issue. A number of general studies related to career development and decision making have been presented, and the major theorists and authors in career development and decision summarized. This review of the literature consists of the following major sections: Commitment to Career Choice, Theoretical Framework, Forms of Exploration, and Chapter Summary.

Commitment to Career Choice

Students' commitment to career choice has been identified as an important facet in students' pursuit of a career. Blustein, Ellis, and Devenis (1989, p. 344) explained commitment to career choice as a process that encompasses the certainty or commitment one has in one's career choice as well as one's "self-confidence about one's choices, a positive sense of one's vocational future, and an awareness of potential obstacles." Of particular interest is the role that career opportunity exploration plays in the commitment to career choice process, and the resulting number of career alternatives each individual may face. Gati, Krausz, and Osipow (1996) emphasized the importance and role of career alternatives when describing the characteristics unique to career decision. These characteristics include: (a) the possibility of having a large number of alternatives, (b) the large amount of information regarding each alternative, (c) the prospect that each alternative can be described by several key aspects, and (d) the uncertainty that exists regarding the characteristics of the decision maker involved and the career alternatives that they face (Gati et al.). Students' awareness of the various career

alternatives, including their exploration and analysis of them, plays a very important role in their career decision-making process (Gati & Asher, 2001).

The strength of one's commitment to career choice has been found to be an important variable in predicting one's success in higher education as well as one's career. Holland (1996) suggested individuals who were confused regarding their career choice commitment, or displayed no commitment whatsoever, were more likely to select an unsatisfying major in college or career path after graduation. Germeijs and Verschueren (2007) found individuals who showed little exploration and low commitment to their majors in college were more likely to drop out and fail to complete their course of study. Individuals who are unsatisfied in their career path or career choice and have a lack of commitment to their career have demonstrated a greater likelihood of unhappiness in their career, a lack of motivation and production, and a lowered level of performance (Holland).

A student's race and level of social anxiety have been found to influence commitment to career choice in individuals. A study of college undergraduate students conducted by Wang, Jome, Haase, and Bruch (2006) revealed a difference in the personality traits that affect commitment to career choice between white students and students of color. Wang et al. concluded there must be variety to the approach of enhancing career exploration in all students to appeal to the different traits. Hardin, Varghese, Tran, and Carlson (2006) found social anxiety was an important variable in the process of exploring and committing to a career. Hardin et al. concluded a high level of anxiety was associated with low career commitment.

Role models may influence one's commitment to career choice. Heebner (1995) purported the individuals of influence in students' lives, such as parents, teachers, or counselors, assume students know more about potential careers than they actually do. Heebner's findings confirmed

the figures of influence failed to offer students ample motivation and encouragement to explore different career options and increase their awareness of potential career opportunities. According to Gray (1996), more than half of the students graduating high school lacked adequate information regarding potential careers and emerging work systems. This lack of appropriate exploration and information has been found to be the greatest contributor to the domain of career decision-making problems and career indecision (Kelly & Lee, 2002). Kelly and Lee concluded individuals of influence in students' lives should focus on helping students acquire relevant career information as well as "promote different opportunities for identity exploration, differentiation, and crystallization" (p. 323) in order to combat career decision problems.

Theoretical Framework

Tiedeman and O'Hara (1963) developed a career decision-making model to explain the process through which an individual progresses in making a career choice (Figure 2-1). The process of a rational solution to the individual's vocational decision or problem is divided into two aspects, anticipation and implementation. Individuals work abstractly in their decisions to ultimately distinguish what career they feel is the optimal choice in the anticipation aspect. Tiedeman and O'Hara (1963) referred to this concept as differentiation. The second aspect, implementation, is the integration of the decision. Implementation must follow the anticipation aspect because implementation cannot take place without prior differentiation. As posited by Tiedeman and O'Hara, implementation occurs when the individual actually begins experiencing the reality of the decision and becomes a part of the field that he or she joins. In the case of career decision and development, this translates to beginning employment and fitting one's goals with that of the occupation.

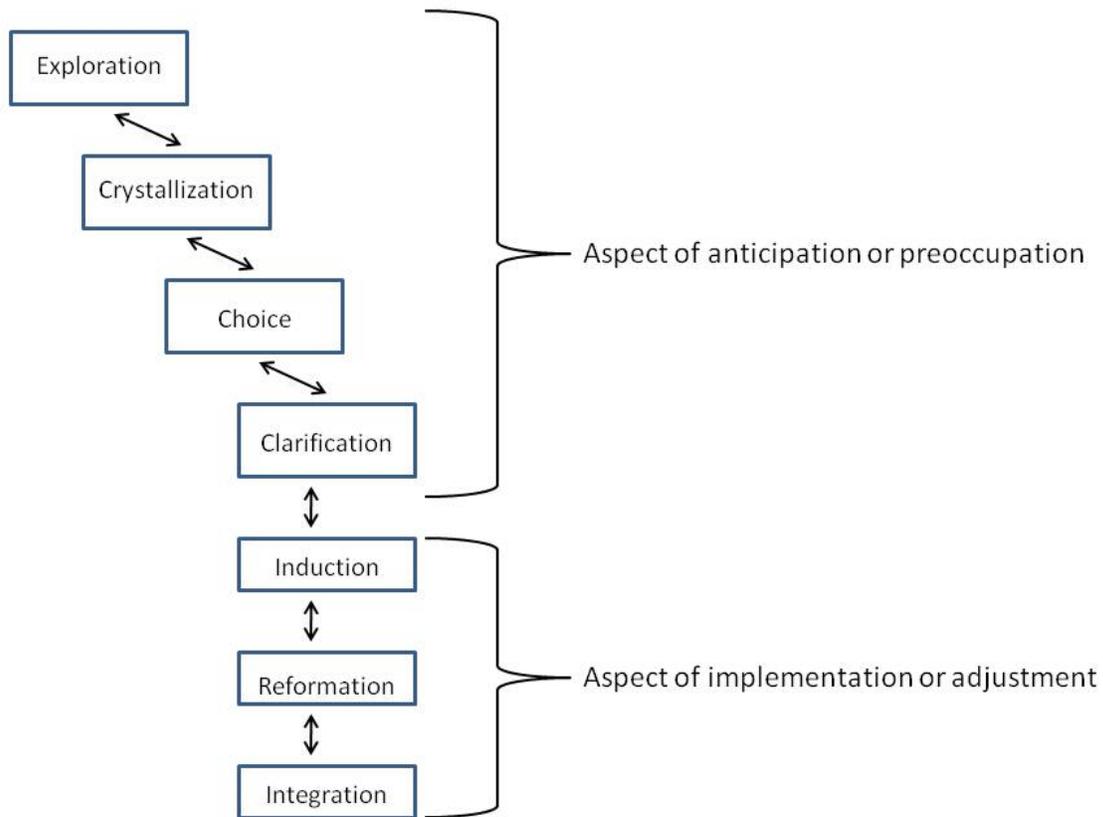


Figure 2-1. A paradigm of the processes of differentiation and integration in problem solving (Source: Tiedeman, D.V., & O'Hara, R.P. (1963). *Career development: Choice and adjustment*. New York: College Entrance Examination Board, 40.)

Anticipatory Behavior Involved in Making a Vocational Decision

The four steps proposed by Tiedeman and O'Hara (1963) that compose the anticipatory aspect of decisions are: (a) exploration, (b) crystallization, (c) choice, and (d) clarification.

Tiedeman and O'Hara proposed these steps as a rational method of considering a problem, such as an individual's vocational situation. They first recognized that, in order for a situation to be addressed, the individual must be aware of and unsatisfied with their present situation. This awareness of a problem cues an individual to make a decision in order to create a satisfactory situation for him or herself.

Since the anticipatory aspect of the decision-making process occurs as an individual is resolving a problem of personal importance, the steps are discontinuous, and each is meant to represent a specific and distinct change in the psychological state of the individual (Tiedeman & O'Hara, 1963). The elements of the problem do not change or disappear, but the character of the considerations is changed as the individual's psychological condition changes. Tiedeman and O'Hara (1963, p. 42) asserted even though the steps are discontinuous, they may occur simultaneously, and the "definiteness, clarity, complexity, and rationality in the idea on which a person is electing to act can all advance or dissolve at any step in the process which is being represented." With this, the progress of these steps can move both forward and backwards.

Exploration

Individuals begin the exploration step of the process when they are faced with a problem, such as deciding upon a career or career path. Career exploration has been defined as the purposeful behavior and activities that enhance an individual's knowledge of oneself, as well as of one's external environment, and assist in the career decision-making process (Blustein, 1990; Jordaan, 1963; Stumpf, Colarelli, & Hartman, 1983). Stumpf (1992) asserted the purpose of career exploration is to collect and analyze information regarding careers in order to make the best decision regarding a career decision. Tiedeman and O'Hara (1963) did not purport that the exploration is always done with purpose and assertion. They suggested activities in obtaining information or experience could actually be carried out randomly and begin by the individual being overly inquisitive. The process of exploring career options remains linear though, as an individual begins with broad exploration of alternatives and eventually becomes involved in more in-depth exploration (Germeijs & Verschueren, 2006). Systematic exploratory activity has been shown to be associated with progress in career decision-making (Blustein, Pauling, DeMania, & Faye, 1994). Likewise, Ladany, Melincoff, Constantine, and Love (1997) claimed

students might make more congruent career choices if they were initially encouraged to explore a larger number of career options.

The economic situation individuals face may constrain career exploration. Blustein et al. (1994) suggested many college students may be conducting their decisions and career decision-making tasks in a foreclosed fashion and are not participating in career exploration at a notable level in any of the key exploration areas identified by Super (1957). Foreclosure is the commitment to an idea of considerable importance without engaging in exploratory behavior (Marcia et al., 1993). Blustein et al. (1994, p. 87) purported students may be making career choices based the labor market and what is available “as opposed to personality type or self-concept expression.” The economic situation students face, however, should not be confused with the financial situation they face. Scott and Church (2001) purported students facing greater financial hardships were more committed to their career choice and less likely to foreclose on their career choice.

The information obtained is what establishes the limits of consideration when addressing the problem at hand and constitutes the options to be considered in the occupational field. According to Kelly and Lee (2002, p. 319), “Information deficit is the most prominent aspect of the domain of career decision problems.” Research has suggested increased exploration enables students to become more aware of the opportunities that exist and to discover opportunities that interested them or strengthened their commitment to careers they had previously chosen (Stumpf et al., 1983; Baker, 2002).

Tiedeman and O’Hara (1963) noted the cadre of career options available to the individuals is affected by the following three concerns:

(1) The individual's prior experience; (2) the degree of investment of himself in the continuation or modification of his existing state and of the situation in which the problem is to be resolved; and (3) the help he may seek or be given in attacking his problem. (p. 38)

Stumpf et al. (1983) offered a somewhat similar view on the gathering and evaluation of exploratory information, however, they suggested that it does not matter where an individual gathers his or her data or who helps him or her obtain it.

One's ability to imagine oneself in the occupation being considered is also important to exploration. Tiedeman and O'Hara (1963) proposed individuals seek to assess how well they would fit and interact in such a situation, making it possible to evaluate the option and their opinion of it before deciding to reject or retain the option. Jordaan (1963) agreed with this, noting career exploration is influenced by the individual's personal traits along with environmental conditions.

Studies have found a positive relationship between emotional intelligence (EI) and career commitment (Carson & Carson, 1998). EI has been defined as one's ability to (a) efficiently handle psychological and social problems, (b) correctly express emotions and judge those of others, (c) adequately regulate one's own feelings, and (d) successfully utilize one's emotions to achieved one's desired goals (Salovey & Mayer, 1990). A study of college students conducted by Brown, George-Curran, and Smith (2003) found EI and career choice commitment were positively related. Brown et al. concluded an individual's utilization of feelings and self-control of emotions was a significant predictor of one's vocational exploration and commitment. Thus self-exploration, or an individual's examination of his or her own personal attributes and ambitions, is a significant facet of the exploration step (Werbel, 2000), though still not as important as environmental exploratory behavior (Germeijs & Verschueren, 2006).

Tiedeman and O'Hara (1963) stated considerations are often short lived, enhanced and evaluated through imagination, and often unrelated during the exploratory step. It is in the

exploratory step that one reflects on one's personal aspirations, possible opportunities, level of interest, and abilities in comparison to the alternatives one is considering as one perceives the existing alternatives to be (Tiedeman & O'Hara).

Crystallization

As exploration progresses, alternatives become better defined and more thoroughly explored, and the individual begins to distinguish and sort through the alternative careers (Tiedeman & O'Hara, 1963). Patterns begin to emerge in the alternatives, and the values and disadvantages of the alternatives can be determined. This is when the individual has entered the crystallization stage of the career decision-making model (Tiedeman & O'Hara, 1963). The individual has a more organized idea concerning the options, and his or her thoughts regarding the possibilities being considered are much more stable than in the exploration stage. Super (1957) noted a positive relationship between progress in making a career decision and the narrowing of options considered by the individual. This narrowing of options may come after a personal evaluation of the alternatives and how the alternatives relate to concerns or ideas of the individual and other individuals (Tiedeman & O'Hara).

Tiedeman and O'Hara (1963) acknowledged series of tentative crystallizations can exist. As new information is obtained regarding the alternatives, new exploration may occur, resulting in re-crystallization. The steps in the anticipatory aspect of the career decision-making process do not necessarily occur in a forward manner. New information, as well as new manners of thought or rationality by the individual, can promote a return to the exploration step. Orndorff and Herr (1996) contended relationships with professionals in areas of one's careers of interest could have a significant beneficial effect on the strength of one's crystallization.

Choice

When crystallizations stabilize, choice follows. Choice can be made with varying degrees of certainty which will affect the individual's motivation in pursuing or addressing the choice (Tiedeman & O'Hara, 1963). In addition, the motivating power of the individual's decision is affected by the amount and quality of information, as well as freedom of choice, when considering the alternatives and making a decision (Tiedeman & O'Hara). The information leading to choice can come from a variety of sources found in the exploratory step and some sources may be more influential than others. A study of former agricultural high school students by Esters and Bowen (2005) revealed knowledge of career opportunities, high school educational experiences, and work experiences were the most influential in making a career choice in the field of agriculture. Individuals in the study also indicated parents, guardians, and friends were substantial influences in making their career choice (Esters & Bowen).

Clarification

Before an individual has an opportunity to act upon their career decision, there is usually time for reflection upon the choice they have made (Tiedeman & O'Hara, 1963). If the conditions of the decision an individual has made were previously well clarified, and the individual has a strong conviction regarding his or her decision, this time period can be fairly tranquil (Tiedeman & O'Hara). Stumpf et al. (1983) concurred, suggesting the more information that is gathered by the individual before selecting a career, the greater would be his or her level of commitment to his or her decision. Further evidence has supported this statement, suggesting that greater career exploration and consideration increased the likelihood of individuals finding a career with which they were satisfied (Werbel, 2000).

If a strong level of commitment to a career decision is not evidenced, the time period in which clarification should occur may result in doubt or uncertainty regarding the decision.

Tiedeman and O'Hara (1963) believed the introduction of additional information during this time period could either result in doubt in the decision or fortify the individual's commitment to the decision. If the individual experiences doubt because of awareness of new information, dealing with and processing the information could further clarify the decision and dissipate doubt. Individuals unable to dispel doubt regarding the decision will return to the prior steps of exploration, crystallization, or choice (Tiedeman & O'Hara). Sometimes the return to prior steps of the anticipatory aspect of the decision-making process is not made. Holland (1996) suggested that individuals who were confused regarding their career choice commitment, or displayed no commitment whatsoever, were more likely to select an unsatisfying major in college or career path after graduation.

Implementation

Although the implementation aspect is part of the model developed by Tiedeman and O'Hara (1963), it is not addressed in this study. Implementation begins when one actually starts the occupation one has chosen and consists of three steps: induction, reformation, and integration. The first step, induction, "is characterized by both a general defense of self and a giving up of an aspect of self to group purpose when the social system finds the person acceptable" (Tiedeman & O'Hara, p.44). The individual enters the group, is accepted, and realizes one's place in the group.

The second step, reformation, occurs once the individual has become comfortable and immersed in the group. The individual is actively involved, participates to make the group perform better, and utilizes one's strengths and convictions to increase performance towards the group's goal (Tiedeman & O'Hara, 1963).

In the final step, integration, the individual has even more influence than in the reformation step and is an active participant in the synthesis of work and decisions towards the group's goal.

The individual develops a newfound appreciation of self that is integrated into the larger group or field (Tiedeman & O'Hara, 1963). Tiedeman and O'Hara purported that it is in this third stage of implementation that one is considered successful by the group and is satisfied with one's situation.

Adolescence as Exploration

Adolescence offers a multitude of experiences and learning opportunities that help transition a child into an adult. Super (1957) defines adolescence as follows:

Psychologically, it is the process of finding out what constitutes adult behavior, and it is the process of trying out various modes of adult behavior and of ascertaining which of these are both congenial to one's self and acceptable to one's associates....Adolescence is, clearly, a period of exploration. It is a period in which boys and girls explore the society in which they live, the subculture into which they are about to move, the roles they may be called upon to play, and the opportunities to play roles which are congenial to their personalities, interests, and aptitudes. (p. 80-81)

Along with exploring where one fits in society and the required competencies to do so, the development of perceived self-efficacy occurs over the course of an individual's lifespan (Bandura, 1994). Bandura (1994, p. 71) defined perceived self-efficacy as "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives."

Exploration and experiential activities are important in numerous areas of development. In this process of finding out what is expected of them and exploring what opportunities exist for them, individuals are able to constantly learn, evaluate, and be influenced by the experiences they encounter (Super, 1957). These experiences also develop one's beliefs regarding his or her ability to influence the world around him or herself. Likewise, experiences develop an individual's concept of career (Young, Valach, & Collin, 1996). Young et al. (1996) supported this with their proposed contextualist action theory of career development that claims an individual's career is constructed through everyday actions.

The experiences offered by the exploratory activities mentioned by Super (1957) provide individuals with the chance to fulfill the exploration and crystallization stages noted by Tiedeman and O'Hara (1963) in the anticipatory aspect of differentiation involved in making a vocational decision. The experiences and exploration provided by the activities provide adolescents the opportunity to develop a concept of work and what they are capable of contributing, as well as an understanding of what role vocation plays in their culture (Super, 1957). Furthermore, the development of perceived self-efficacy has been linked to career development. Bandura (1977) cited four experiential sources that develop self-efficacy: personal performance accomplishments, vicarious learning, emotional arousal, and social encouragement and persuasion. Students in a career counseling group who incorporated the four sources for modifying self-efficacy proposed by Bandura (1977) increased their career decision-making self-efficacy and vocational exploration and commitment (Sullivan & Mahalik, 2000). Anderson and Betz (2001) found further support for the influence of self-efficacy in career development and the career decision-making process in a study of undergraduate students.

As adolescents mature, their opportunities for exploration and experience broaden, and different social institutions make contributions to their development of the youth and their personal vocational exploration. Super (1957) identified three key areas where this exploration occurs: (a) the home, (b) part-time work, and (c) school. Hartung, Porfeli, and Vondracek (2005) supported the importance of these areas in career development, specifically noting the significance of experience and knowledge gained through employment opportunities and the enrollment in school subjects that individuals find of particular interest to themselves and their future. These areas, and the opportunities they afford individuals, will now be explored in greater depth.

Exploration of self and work in the home

The home is where an individual gains his or her first experiences; observing, participating, and interacting with different persons and learning the variety of roles they have and cultural activities in which they engage (Super, 1957). The child has an opportunity to hear and observe roles that individuals have outside of the domestic domain, such as the jobs they have or other social obligations, because often the individuals in the household will talk or bring their work home with them (Super). These observations begin the exploration and accumulation of information regarding vocational opportunities.

As children hear and observe different roles that individuals have, they begin to explore themselves through role-playing or actual responsibilities around the house. Super (1957) referred to this involvement as pre-occupational exploration, as the child is given the opportunity to become involved in various activities and roles and experience them in reality. Through this, the child can find out about different types of work, discover what he or she likes and dislikes, how one must interact in the different working situations, and what is expected of him or her in each role (Super).

Parents, or parental figures, have also been found to influence individuals in their career exploration and career commitment. A study involving 14 parent-adolescent dyads revealed how tension and disappointment can arise when parents and children have different ideas concerning career goals (Young, Paseluikho, & Valach, 1997). The relationship between adolescent and parent continues to be influential beyond the exploration step in career decision-making. Scott and Church (2001) found college students with a greater attachment to their parents, or who had relationships free of guilt, resentment, and conflict with their parents, had positive progress towards career commitment. A study by Felsman and Blustein (1999) supported these results.

The occupation of an individual's parents may influence career exploration. High school students were more likely to be interested in a career in agriculture if their parents were employed in an agriculturally related occupation (Hoover & Scanlon, 1991; Jones & Larke, 2001). This, however, does not equate to parental support. Osborne and Dyer (2000) found even in situations where parents held positive attitudes towards agriculture as a career field, parents were uncertain as to whether they would encourage their child to pursue a career in agriculture.

Exploration in part-time work

Being employed can provide individuals another means of vocational exploration and offer them a hands-on experience in different roles and fields outside of the home. Opportunities can be found on one's own merit, or can be offered through placement programs in schools or other social activities. According to Super (1957), these work experiences provide individuals with an opportunity to gain valuable experience in developing mature work habits, to become oriented and familiar with the adult subculture and adult roles they will be expected to adopt, and to test his or her interest, aptitude, and skills in different kinds of work.

Part-time work opportunities can be disadvantageous to individuals if they only offer a limited view or interaction with the possible roles involved in that type of work. Supervisors and instructors must take time to discuss, observe, and allow the individual to try out the many aspects involved in the chosen area of employment in order to offer them the full scope of the occupational field (Super, 1957). Super contended the most valuable aspect involved in a work experience is the opportunity to establish contacts with a number of different adults who are employed and make their living in a variety of ways. Similar to the role models individuals look to for guidance in the home, these role models can provide a connection to the actual workplace of interest.

Exploration in the school

Although the experiences gained in the workplace carry some importance in this study, of greatest interest is the exploration opportunities provided to individuals through school programs. Harren (1979) noted that career exploration is most apparent in adolescent years when students often are required to choose an educational and career path in order to obtain their occupational goals. A three year study of students by Creed, Patton, and Prideaux (2007) revealed students who were more undecided regarding their future careers tended to engage themselves in more exploratory opportunities than individuals who were more certain with their future careers. However, Creed et al. concluded even though students are trying to engage themselves in more exploratory opportunities, students may still require additional support and encouragement from their teachers or counselors.

Super (1957) discussed a variety of methods utilized in education to allow for exploration of vocational opportunities including activities, informal exploration, new models, and formal exploration and orientation courses. The value and significance of each will be discussed in the following sections.

Activities. The value of educational systems extends beyond the classroom setting. Activities include clubs, special programs offered by the school, special projects, or volunteer work (Super, 1957). Super suggested these types of activities are often targeted to a certain interest or area and provide individuals with an opportunity outside of the classroom to explore careers and occupations involved in a given field. A study by McCallister, Lee, and Mason (2005) revealed agronomy and crop science departments were increasing awareness of career opportunities through high school and collegiate career fairs and utilizing alumni and industry partners in their recruitment. Career fairs and alumni or industry partners provide individuals with access to direct information from people involved in a variety of careers, and allows

students the chance to establish a relationship if they are interested. Shivy and Koehly (2002) found undergraduate and graduate students preferred career assistance through contact with employed professionals via internships, interviews, and career fairs, to traditional career services offered at the university. Such interactions can provide insight into vocational areas and allow students to evaluate and test their interest in the area or field involved.

Informal exploration. Super (1957) described informal exploration as the relationships and influences that individuals experience and become involved in socially. Informal exploration can play both a positive and negative role in exploring different careers as well as defining personal interests. Super suggested that the influence of an individual's peers could possibly steer him or her away from his or her actual interests because the individual has a greater desire to "fit in" with the group. This influence may cause the individual to stray from pursuing a career that was a better fit to his or her aptitude and desire. Likewise, peer influence can provide a positive opportunity for exploration. In a supportive setting, individuals can share their aspirations and evaluations of career opportunities and receive feedback that could allow them to better clarify and define their possible career goals or decisions (Super). The results from a study of undergraduate college students indicated "individuals who reported a greater attachment to peers and who have the capacity to experience intimate relationships with others were more likely to have engaged in greater levels of environmental exploration and had made greater progress in committing to career choices" (Felsman & Blustein, 1999, p. 290). Felsman and Blustein concluded peer relationships are used to help quell the anxiety individuals feel regarding the difficulties they experience in predicting their future. This benefit may transfer to dealing with social anxiety, or one's concern with the evaluations of others. A study of college

students revealed an association between high levels of social anxiety and low levels of vocational commitment (Hardin et al., 2006).

New role models. Similar to the influence individuals discover in their peers and informal exploration, educational systems can provide students the opportunity to meet new role models and establish relationships with authoritative figures outside of the home. Super (1957) suggested that, beyond discovering it is possible to have role models and relationships beyond familiar figures, adequate role models in school and the community allow the individual to explore and become aware of many different possible societal roles and expand his or her search for the role model of best fit for him or her. New role models may offer guidance, support, and assistance that are appropriate and valued by the individual in his or her pursuit of a career and increase his or her awareness of opportunities (Super).

The level of interaction between the new role models and student is important and may influence the student's career decision. A study of minority graduates from a college of agriculture revealed students were more likely to pursue a career in agriculture if they received encouragement from an individual they could relate to (Jones & Larke, 2001). Having people of similar ethnic backgrounds as students serve solely as role models did not increase the likelihood of the students choosing a career in agriculture (Jones & Larke).

Formal exploration and orientation courses. Super (1957) defined this category as the prototypical curriculum offered to individuals in high school and college courses, and claimed orientation or introductory courses are usually exploratory in their range of content and purpose. This can be observed in the variety of choices and opportunities students have in high school courses offered, allowing students to increase their awareness of occupational opportunities as well as try out a variety of different subjects and areas of interest (Super). Super contended "the

real point is that many students, even as late as in the graduate or professional school, still need a great deal of orientation to themselves and to their prospective fields of work” (p.85).

Super (1957) purported students in college are actually required to take numerous survey courses or courses with a variety of orientation values in their first two years in order to help them discover in what field their abilities and interests are best fit. Fishbein and Ajzen (1975) suggested an individual’s knowledge or experience regarding a subject or issue has an effect on his or her intentions to participate in a subject or event. If an individual is unaware of a subject or event, he or she will be unlikely to investigate his or her interest in the opportunity. Russell (1989) claimed students who enroll in agricultural colleges at universities lack the agricultural background and familiarity of prior generations, and therefore need greater attention paid to orienting them to agricultural topics and careers. As a solution, Malecki, Israel, and Toro (2004) suggested a connection be developed between undergraduate survey science courses and career awareness counselors in order to further expand the knowledge of career opportunities related to the agricultural sciences.

Additionally, Super (1957) suggested courses that are exploratory in nature should be offered to students beyond the first two years of school. Students may know they have a career information deficit, but often do not feel the need to seek out new information by taking survey or exploratory courses (Kelly & Lee, 2002). Courses do not necessarily have to be exploratory in nature to increase career awareness. The opportunity for increasing career awareness can be provided through lectures, field trips, media, discussion, and guest speakers (Super). Orientation or survey courses simply allow students to knowingly enroll in a course that may allow them to discover the best outlet for their abilities and increase their awareness of opportunities, as well as possibly discover the vocation they would most enjoy.

Based on a study of students in the College of Agriculture at Iowa State University that found career indecision influenced career exploration, Esters (2007) recommended interventions be designed to help students reduce career indecision and increase exploratory activities. Ladany et al. (1997, p. 50) claimed, “These interventions will in turn influence and facilitate the crystallization of students’ interests, skills, values, and aptitudes and provide the needed vocational information.” Interventions, which can include experiential learning activities, can be integrated into traditional instructional settings, and may help students explore, use, and analyze information regarding possible careers opportunities (Hitch & Gore, 2005).

Measuring Commitment to Career Choice

A model has been developed in order to quantify and measure an individual’s level of commitment to career choice. Blustein, Ellis, and Devenis (1989) explained commitment to career choice as a process involving two independent variables: an individual’s vocational exploration and commitment (VEC), and his or her tendency to foreclose (TTF). When measured together, these constructs form the Commitment to Career Choices Scale (CCCS). High scores on the CCCS suggest a lack of commitment to career choice, while low scores indicate a clear and confident commitment to career choice.

The VEC variable captures the commitment process, from uncommitted and exploratory to highly committed and confident (Blustein et al., 1989). The TTF variable explains “intrapersonal differences in the tendency to foreclose” (p. 347), which is a continuum of having a strong tendency to foreclose to being open to the many experiences associated with the commitment process (Blustein et al., 1989). Marcia et al. (1993) described tendency to foreclose as commitment to an idea of considerable importance, such as an occupation, without engaging in exploratory behavior. Jordaan (1974) purported individuals who show a weak tendency to foreclose are more likely to be open to career exploration and self-appraisal activities.

Studies have suggested an individual's tendency to foreclose may be influenced by a number of variables. Leal-Muniz and Constantine (2005) found the level of perceived parental support one had was negatively predictive of one's tendency to foreclose prematurely on career options. Results also indicated one's level of perceived occupational barriers and adherence to career myths were positively predictive of one's tendency to foreclose prematurely on career options. A study by Ladany et al. (1997) reported a positive relationship between tendency to foreclose and career myths, however it did not find a significant relationship between tendency to foreclose and perceived occupational barriers.

An initial study conducted by Blustein et al. (1989) utilizing the CCCS examined the effect of a career development intervention on undergraduate college students' commitment to career choices. The intervention group enrolled in a three-credit undergraduate course entitled "Principles of Career and Life Planning," the comparison group enrolled in another course offered in the same department, and the control group consisted of randomly selected students in various undergraduate courses. The CCCS was given to students during the first two weeks of the semester and again during the last two weeks of the semester. Results from the study revealed the career development intervention group had significantly lower scores on the TTF scale (TTFS), while the non-treatment groups did not elicit any changes from pretest to posttest (Blustein et al.). Similarly, the VEC scale (VECS) results showed students in the intervention group became more committed to their career choices over the course of the intervention (Blustein et al.). The career development intervention had a measurable positive effect on students' career choice commitment.

The CCCS has been used in several other previous studies (Anderson & Betz, 2001; Brown et al., 2003; Felsman & Blustein, 1999; Hardin et al., 2006; Ladany et al., 1997; Leal-

Muniz & Constantine, 2005; Scott & Church, 2001; Shivy & Koehly, 2002; Sullivan & Mahalik, 2000; Wang et al., 2006). Further discussion of the CCCS will be conducted in Chapter 3.

Chapter Summary

In this chapter, literature associated with the mechanisms of career development and choice was examined and summarized to provide an understanding of the process involved in making a decision regarding vocation. A review of literature relating to Tiedeman and O'Hara's (1963) theory regarding the aspect of anticipation in career decision-making, as well as Super's (1957) theory regarding adolescence as exploration, was presented. This literature provided the background for the theoretical framework, the four steps of the aspect of anticipation, and the three key areas of exploration.

CHAPTER 3 METHODS

Introduction

This study was conducted to determine if involvement in an exploration experience offered through an agricultural travel course affected students' commitment to career choice. This chapter explains the methodology utilized in answering the research questions presented in the study and provides an overview of the research design as well as analysis of the study participants, instrumentation, data collection, and data analysis. The following research objectives were assessed:

1. Describe the demographic characteristics and background of students in the College of Agricultural and Life Sciences at the University of Florida and the College of Agriculture at Purdue University who self-select to participate in agricultural travel courses.
2. Describe students' level of commitment to career choices as measured by the Commitment to Career Choices Scale (CCCS) prior to and following an agricultural exploration intervention.
3. Describe the effect of the intervention on students' vocational exploration and commitment (VEC) and tendency to foreclose (TTF) as indicators of commitment to career choice.

Research Design

This study utilized a pre-experimental, pretest-posttest design (Ary, Jacobs, & Razavieh, 2002). Ary et al. (2002) stated a one-group pretest-posttest design consists of three steps: "(1) Administering a pretest measuring the dependent variable, (2) applying the experimental treatment X to the subjects, and (3) administering a posttest, again measuring the dependent variable" (p.303-304). The differences in the pretest and posttest results are attributed to the experimental treatment administered. Ary et al. (2002) purported the use of a control group strengthens the internal validity, however previous studies using the Commitment to Career Choices Scale (CCCS) have not utilized a non-treatment group (Brown et al., 2003; Felsman & Blustein, 1999; Leal-Muniz & Constantine, 2005; Shivy & Koehly, 2002; Wang et al., 2006).

In researching the subjects enrolled in travel courses, this study employed sample survey research (Ary et al., 2002). A purposive sample of five travel courses, four offered at the University of Florida and one at Purdue University, was selected for involvement in this study. The travel course at Purdue University was included because it was very similar to one of the travel courses included from the University of Florida in both objectives and participants. Ary et al. (2002) assert the use of a purposive sample examining elements that are representative or typical of the population studied is valid. This form of non-random sampling was deemed necessary due to the dynamic and uncertain nature of course funding, instructor participation, and student enrollment in travel courses offered at the University of Florida and Purdue University. The survey instrument was developed by Blustein, Ellis, and Devenis (1989) and was administered to all individuals in the travel courses being studied. In this study, the population was defined as students enrolled in travel courses offered by the College of Agricultural and Life Sciences at the University of Florida and Purdue University's College of Agriculture during the 2008 Spring and Summer academic semesters. Ary et al. (2002) purported the use of a sample study of intangibles, including attitudes, achievement, motivation, opinions, and other psychological related assessments, is valid.

According to Campbell and Stanley (1969), the internal threats to validity that exist in a pretest-posttest design with a static-group comparison are: history, maturation, selection, testing, and mortality. Internal validity must be addressed to draw conclusions from a study (Campbell & Stanley). History and maturation, noted as threats to validity, were components of the independent variable, the travel course. The study sought to measure the effect of exposure to different experiences outside of the traditional classroom setting (history) as well as the students' growth or lack-there-of (maturation). However, without a control group, these threats were

recognized as limitations since no comparison was available. The next threat to validity, selection, was addressed by including all students enrolled in the purposive sample of travel courses in the College of Agricultural and Life Sciences at the University of Florida and the College of Agriculture at Purdue University during the Spring and Summer academic semesters. This ensured that participants were based on the definition of the study parameters. To avoid the threat to validity due to mortality, the researcher applied the pretest and posttest no more than four weeks apart, in order to minimize differences that may be attributed to the dropout of individuals in the groups. The test-retest reliability will be discussed in the instrumentation section of this chapter. The researcher recognized testing as a limitation of the study as the subjects might have become familiar with the instrument since the same one is used for the pretest and posttest.

Participants

The study participants consisted of all students enrolled in five selected travel courses offered by the College of Agricultural and Life Sciences at the University of Florida and the College of Agriculture at Purdue University during the 2008 Spring and Summer academic semesters. The agricultural travel courses included in this study had a broad focus in the agricultural area of interest, were open to students of any major or year, and had a travel component of at least one week. Students self selected to enroll in the course. A purposive sample consisted of students enrolled in the following classes:

As shown in Table 3-1, *Commodities to Cafes: Agricultural and Food Markets in France* had 22 students enrolled. The *Costa Rica Study Course* had 20 students enrolled. *Italian Food: From Production to Policy* had 12 students enrolled. The *Integrated Agriculture Travel Course* had 18 students enrolled. *Agro-Ecology in Tropical America* had 3 students enrolled. In total, 75 students (N=75) were enrolled in the five courses.

Instrumentation

The researcher utilized the Commitment to Career Choices Scale (CCCS) developed by Blustein, Ellis, and Devenis (1989) to measure the career choice commitment of students prior to and following their participation in a travel course. The questionnaire assessed three dimensions: demographics and student background, vocational exploration and commitment, and tendency to foreclose. The CCCS was created to assess an individual's progress in the career commitment process utilizing the Vocational Exploration and Commitment scale (VECS), as well as openness or approach to the career commitment process utilizing the Tendency to Foreclose scale (TTFS) (Blustein et al, 1989). The TTFS and VECS utilized a seven-point anchored scale for responses. High scores suggest a lack of commitment to career choice, while low scores indicate a clear and confident commitment to career choice.

The CCCS was originally constructed in accordance to Landy's (1986) theory-driven, test construction approach, and the content for the VECS and TTFS was drawn from relevant theory and supporting empirical evidence to aid in ensuring validation (Blustein et al., 1989). The VECS and TTFS were constructed to be orthogonal and in the congeneric measurement model. The congeneric model is defined as "a linear relation between the true scores of different observed variables" (Alwin & Jackson, 1980, p. 73). The construct validity of the CCCS was tested using a confirmatory factor analysis procedure.

The CCCS, consisting of a nine-item TTFS and a 19-item VECS, was internally consistent, factorially discrete, theoretically meaningful, and represented important dimensions of the commitment process (Blustein et al., 1989). Items included in the scales were:

Integral to the construct of interest, evidenced appropriate item to total scale correlations ($r_s > .4$), rated by experts as tapping the appropriate construct, were minimally biased by social desirability ($r_s < +/- .2$), were related in the appropriate direction and magnitude to the two behavioral validity measures, and had solid factorial validity (Blustein et al., 1989, p. 357).

In order to test validity and reliability, Cronbach's alpha coefficients were computed for the derivation (n=565) and cross-validation (n=571) samples used in developing the instrument. The derivation sample yielded acceptable reliability levels of .82 and .78 and the cross-validation sample yielded reliability levels of .92 and .91 for the final TTFS and VECS, respectively. A reliability level of .80 or higher was deemed acceptable (Ary et al., 2002).

The relationships of demographic variables collected and the VECS and TTFS were tested. The VECS was found to be significantly ($p < .0001$) correlated with age, grade point average, and number of occupations while the TTFS was found to be significantly correlated with the number of occupations in both samples, and grade point average in the derivation sample (Blustein et al., 1989). Gender bias was analyzed on both scales using independent sample *t* tests, and no significant difference was found.

Two studies, at a two-week interval and four-week interval, were conducted to examine the test-retest reliability of the instrument. Cronbach's alpha coefficients were calculated for the two-week and four-week intervals, yielding reliability levels of .82 and .90, and .84 and .92, respectively. Such evidence supported the assumption that the VECS and TTFS are stable across relatively similar time scales (Blustein et al., 1989).

Table 3-2 presents the internal consistency reliability estimates for the pretest and posttest Commitment to Career Choices Scale (CCCS) instrument as well as the pretest and posttest of each of the two subscales measured by the CCCS: tendency to foreclose (TTFS) and vocational exploration and commitment (VECS). The reliability levels for the subscales ranged from .72 to .80 and the reliabilities for the overall CCCS were .75 and .82. Each of the subscales and the overall scale were sufficiently reliable (Agresti & Finlay, 1997).

Data Collection

Information regarding travel courses offered in the 2008 Spring semester was collected through the University of Florida's College of Agricultural and Life Sciences dean's office in January 2008. A personalized electronic mail letter was sent to each instructor of the travel courses on January 10, 2008. The purpose of the letter was to inform the instructors of the study being conducted via a Web-based survey and to ask for the participation of their students in the study. The students' electronic mail contact information was collected in order to inform the students of the study and to administer the survey. Instructors were informed of the time frames in which the study was to be conducted: no more than ten days prior to the travel component of the course for the pretest, and no more than ten days after the return for the posttest. Information regarding the dates of the travel component of the course was collected to plan for the administering of the survey. The University of Florida Institutional Review Board approved the protocol on February 26, 2008.

When the students' contact information and the date of the course travel was received from each instructor, a reply was sent via electronic mail to inform the instructor a reminder would be sent to them regarding the survey four weeks prior to the beginning of the trip. Three weeks prior to the trip, pre-notice letters would be sent to the students. The letter sent to the participants was to inform them that two Web-based surveys would be sent to them via electronic mail and their participation would be greatly appreciated. This pre-notice letter provided a personalized, positive, and timely notification that the survey would be sent shortly (Dillman, 2007). The second contact was made 10 days after the pre-notice letter was e-mailed containing a Web-based CCCS survey. No incentives were provided for the response to the survey instrument. Two days following the second contact, a third electronic mail letter was sent to only those in the population who had not yet responded. This response was sent within the one-week window in

accordance with the suggestions of Dillman. Two days after the third correspondence was sent, a final letter was sent to non-respondents via electronic mail. The Web-based survey instrument was then closed two days following the final correspondence and the data was collected and analyzed by the researcher.

For the posttest survey, a pre-notice reminder was sent the day the first electronic survey was closed. The second electronic mail letter containing the survey was sent 10 days after the pre-notice reminder for the posttest survey was sent. The same time procedure used in the pretest was used in administering the posttest.

The population of this study consisted of students enrolled in five travel courses offered by the College of Agricultural and Life Sciences (CALS) at the University of Florida or the College of Agriculture at Purdue University during the 2008 Spring and Summer semesters. Seventy-five students were enrolled in the five selected classes, including 71 students at the University of Florida and 4 students at Purdue University. Purdue University was included in the study because the travel course offered was very similar to those offered at the University of Florida. Other travel courses at Purdue University were initially included in the study, but they were cancelled at a later date. Usable responses were collected from 43 students (Table 3-3). The 43 students who responded to both the pretest and posttest surveys represented a response rate of 57.3% (n=43).

Analysis of Data

Data were analyzed using the SPSS ® for Windows™ statistical package. Basic descriptive statistical analysis tests were conducted to calculate means, modes, frequencies, and standard deviation. An analysis of covariance was used to determine whether the mean gain from the pretest score to the post test score was statistically significant. An analysis of covariance was

appropriate because it allows one “to attribute observed gains to the effect of the experimental treatment rather than to differences in initial scores” (Gall, Gall, & Borg, 2006, p. 440).

Chapter Summary

This chapter described the methodology associated with this study. The research design, participants, instrumentation, data collection, and data analysis were also discussed. Chapter 3 addressed the reliability and validity of the study.

Table 3-1. Travel course student enrollment

Course	Students
Commodities to Cafes: Agricultural and Food Markets in France	22
Costa Rica Study Course	20
Italian Food: From Production to Policy	12
Integrated Agriculture Travel Course	18
Agro-Ecology in Tropical America	3
Total	75

Table 3-2. Reliability

Characteristic	n	α
Pretest TTFS	9	.721
Pretest VECS	19	.744
Pretest CCCS	28	.746
Posttest TTFS	9	.796
Posttest VECS	19	.789
Posttest CCCS	28	.821

Note. All reliability coefficients were estimated using Cronbach's alpha.

Table 3-3. Class participation by students in selected travel courses

Class	Number of students enrolled in class	Number of respondents
Costa Rica Study Course; University of Florida	20	12
Commodities to Cafes: Agricultural and Food Markets in France; University of Florida	22	8
Italian Food: From Production to Policy; University of Florida	12	6
Integrated Agriculture Travel Course; University of Florida	18	15
Agro-Ecology in Tropical America; Purdue University	3	2
Total	75	43

CHAPTER 4 RESULTS

This chapter presents the findings of the study, beginning with a description of the population demographics and student backgrounds. The remaining sections address the findings of the study specific to each objective.

Objective 1: Demographic Characteristics and Background

Objective one was to describe the demographic characteristics and background of students in the College of Agricultural and Life Sciences at the University of Florida and the College of Agriculture at Purdue University who self-select to participate in agricultural travel courses. As shown in Table 4-1, 37.2% (n=16) of the 43 students who participated in this study were male and 62.8% (n=27) were female. Regarding ethnicity, 62.8% (n=27) were Caucasian, 23.3% (n=10) were Hispanic, 2.3% (n=1) were Chinese, 2.3% (n=1) were African American, and 9.3% (n=4) reported “Other”. Table 4-1 also shows 81.4% (n=35) of the participants reported a GPA of 3.1 or higher, with 46.5% (n=20) in the 3.6 to 4.0 range and 34.9% (n=15) in the 3.1 to 3.5 range. The age of participants ranged from 17 to 28, with 30.3% (n=13) 20 or younger and 30.3% (n=13) 23 or older. In terms of their academic year, 21% (n=9) were freshmen or sophomores, 64.9% (n=28) were juniors or seniors, and 14.0% (n=6) were graduate students.

An open-ended response item was included that asked students participating in the study to identify their prior work experiences as well as their parents’ occupations. Forty percent (n=17) specifically noted they had prior work experience in an agriculturally related area and/or one or two parents employed in an agricultural profession. In response to another open-ended response item requesting participants to “Write down your motivations for taking this course,” 12% (n=5) indicated they hoped the experience would help with their career decision, while 30% (n=13) mentioned they anticipated enhancing their knowledge regarding their chosen career, and finally

49% (n=21) indicated they participated to travel, to have fun, or to augment their personal experience.

Objective 2: Students' Level of Commitment to Career Choices.

Objective two was to describe students' level of commitment to career choices prior to and following an agricultural exploration intervention. As shown in Table 4-2, students scored from 51 to 131 with a mean score of 88.67 (n=43) on the CCCS prior to their agricultural exploration intervention in the form of an agricultural travel course. Twenty-six percent (n=11) scored between 51 and 78, 26% (n=11) scored between 79 and 87, 28% (n=12) scored between 88 and 103, and 21% (n=9) scored between 104 and 131. Students' posttest scores on the CCCS ranged from 33 to 137 with a mean score of 87.63. Twenty-eight percent (n=12) scored between 33 and 73, 26% (n=11) scored between 74 and an 88, 26% (n=11) scored between 89 and 103, and 21% (n=9) scored between 104 and 137. The standard deviation of scores on the posttest (SD= 21.72) indicated a greater variation about the mean than in the pretest (SD=17.25).

The lowest score possible on the CCCS, indicating the strongest commitment to career choice, is 28. The median score, indicating an average commitment to career choice, is 112. The highest score possible, indicating the weakest commitment to career choice, is 196. Five-percent (n=2) scored above 112 on the pretest while 12% (n=5) scored above 112 on the posttest.

Two open-response items were included in both the pretest and posttest. The first item asked participants to "write down all the different occupations that you are considering right now," while the second item asked participants "which of the above are you considering most seriously (i.e., considered to be your first choice)?" Forty-four percent (n=19) of the participants listed at least one new occupation being considered on the posttest compared to the pretest, 42% (n=18) indicated a new occupation that they were considering most seriously, while 26% (n=14) had no change in different occupations being considered or occupation they were considering

most seriously. Of the 24 participants who listed a new occupation to their list being considered or changed their occupation being considered most seriously, 54% (n=13) had indicated on the pretest that neither they nor their parents had prior work experience in an agricultural area. Forty-one percent (n=11) of the new occupations listed on the posttest were agriculturally related.

An open-response item on the pretest requested participants “write down your motivations for taking this course.” Seventy-two percent (n=13) of the eighteen participants indicating “career decision” and/or “enhancing career related knowledge” as motivations for taking the travel course listed at least one new occupation being considered and/or a new occupation being considered most seriously on the posttest.

Objective 3: The Effect of the Intervention on Students’ Vocational Exploration and Commitment (VEC) and Tendency to Foreclose (TTF).

This objective focused on the effect participation in an agricultural travel course had on participants’ vocational exploration and commitment and tendency to foreclose as measured by the TTFS and VECS subscales of the CCCS. Pretest and posttest responses for each item on each subscale were compared and overall observed gains of the CCCS, TTFS, and VECS were analyzed.

Statistical Analysis of Change

An analysis of covariance of observed gains with pretest scores for the CCCS and the two subscales, VECS and TTFS, was performed. Results of the analysis of covariance are presented in Table 4-3 and indicated there was no significant change between the pretests and posttests for the VECS ($F=.270, p>.10$) and CCCS ($F=.272, p>.10$). The analysis of covariance did indicate there was a significant change in the TTFS ($F=3.167, p<.10$). According to Gall et al. (2006) a p of .10 is permissible in exploratory studies. This indicated there was a change in students’

tendency to foreclose as measured by the TTFS following their participation in the agricultural travel course.

Tendency to Foreclose

Table 4-4 displays the frequencies and percentages of the responses to the nine individual items measuring tendency to foreclose and ranged from 1 (never true about me) to 7 (always true about me). The definitions for the means were interpreted based on the 7-point Likert type scale and were as follows: 1.00 to 1.49, never true; 1.5 to 2.49, almost never true; 2.5 to 3.49, usually not true; 3.5 to 4.49, unsure; 4.5 to 5.49, usually true; 5.5 to 6.49, almost always true; 6.5 to 7.0, always true.

The pretest and posttest item that displayed the highest mean was, “I like the openness of considering various possibilities before committing myself to a specific occupation” (pretest M=5.09, posttest M=4.91) which indicated the statement was usually true. One item, “I believe that a sign of maturity is deciding on a single career goal and sticking to it” had response means (pretest M=3.53, posttest M=3.56) indicating students were unsure regarding this item before and after the agricultural travel course. Five items had pretest and posttest response means between 2.74 and 3.4, indicating these items were usually not true of students prior to or following their participation in an agricultural travel course. The two pretest items exhibiting the lowest means were, “Based on what I know about my interests, I believe that I am suited for only one specific occupation” (M=2.42) and “Based on what I know about my abilities and talents, I believe that only one specific occupation is right for me” (M=2.40) which indicated the statement was almost never true. The posttest response means for these items were 2.67 and 2.79, respectively, indicating these items were usually not true following the students’ participation in an agricultural travel course. The summated mean for the TTFS could have ranged from 9 to 63 and was reported as 26.44 for the pretest and 26.96 for the posttest. This summated mean indicated

students felt the items on the TTFS were usually not true prior to and following their participation in an agricultural travel course.

Vocational Exploration and Commitment

Table 4-5 shows frequencies and percentages of responses to the nineteen individual items measuring vocational exploration and commitment and ranged from 1 (never true about me) to 7 (always true about me). Definitions for the means were interpreted based on the 7-point Likert type scale and were as follows: 1.00 to 1.49, never true; 1.5 to 2.49, almost never true; 2.5 to 3.49, usually not true; 3.5 to 4.49, unsure; 4.5 to 5.49, usually true; 5.5 to 6.49, almost always true; 6.5 to 7.0, always true.

Table 4-5 is ordered as the items appeared in the instrument administered to the participants. The pretest response summaries appear above the posttest response summaries for each item. The item that exhibited the highest means was, “I feel confident in my ability to achieve my career goals” (pretest $M=5.65$, posttest $M=5.63$). These means indicated that students felt this statement was almost always true before and after their participation in an agricultural travel course. The item, “I think that I know enough about the occupations that I am considering to be able to commit myself firmly to a specific career goal” had a posttest response mean of 4.56 indicating the item was usually true while the pretest response mean of 4.16 indicated students were unsure of the item. The item, “I would change my career plans if the field I am considering became more competitive and less accessible due to a decline in available openings” elicited a pretest mean (3.35) indicating the item was usually not true of the students and a posttest response mean ($M=3.63$) indicating students became unsure of the item after the travel course experience. The item that elicited the lowest response mean was, “I find myself changing academic majors often because I cannot focus on one specific career goal.” The pretest response mean of 2.21 indicated this statement was almost never true about students participating

in agricultural travel courses. The posttest response mean for this item was 2.58, indicating the item was usually not true. The summated mean for the VECS could have ranged from 19 to 133 and was reported as 62.24 for the pretest and 60.59 for the posttest. This summated mean indicated students felt the items on the VECS were usually not true prior to and following their participation in an agricultural travel course.

Table 4-1. Demographic Profile of Students Enrolled in Agricultural Travel Courses (N=43)

Characteristic	Frequency	Percent
Gender		
Male	16	37.2
Female	27	62.8
Ethnic-Racial Group		
African American	1	2.3
Caucasian	27	62.8
Hispanic	10	23.3
Chinese	1	2.3
Other	4	9.3
GPA		
Under 2.0	0	0.0
2.1 to 2.5	1	2.3
2.6 to 3.0	7	16.3
3.1 to 3.5	15	34.9
3.6 to 4.0	20	46.5
Academic Year		
Freshman	6	14.0
Sophomore	3	7.0
Junior	20	46.5
Senior	8	18.4
Graduate Student	6	14.0
Age		
17-18	2	4.7
19-20	11	25.6
21-22	17	39.5
23-24	7	16.3
25 and older	6	14.0

Table 4-2. Descriptive Statistics of Pretest CCCS and Posttest CCCS

Test	n	M	SD	Minimum	Maximum
CCCS Pretest	43	88.67	17.25	51	131
CCCS Posttest	43	87.63	21.72	33	137

Table 4-3. Analysis of Covariance of Observed Gains for the Commitment to Career Choices Scale, Tendency to Foreclose Scale, and the Vocational Exploration and Commitment Scale

Source	F	Df	Mean Square	Sig.	R Squared
PreTTFS	3.167	1	116.930	.083	.072
PreVECS	.270	1	32.019	.606	.007
PreCCCS	.272	1	38.912	.605	.007

Table 4-4. Summary of Participants' Responses on Individual Items of the Tendency to Foreclose Scale

Item	Test	Likert Rank Response							M	SD
		1	2	3	4	5	6	7		
I believe that a sign of maturity is deciding on a single career goal and sticking to it.	Pre	2 (4.7)	4 (9.3)	19 (44.2)	8 (18.6)	8 (18.6)	1 (2.3)	1 (2.3)	3.53	1.24
	Post	3 (7.0)	8 (18.6)	10 (23.3)	8 (18.6)	13 (30.2)	0 (0.0)	1 (2.3)	3.56	1.40
Based on what I know about my interests, I believe that I am suited for only one specific occupation.	Pre	11 (25.6)	15 (34.9)	12 (27.9)	2 (4.7)	0 (0.0)	2 (4.7)	1 (2.3)	2.42	1.38
	Post	8 (18.6)	14 (32.6)	12 (27.9)	3 (7.0)	5 (11.6)	1 (2.3)	0 (0.0)	2.67	1.32
I think that a wavering or indecisive approach to educational and career choices is a sign of weakness; one should take a stand and follow through with it no matter what.	Pre	6 (14.0)	9 (20.9)	16 (37.2)	5 (11.6)	7 (16.3)	0 (0.0)	0 (0.0)	2.95	1.25
	Post	6 (14.0)	7 (16.3)	15 (34.9)	11 (25.6)	3 (7.0)	1 (2.3)	0 (0.0)	3.02	1.22
I believe that no matter what others might think, my educational and career decisions will either be right or wrong.	Pre	6 (14.0)	7 (16.3)	8 (18.6)	13 (30.2)	5 (11.6)	3 (7.0)	1 (2.3)	3.40	1.55
	Post	6 (14.0)	8 (18.6)	11 (25.6)	11 (25.6)	4 (9.3)	2 (4.7)	1 (2.3)	3.21	1.47
Based on what I know about my abilities and talents, I believe that only one specific occupation is right for me.	Pre	9 (20.9)	17 (39.5)	12 (27.9)	3 (7.0)	1 (2.3)	0 (0.0)	1 (2.3)	2.40	1.20
	Post	12 (27.9)	9 (20.9)	9 (20.9)	6 (14.0)	4 (9.3)	2 (4.7)	1 (2.3)	2.79	1.63

Table 4-4. Continued

Item	Test	Likert Rank Response							M	SD
		1	2	3	4	5	6	7		
I like the openness of considering various possibilities before committing myself to a specific occupation.	Pre	0 (0.0)	2 (4.7)	1 (2.3)	5 (11.6)	21 (48.8)	11 (25.6)	3 (7.0)	5.09 ^a	1.09
	Post	1 (2.3)	1 (2.3)	4 (9.3)	6 (14.0)	16 (37.2)	13 (30.2)	2 (4.7)	4.91 ^a	1.27
Based on what I know about the world of work (i.e., my interests, abilities, and values), I do not believe that I should seriously consider more than a single career goal at a time.	Pre	5 (11.6)	11 (25.6)	8 (18.6)	11 (25.6)	6 (14.0)	1 (2.3)	1 (2.3)	3.21	1.46
	Post	7 (16.3)	8 (18.6)	12 (27.9)	11 (25.6)	2 (4.7)	2 (4.7)	1 (2.3)	3.07	1.45
Based on what I know about my values (e.g., the importance of money, job security, etc.), I believe that only one single occupation is right for me.	Pre	7 (16.3)	9 (20.9)	19 (44.2)	3 (7.0)	3 (7.0)	2 (4.7)	0 (0.0)	2.81	1.28
	Post	8 (18.6)	10 (23.3)	13 (30.2)	8 (18.6)	3 (7.0)	0 (0.0)	1 (2.3)	2.81	1.35
I believe that there is only one specific career goal that is right for me.	Pre	9 (20.9)	15 (34.9)	9 (20.9)	1 (2.3)	4 (9.3)	4 (9.3)	1 (2.3)	2.81	1.68
	Post	10 (23.3)	12 (27.9)	9 (20.9)	7 (16.3)	2 (4.7)	2 (4.7)	1 (2.3)	2.74	1.53
Summated Mean Total	Pre								26.44*	
	Post								26.96*	

Note. Values presented as frequency / (%). Rating Scale: 1 = never true about me; 2 = almost never true about me; 3 = usually not true about me; 4 = no opinion/not sure; 5 = usually true about me; 6 = almost always true about me; 7 = always true about me. Table is ordered as the items appeared in the instrument administered to the participants with the pretest response summaries appearing above the posttest response summaries for each item. ^a Actual mean score reported, coding was reversed when computing summated scores.

*The summated mean total for this category could have ranged from 9 to 63.

Table 4-5. Summary of Participants' Responses on Individual Items of the Vocational Exploration and Commitment Scale

Item	Test	Likert Rank Response							M	SD
		1	2	3	4	5	6	7		
The chances are excellent that I will actually end up doing the kind of work that I most want to do.	Pre	0 (0.0)	0 (0.0)	4 (9.3)	7 (16.3)	12 (27.9)	15 (34.9)	5 (11.6)	5.23 _a	1.15
	Post	0 (0.0)	1 (2.3)	1 (2.3)	7 (16.3)	15 (34.9)	14 (32.6)	5 (11.6)	5.28 _a	1.10
I may need to learn more about myself (i.e., my interests, abilities, values, etc.) before making a commitment to a specific occupation.	Pre	3 (7.0)	9 (20.9)	5 (11.6)	6 (14.0)	10 (23.3)	9 (20.9)	1 (2.3)	3.98	1.71
	Post	2 (4.7)	7 (16.3)	5 (11.6)	8 (18.6)	15 (34.9)	4 (9.6)	2 (4.7)	4.09	1.54
It is hard for me to decide on a career goal because it seems that there are too many possibilities.	Pre	3 (7.0)	5 (11.6)	10 (23.3)	6 (14.0)	11 (25.6)	3 (7.0)	5 (11.6)	4.07	1.72
	Post	3 (7.0)	7 (16.3)	10 (23.3)	6 (14.0)	12 (27.9)	3 (7.0)	2 (4.7)	3.79	1.58
I have a good deal of information about the occupational fields that are most interesting to me.	Pre	0 (0.0)	2 (4.7)	8 (18.6)	7 (16.3)	11 (25.6)	10 (23.3)	5 (11.6)	4.79 _a	1.42
	Post	0 (0.0)	1 (2.3)	7 (16.3)	7 (16.3)	14 (32.6)	12 (27.9)	2 (4.7)	4.81 _a	1.22
I have thought about how to get around the obstacles that may exist in the occupational field that I am considering.	Pre	0 (0.0)	1 (2.3)	5 (11.6)	7 (16.3)	13 (30.2)	10 (23.3)	7 (16.3)	5.09 _a	1.32
	Post	0 (0.0)	0 (0.0)	4 (9.3)	8 (18.6)	14 (32.6)	13 (30.2)	4 (9.3)	5.12 _a	1.12
While I am aware of my educational and career options, I do not feel comfortable committing myself to a specific occupation.	Pre	4 (9.3)	13 (30.2)	10 (23.3)	5 (11.6)	7 (16.3)	1 (2.3)	3 (7.0)	3.30	1.66
	Post	4 (9.3)	13 (30.2)	9 (20.9)	4 (9.3)	8 (18.6)	4 (9.3)	1 (2.3)	3.35	1.63
I feel uneasy about committing myself to a specific occupation because I am not aware of alternative options in relative fields.	Pre	4 (9.3)	8 (18.6)	13 (30.2)	11 (25.6)	6 (14.0)	0 (0.0)	1 (2.3)	3.26	1.31
	Post	6 (14.0)	12 (27.9)	10 (23.3)	4 (9.3)	7 (16.3)	3 (7.0)	1 (2.3)	3.16	1.62

Table 4-5. Continued

Item	Test	Likert Rank Response							M	SD
		1	2	3	4	5	6	7		
I find myself changing academic majors often because I cannot focus on one specific career goal.	Pre	16 (37.2)	15 (34.9)	4 (9.3)	3 (7.0)	5 (11.6)	0 (0.0)	0 (0.0)	2.21	1.34
	Post	10 (23.3)	14 (32.6)	8 (18.6)	6 (14.0)	5 (11.6)	0 (0.0)	0 (0.0)	2.58	1.31
I do not know enough about myself (i.e., my interests, abilities, and values) to make a commitment to a specific occupation.	Pre	9 (20.9)	11 (25.6)	14 (32.6)	1 (2.3)	6 (14.0)	1 (2.3)	1 (2.3)	2.79	1.50
	Post	6 (14.0)	14 (32.6)	11 (25.6)	5 (11.6)	4 (9.3)	2 (4.7)	1 (2.3)	2.93	1.49
It is hard to commit myself to a specific career goal because I am unsure about what the future holds for me.	Pre	4 (9.3)	6 (14.0)	9 (20.9)	7 (16.3)	12 (27.9)	2 (4.7)	3 (7.0)	3.81	1.65
	Post	5 (11.6)	10 (23.3)	6 (14.0)	10 (23.3)	8 (18.6)	3 (7.0)	1 (2.3)	3.44	1.59
I find it difficult to commit myself to important life decisions.	Pre	8 (18.6)	11 (25.6)	11 (25.6)	5 (11.6)	5 (11.6)	2 (4.7)	1 (2.3)	2.95	1.56
	Post	8 (18.6)	15 (34.9)	6 (14.0)	5 (11.6)	5 (11.6)	4 (9.3)	0 (0.0)	2.91	1.60
I feel uneasy in committing myself to a career goal because I do not have as much information about the fields that I am considering as I probably should.	Pre	4 (9.3)	9 (20.9)	12 (27.9)	6 (14.0)	9 (20.9)	2 (4.7)	1 (2.3)	3.40	1.50
	Post	6 (14.0)	13 (30.2)	9 (20.9)	6 (14.0)	6 (14.0)	1 (2.3)	2 (4.7)	3.09	1.60
I have difficulty in making decisions when faced with a variety of options.	Pre	3 (7.0)	2 (4.7)	10 (23.3)	8 (18.6)	13 (30.2)	4 (9.3)	3 (7.0)	4.16	1.54
	Post	1 (2.3)	6 (14.0)	12 (27.9)	7 (16.3)	9 (20.9)	6 (14.0)	2 (4.7)	4.00	1.51
I feel confident in my ability to achieve my career goals.	Pre	0 (0.0)	1 (2.3)	1 (2.3)	3 (7.0)	12 (27.9)	16 (37.2)	10 (23.3)	5.65 _a	1.13
	Post	0 (0.0)	1 (2.3)	2 (4.7)	2 (4.7)	9 (20.9)	22 (51.2)	7 (16.3)	5.63 _a	1.11

Table 4-5. Continued

Item	Test	Likert Rank Response							M	SD
		1	2	3	4	5	6	7		
I feel uneasy in committing myself to a specific career plan.	Pre	2 (4.7)	12 (27.9)	11 (25.6)	6 (14.0)	10 (23.3)	2 (4.7)	0 (0.0)	3.37	1.36
	Post	5 (11.6)	14 (32.6)	8 (18.6)	6 (14.0)	6 (14.0)	3 (7.0)	1 (2.3)	3.16	1.59
I think that I know enough about the occupations that I am considering to be able to commit myself firmly to a specific career goal.	Pre	2 (4.7)	4 (9.3)	9 (20.9)	9 (20.9)	9 (20.9)	9 (20.9)	1 (2.3)	4.16 ^a	1.09
	Post	1 (2.3)	2 (4.7)	7 (16.3)	10 (23.3)	10 (23.3)	11 (25.6)	2 (4.7)	4.56 ^a	1.51
I worry about my ability to make effective educational and career decisions.	Pre	5 (11.6)	10 (23.3)	14 (32.6)	1 (2.3)	9 (20.9)	2 (4.7)	2 (4.7)	3.30	1.64
	Post	3 (7.0)	18 (41.9)	9 (20.9)	4 (9.3)	5 (11.6)	3 (7.0)	1 (2.3)	3.07	1.52
I am not very certain about the kind of work that I would like to do.	Pre	7 (16.3)	12 (27.9)	10 (23.3)	1 (2.3)	6 (14.0)	6 (14.0)	1 (2.3)	3.21	1.78
	Post	11 (25.6)	11 (25.6)	9 (20.9)	4 (9.3)	4 (9.3)	4 (9.3)	0 (0.0)	2.79	1.61
I would change my career plans if the field I am considering became more competitive and less accessible due to a decline in available openings.	Pre	4 (9.3)	9 (20.9)	10 (23.3)	11 (25.6)	6 (14.0)	3 (7.0)	0 (0.0)	3.35	1.40
	Post	3 (7.0)	9 (20.9)	7 (16.3)	11 (25.6)	10 (23.3)	1 (2.3)	2 (4.7)	3.63	1.51
Summated Mean Total	Pre								62.24*	
	Post								60.59*	

Note. Values presented as frequency / (%). Rating Scale: 1 = never true about me; 2 = almost never true about me; 3 = usually not true about me; 4 = no opinion/not sure; 5 = usually true about me; 6 = almost always true about me; 7 = always true about me. ^aActual mean score reported, coding was reversed when computing summated scores. Table is ordered as the items appeared in the instrument administered to the participants with the pretest response summaries appearing above the posttest response summaries for each item. *The summated mean total for this category could have ranged from 19 to 133.

CHAPTER 5 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter summarizes the study and discusses the conclusions, implications, and recommendations that have been drawn from the study. The purpose of this study was to determine if involvement in an exploration experience offered through an agricultural travel course affects students' commitment to career choice. The first section of this chapter provides an overview of the study, including the purpose, specific objectives, methodologies, and findings. The remainder of the chapter discusses the specific conclusions and implications from the findings, as well as recommendations for further research.

Summary of the Study

Problem Statement

The need to examine college students' awareness of agricultural career opportunities existed in order to meet increasing demands for educated agriculturalists for the agricultural job market. The problem addressed by this study was the lack of knowledge on how an agricultural travel course affects career choice commitment in students enrolled in agricultural courses of study. Agricultural travel courses hold the potential to increase student exposure to agricultural careers. Opportunities for agricultural career exploration may impact students' interest in and commitment to their choices of agricultural careers. In regard to students' commitment to career choice before and after participating in an agricultural travel course, the review of literature confirmed a clear void in academic research and found no research in this specific area.

Purpose and Objectives

The primary purpose of this study was to determine if involvement in an exploration experience offered through an agricultural travel course affects students' commitment to career choice. The following research objectives were employed to guide this investigation: (1) to

describe the demographic characteristics and background of students in the College of Agricultural and Life Sciences at the University of Florida and the College of Agriculture at Purdue University who self-selected to participate in agricultural travel courses; (2) to describe students' level of commitment to career choices prior to and following an agricultural exploration intervention; and (3) to describe the effect of the intervention on students' vocational exploration and commitment (VEC) and tendency to foreclose (TFF) as indicators of commitment to career choice.

Methodology

This study used sample survey research to study the subjects enrolled in agricultural travel courses (Ary et al., 2002). A purposive sample of five travel courses, four offered at the University of Florida and one at Purdue University, was selected for involvement in this study. The travel course at Purdue University was included because it was very similar to one of the travel courses included from the University of Florida in both objectives and participants. The survey instrument was developed by Blustein, Ellis, and Devenis (1989), and was administered to all individuals in the travel courses being studied. In this study, the population was defined as students enrolled in travel courses offered by the College of Agricultural and Life Sciences at the University of Florida and Purdue University's College of Agriculture during the 2008 Spring and Summer academic semesters. Ary et al. (2002) affirmed the use of a sample study of intangibles, including attitudes, achievement, motivation, opinions, and other psychological related assessments, is acceptable. Study participants consisted of all students enrolled in five selected agricultural travel courses offered by the College of Agricultural and Life Sciences at the University of Florida and the College of Agriculture at Purdue University during the 2008 Spring and Summer academic semesters. "Agricultural travel course" was defined, for the purpose of this study, as a class offered for credit through a college or university focused on an agricultural

area of study. In this study travel courses included an experience-based travel component of at least one week. The purposive sample consisted of 75 students enrolled in five different agricultural travel courses. Responses were obtained from 43 of the 75 individuals for a response rate of 57.3%.

Data for this study were collected using the Commitment to Career Choices Scale (CCCS) developed by Blustein et al. (1989) to measure the career choice commitment of students prior to and following their participation in a travel course. The questionnaire assessed three dimensions: (a) demographics and student background, (b) vocational exploration and commitment, and (c) tendency to foreclose. The CCCS was created to assess an individual's progress in the career commitment process utilizing the Vocational Exploration and Commitment scale (VECS), as well as openness or approach to the career commitment process utilizing the Tendency to Foreclose scale (TTFS) (Blustein et al.). The nine-item TTFS and 19-item VECS utilized a seven-point anchored scale for responses. High scores suggest a lack of commitment to career choice, while low scores indicate a clear and confident commitment to career choice.

Objective One

Conclusions

The majority of students who participated in the agricultural travel courses in this sample were upperclassmen or graduate students of Caucasian or Hispanic background with a grade point average of 3.1 or higher. Half of the students in this sample participated in the agricultural travel course for a non-career related reason. Few students participated in the agricultural travel courses in order to help with their career exploration or decision. Less than half of the students in this sample have been employed or had parents who have been employed in agriculturally related occupations.

Implications

Agricultural travel courses offer students an opportunity to experience and learn things that cannot be delivered through traditional classroom media (Zervanos & McLaughlin, 2003). These experiences can contribute directly to the anticipatory aspect of an individual's career decision-making process by providing opportunity for exploration or crystallization (Tiedeman & O'Hara, 1963). Little information was known regarding the demographic composition, background, or motivations of students who participate in travel courses prior to this study. Hitch and Gore (2005) contended experiential learning activities, such as agricultural travel courses, may offer students the opportunity to experience, use, and analyze career related information. Prior to this study, it was unknown if the opportunity to explore and enhance career related information was actually sought by students participating in the travel course. Since students self-select to enroll in agricultural travel courses in the College of Agricultural and Life Sciences at the University of Florida and College of Agriculture at Purdue University, it was important to research students' backgrounds and motivations for participating in an agricultural travel course.

This research shows students who enroll in agricultural travel courses at the University of Florida and Purdue University are predominantly high-achieving Caucasian or Hispanic upperclassmen and graduate students. Upperclassmen usually have a high level of career certainty since they are expected, and usually required, to have a declared major (Orndorff & Herr, 1996). The high level of career certainty suggests they are advanced in the career decision-making process (Tiedeman & O'Hara, 1963). Though Spokane (1991) asserted experiences or actions taken to enhance career development can occur at any time in an individual's development, Tiedeman and O'Hara claimed the effectiveness of these actions is influenced by the individual's progress in the career decision-making process. This suggests the effectiveness of the experience of a travel course on the upperclassmen participants would be limited. The

high-achieving status of the students in this study, reflected in the high percentage of participants with a grade point average greater than 3.1, also suggests significant progress beyond the exploration step in the career decision making process (Creed et al., 2007). The upperclassman status and high grade point average of the students in this study may explain why so few students listed career exploration as a motivating factor for participating in a travel course. Approximately half of the participants listed a non-career related reason, such as “to have fun” or “to experience new things,” for enrolling in an agricultural travel course.

Many introductory or orientation courses are exploratory in nature and are targeted at underclassmen to offer them a survey of different fields and opportunities (Super, 1957). Agricultural travel courses offer students a similar opportunity for exploration by offering a wide array of experiences orientating students to different opportunities in agriculture. Despite prior research by Hannah and Robinson (1990) finding half of college freshmen wanted help in making career decisions, only 21% of the students in the study were freshmen or sophomores. A possible explanation for this low number may be undergraduate students’ lack of knowledge regarding travel courses or lack of experience in agricultural areas or travel. Fishbein and Ajzen (1975) determined lack of knowledge or experience directly affect an individual’s intention to participate in an activity or event. Students may have a hard time fitting travel courses into their schedules as freshmen or sophomores due to the pre-requisite courses required by their college of choice. The University of Florida and Purdue University also have a substantial number of students who transfer in and start as upperclassmen after completing their pre-requisite coursework at another institution.

Previous employment has been found to have a significant influence on an individual’s exploration and knowledge of agricultural careers (Hartung, 2005; Super, 1957). Parental

influence also has an influence on an individual's pursuit and exploration of agricultural careers (Washington & Rodney, 1984). Interestingly, less than half of the students in this study had been employed, or had at least one parent employed, in an agricultural area. This contrast may be attributed to the non-career related motivations for students participating in the agricultural travel course. This evidence suggests students may participate in any travel course, career related or not, just for the opportunity to travel.

The dearth of ethnic diversity, specifically the small percentage of African American and Asian students who participated in the travel courses studied, was expected. Numerous studies have found the scarcity of African American student interest in agricultural careers can be attributed to their lack of a substantial background in agricultural areas (Case, 1993; Frick et al., 1995; Leatherberry & Wellman, 1988). The under-representation of minorities in agricultural areas is discouraging and the findings of this study further support the need for greater ethnic diversity in agricultural majors and careers.

Objective 2

Conclusions

Most of the students who chose to participate in an agricultural travel course had a stronger than average level of commitment to career choice and participation in the agricultural travel course elicited little change in the students' level of commitment to career choice. Participation in an agricultural travel course affected students in different ways. Some students exhibited a strengthening in their commitment to career choice, others showed a weakening in their level of commitment, and some had no change in their level of commitment to career choice.

Participation in an agricultural travel course helped some students identify new possible occupations to consider or elicited a change in occupation of choice. Participation in an agricultural travel course also increased the number of agriculturally related occupations being

considered by students. Most students who listed a career-related motivation for participating in an agricultural travel course showed a change in careers being considered following the travel experience.

Implications

Although most of the students who participated in the agricultural travel courses in this study had a stronger than average commitment to career choice, Ester (2007) found career exploration could help more than just the students facing career indecision. Students going through the career choice step of the anticipatory aspect of the career decision-making model could also benefit from their participation in an agricultural travel course (Ester). The steps in Tiedeman and O'Hara's (1963) career decision-making model are discontinuous and may occur simultaneously and an individual's progress in the anticipatory aspect of the career decision-making model can move both forwards and backwards. Some students in this study exhibited a strengthening in their commitment to career choice following their participation in an agricultural travel course while other students showed a weakening in their level of commitment to career choice. Some students' career choice commitment remained unchanged. Even though the individual effect on career choice commitment was varied, Blustein et al. (1994) asserted participation in any exploratory activity is associated with progress in career decision-making.

This research shows participation in an agricultural travel course does have an effect on the careers students are considering. The number of new occupations being considered by students following the travel course supports Werbel's (2000) contention that, as individuals examine more work opportunities, they will continue to make assessments of their interests in these opportunities and the different careers they are considering. Kelly and Lee (2002) found the lack and need of information regarding careers are the largest contributors to career decision problems. It is recognized that a differences in pretest and posttest scores has been found to be a

limitation of self-assessment, however the number of new occupations being considered may suggest students are experiencing career decision problems and are less committed than they report. A previous study by Ladany et al. (1997) supported this claim in finding the lower the commitment students had to career choice, the more options they considered when looking at different occupations.

The increase in the number of agricultural occupations being considered by students following their participation in the agricultural travel course is encouraging. Rural and urban students have been found to have positive perception regarding agriculture, however, their knowledge regarding the career opportunities in agricultural areas is limited (Frick et al., 1995; Russell, 1989). Agricultural travel courses may help reinforce the positive perceptions and dispel any negative opinions students have regarding agricultural careers by exposing the students to different career opportunities in agricultural areas (Orthel et al., 1989). Agricultural travel courses create awareness of agricultural occupations and opportunities that were previously unknown to students (Conroy, 1997). Furthermore, this research shows that most students who participate in an agricultural travel course for career-related motivations demonstrated a change in careers being considered following the travel experience.

Objective 3

Conclusions

Participating in an agricultural travel course affected a student's tendency to foreclose. Students either become more or less open to other options regarding their career decision. As a whole, students became more accepting to the idea that there may be one specific occupation suitable for them after participating in an agricultural travel course.

Students who chose to participate in an agricultural travel course were advanced in their career decision-making process prior to their participation. Most students in this study exhibited

a low tendency to foreclose and better than average progress in their career exploration and commitment process before they had their travel experience. Most students in this study had investigated and considered different careers and opportunities prior to participating in the agricultural travel course.

As a whole, students in this study expressed less confidence in their personal knowledge regarding careers they were interested in following their participation in an agricultural travel course.

Implications

This research shows participating in an agricultural travel course had an effect on an individual's tendency to foreclose on career choice or options. Following their travel experience, students either became more or less open to other options regarding their career decision. Students who advanced in the career decision-making process became less likely to commit to a career choice without exploration and more committed to their career choice while students who regressed in the career decision-making process became more likely to commit to a career choice without exploration and less committed to their career choice (Tiedeman & O'Hara, 1963). Though this change contrasts the static nature of students' career choice commitment prior to and following their participation in an agricultural travel course, the disparity is not unprecedented. Blustein et al. (1994) found many college students may be carrying on with their career decisions and career decision-making tasks in a foreclosed fashion and not truly progressing in the career decision-making process. Raskin (1989) suggested students who are foreclosed need an intervention promoting a variety of career opportunities that are different than ones the students are familiar with. Moreover, Dziuben, Tango, and Hynes (1994) found students with declared majors or reported career decisiveness may actually be undecided because they do not understand or know how their needs may be met in their chosen career. Gianakos (1999) further

supported the results of this study in finding students who discover their career of choice is unrealistic benefit substantially from assistance in learning about and considering other careers congruent with their interests, values, and abilities. Participation in an agricultural travel course offered students this intervention and assistance and may have enabled students to become aware of their actual progress in the career decision-making model. This may be what is reflected in the change in the students' tendency to foreclose.

The lack of knowledge regarding careers expressed by students in this study following their participation in an agricultural travel course suggests students thought they were more knowledgeable regarding careers than they actually were. It is recognized that pre-post tests lend themselves to such results, however, the difference found in this study is supported by prior research. Heebner (1995) found most influential people in students' lives often assume that students know more than they actually do concerning possible career options. The influence of these influential people, such as career counselors, advisors, teachers, and parents, may encourage the false confidence students have regarding career decision. Creed et al. (2007) found there was a need for career counseling and intervention to increase career exploration and awareness in students. The increase in students' acceptance of the idea that there may be one specific occupation suitable for them suggests exploration revealed more career opportunities or a chance for further self-evaluation (Werbel, 2000).

Recommendations

Recommendations for practice are:

1. Agricultural travel courses should be further targeted to sophomore and freshmen students, much like an orientation or introductory course. This would provide students with an opportunity to increase awareness of and explore different agricultural careers in realistic settings, as well as establish connections with individuals employed in areas of interest before they must decide upon a major.

2. Colleges of agriculture should suggest departments be involved in sponsoring and conducting at least one travel course a year that enhances awareness of career opportunities in the field.
3. Although most students who participated in the agricultural travel courses studied had a high grade point average, high classroom achievement should not be a factor in who is permitted to participate in the agricultural travel course.
4. Programs should be implemented to attract more minority students to participate in agricultural travel courses.
5. Travel course agendas should be created to cater conventional and nonconventional forms of agriculture. Colleges of agriculture must capitalize on the positive perceptions urban and rural students have regarding agricultural opportunities (Frick et al., 1995) in order to attract retain a wide variety of students to agricultural careers.
6. After participation in an agricultural travel course, students should be encouraged to meet with a career counselor or go to the career resource center to meet with a consultant. Students should further investigate the new careers they became aware of and interested in, as well as have the opportunity to discuss and evaluate their career decision-making progress with an advisor.
7. Colleges of agriculture should suggest all students to participate in a travel course in order to enhance awareness of agricultural opportunities and aid in retention.
8. Colleges of Agriculture should target students with no agricultural background to participate in agricultural travel courses in order to expose them to different agricultural career opportunities.
9. Students should be required to meet with a career counselor prior beginning their collegiate career in order to evaluate their interests and increase awareness of possible career opportunities.
10. Feeder schools should advertise, encourage, and support student involvement in agricultural travel courses at four-year institutions.
11. Agricultural career exploration should be an objective of agricultural travel courses.

Suggestions for Further Research

Recommendations for future research are:

1. Since this study only examined five travel courses over the course of only two semesters, additional replications of the study need to be conducted with a larger population that could perhaps increase diversity.
2. More research needs to be done targeting students who enroll travel courses for career related reasons and students who enroll in travel courses for other reasons separately.

3. More research needs to be done to determine how departments are promoting travel courses to students.
4. More research needs to be done to further investigate the educational and experiential backgrounds of students who participate in agricultural travel courses.
5. A study needs to be conducted investigating student perceptions and opinions regarding agricultural travel courses. Why some students chose to not participate in agricultural travel courses needs to be investigated.
6. Additional studies need to be done separating underclassmen from upperclassmen to investigating the effect of travel courses on their commitment to career choice separately.
7. More research needs to be conducted analyzing the long term effect of travel course participation on declared major and employment.
8. More research needs to be conducted analyzing different components of the various agricultural travel courses including course objectives, educational techniques, teacher ability, and course effectiveness.

APPENDIX A
INSTITUTIONAL REVIEW BOARD APPROVAL



PO Box 112250
Gainesville, FL 32611-2250
352-392-0433 (Phone)
352-392-9234 (Fax)
irb2@ufl.edu

DATE: February 26, 2008

TO: Charles P. Nealis
PO Box 110540
Campus

FROM: Ira S. Fischler, PhD, Chair. *ISF:dl*
University of Florida
Institutional Review Board

SUBJECT: **Approval of Protocol #2008-U-0098**

TITLE: Impact of participation in an agricultural travel course on students

SPONSOR: None

I am pleased to advise you that the University of Florida Institutional Review Board has recommended approval of this protocol. Based on its review, the UFIRB determined that this research presents no more than minimal risk to participants, and based on 45 CFR 46.117(c), authorizes you to administer the informed consent process as specified in the protocol.

If you wish to make any changes to this protocol, ***including the need to increase the number of participants authorized***, you must disclose your plans before you implement them so that the Board can assess their impact on your protocol. In addition, you must report to the Board any unexpected complications that affect your participants.

If you have not completed this protocol by **February 25, 2009**, please telephone our office (392-0433), and we will discuss the renewal process with you. It is important that you keep your Department Chair informed about the status of this research protocol.

ISF:dl

An Equal Opportunity Institution

APPENDIX B
TRAVEL COURSE INSTRUCTOR INFORMATION REQUEST EMAIL

Hello Dr. [Last Name],

My name is Charlie Nealis and I am a graduate student in the Agricultural Education and Communication department here at the University of Florida. I am contacting you because I have been informed that you will be instructing a course with a travel component this spring and/or summer semester. I have participated in three travel courses, twice as a student and once as a TA, and truly feel that they offer students an incredible opportunity to grow both academically and personally through their experiences in the course. Unfortunately there is very little research to support this claim. For my thesis I am researching the effect of travel courses or field experiences on career choice commitment in undergraduate students in CALS. In order to do this I will be administering a survey pre and post travel experience via the internet. The survey will not be administered during class and should not take up much of the students' time.

I would be truly grateful if you would be willing to help with my study by allowing me to administer this survey to your students. The study will be conducted: no more than ten days prior to the travel component of the course for the pretest, and no more than ten days after the return for the posttest. The study will not require any extra effort from you, but, ideally, would require five minutes of class time to explain the survey or study to your students. After I complete the study I will be sure to send you the results for your class as well as for the study as a whole.

If you would like to help, I would like to talk to you a little more about your course's background, goals and objectives, requirements, and student participation. Please feel free to contact me at my UF email address, cpnealis@ufl.edu, or by phone at 386-747-9977. I look forward to hearing from you!

Thank you,

Charlie Nealis

APPENDIX C
SURVEY COMPLETION REQUESTS

Pre-Survey Email

Hello [First and Last Name],

My name is Charlie Nealis and I am a graduate student in the Agricultural Education and Communication department here at the University of Florida. For my thesis I am researching the effect of travel courses or field experiences on career choice commitment in undergraduate students in CALS. In order to do this I will be administering a survey pre and post travel experience via the internet.

I would be truly grateful if you would be willing to help with my study by participating. There are no risks or benefits associated with your participation. Your decision to participate will have no effect on your grade in this course. I will be contacting you in ten days with a link to the online survey.

If you would like any more information regarding the study or have any questions please feel free to contact me at my UF email address, cpnealis@ufl.edu, or by phone at (352) 392-0502 ext. 244.

Thank you,

Charlie Nealis

Pre-Test Initial Contact E-mail

Hello [First and Last Name],

My name is Charlie Nealis and I am a graduate student in the Agricultural Education and Communication department here at the University of Florida. For my thesis I am researching the effect of travel courses or field experiences on career choice commitment in undergraduate students in CALS. In order to do this I will be administering a survey pre and post travel experience via the internet.

I would be truly grateful if you would be willing to help with my study by participating. There are no risks or benefits associated with your participation. Your decision to participate will have no effect on your grade in this course.

The survey is located at the following address:
[Survey Website]

Please enter the ID number you are given in this email as your ID number in the survey.
Your ID number is: [ID Number]

If you would like any more information regarding the study or have any questions please feel free to contact me at my UF email address, cpnealis@ufl.edu, or by phone at (352) 392-0502 ext. 244.

Thank you for your time,

Charlie Nealis

Pre-Test Follow-Up Contact Email

Hello [First and Last Name],

This is a reminder about the survey I am administering to students participating in travel courses here at UF. I would truly appreciate it if you would participate in this study by completing the survey located at the following link:

[Survey Website]

When asked for your ID number, please use the following 3-digit number: [ID Number]

I understand that you are busy preparing to leave for the travel experience, but this survey will only take a few minutes of your time. It is important that you complete it before you leave because there is another survey to be completed after you return.

Thank you very much for your time and effort,

Charlie Nealis

Second Pre-Test Follow-Up Contact Email

Hello [First and Last Name],

This is a reminder about the survey I am administering to students participating in travel courses here at UF. I would truly appreciate it if you would participate in this study by completing the survey located at the following link:

[Survey Website]

When asked for your ID number, please use the following 3-digit number: [ID Number]

I understand that you are busy preparing to leave for the travel experience, but this survey will only take a few minutes of your time. It is important that you complete it before you leave because there is another survey to be completed after you return.

Thank you very much for your time and effort,

Charlie Nealis

Third Pre-Test Follow-Up Contact Email

Hello [First and Last Name],

This is a reminder about the survey I am administering to students participating in travel courses here at UF. I would truly appreciate it if you would participate in this study by completing the survey located at the following link:

[Survey Website]

When asked for your ID number, please use the following 3-digit number: [ID Number]

I understand that you are busy preparing to leave for the travel experience, but this survey will only take a few minutes of your time. It is important that you complete it before you leave because there is another survey to be completed after you return.

Thank you very much for your time and effort,

Charlie Nealis

Final Pre-Test Follow-Up Contact Email

Hello [First and Last Name],

This is a final reminder about the survey I am administering to students participating in travel courses here at UF. Please take a few moments to complete the survey located at the following link:

[Survey Website]

When asked for your ID number, please use the following 3-digit number: [ID Number]

I understand that you are busy preparing to leave for the travel experience, but this survey will only take a few minutes of your time. It is important that you complete it before you leave because there is another survey to be completed after you return.

Thank you very much for your time and effort,

Charlie Nealis

Post-Test Pre-Survey Email

Hello [First and Last Name],

Thank you for completing the pre-test survey! After you return from your trip I will be sending you the post-test survey. I would be extremely grateful if you would continue to help with my study by participating. I will be contacting you shortly following your trip with a link to the online survey.

Again, if you would like any more information regarding the study or have any questions please feel free to contact me at my UF email address, cpnealis@ufl.edu, or by phone at (352) 392-0502 ext. 244.

Thank you and have a great trip!

Charlie Nealis

Post-Test Initial Contact E-mail

Hey [First and Last Name],

I hope you had a great time in [Trip Location], I've heard that it was an amazing trip! While you probably are still unpacking and catching up on school work and laundry, I was hoping that you would take 5 minutes to take the post-test survey associated with the survey you completed prior to your travel that is located at this link:

[Website Link]

This version is much shorter and will take much less time. Again, when the survey asks for your ID number, please enter the number below:

ID Number:[ID Number]

**If used a different number as your ID number before, please use that number again.

I want to thank you all again for all your help and support and I look forward to gathering the results!

Charlie Nealis

Post-Test Follow-Up Contact Email

Hey [First and Last Name],

This is just a reminder to fill out the post-test survey. While you probably still catching up with school, I was hoping that you would take 5 minutes to take the post-test survey associated with the survey you completed prior to your travel that is located at this link:

[Website Link]

This version is much shorter and will take much less time. Again, when the survey asks for your ID number, please enter the number below:

ID Number: [ID Number]

**If used a different number as your ID number before, please use that number again.

I want to thank you all again for all your help and support and I look forward to gathering the results!

Charlie Nealis

Second Post-Test Follow-Up Contact Email

[First and Last Name],

Hello again! I hope you had a great time on your travels, I am sure that it was an amazing trip! While you probably have plenty to catch up with after returning home, I was hoping that you would take 5 minutes to take the post-test survey associated with the survey you completed prior to your travel that is located at this link:

[Website Link]

This version is much shorter and will take much less time.

Again, when the survey asks for your ID number, please enter the number below:

ID Number: [ID Number]

**If used a different number as your ID number before, please use that number again.

I want to thank you all again for all your help and support and I look forward to gathering the results!

Charlie Nealis

Third Post-Test Follow-Up Contact Email

Hello [First and Last Name],

I was hoping that you would take 5 minutes to take the post-test survey associated with the survey you completed prior to your travel that is located at this link:

[Website Link]

This version is much shorter and will take much less time.

Again, when the survey asks for your ID number, please enter the number below:
ID Number: [ID Number]

**If used a different number as your ID number before, please use that number again.

I want to thank you again for all your help and support!

Charlie Nealis

Final Post-Test Follow-Up Contact Email

Hello [First and Last Name],

This is a final reminder about the survey I am administering to students participating in travel courses here at UF. Please take a few moments to complete the survey located at the following link:

[Survey Website]

When asked for your ID number, please use the following 3-digit number: [ID Number]

I understand that you are busy catching up after your travel experience, but this survey will only take a few minutes of your time.

Thank you very much for your time and effort,

Charlie Nealis

APPENDIX D
ONLINE SURVEY

Approved Informed Consent

Informed Consent

Project Title: Factors Influencing the Matriculation Decisions of College of Agricultural and Life Sciences Students

Purpose of the research study: The purpose of this study is to gather information from students who chose to enroll in the University of Florida's College of Agricultural and Life Sciences regarding the recruitment efforts of the College. Specifically, the study aims to determine those factors that were most influential in student's decisions to attend the University of Florida.

What you will be asked to do in the study:
Complete and electronically submit a web-based questionnaire

Time required:
Approximately 15 minutes

Risks:
No risk of physical, psychological, or economic harm to participants is foreseen.

Benefits/Compensation:
There is no compensation or other direct benefit to you for participation.

Confidentiality:
Your identity will be kept confidential to the extent provided by law. Your information will be assigned a code number. The list connecting your name to this number will be kept in a locked file and destroyed once the data have been analyzed. Your name will not be used in any report.

Voluntary participation:
Your participation in this study is completely voluntary. There is no penalty for not participating. You do not have to answer any questions you do not want to answer. The decision to participate will not influence your grade in the course or your general standing in the program.

Right to withdraw from the study:
You have the right to withdraw from the study at any time without consequence.

Whom to contact if you have questions about the study:
Charles P. Nealis
Masters Student
Agricultural Education and Communication Department
C/O 305 Rolfs Hall, PO Box 110540
Phone: (352) 392-0502 ext 244
Email: cpnealis@ufl.edu
Fax: (352) 392-9585

Or

Shannon G. Washburn, PhD
Assistant Professor
Agricultural Education and Communication Department
305 Rolfs Hall, PO Box 110540
Phone: (352) 392-0502 ext 237
Email: sgwash@ufl.edu
Fax: (352) 392-9585

Approved by
University of Florida
Institutional Review Board 02
Protocol # 2008-U-0098
For Use Through 02/25/2009

Whom to contact about your rights in the study:

UFIRB Office, Box 112250, University of Florida, Gainesville, FL 32611-2250; phone: (352) 392-0433.

Agreement:

I have read the procedure described above. I voluntarily agree to participate and understand that by clicking "I Agree" below, I am consenting to participate in this study. If I choose not to participate, I will click "I Do Not Agree"

I Agree

I Do Not Agree

Approved by
University of Florida
Institutional Review Board 02
Protocol # 2008-U-0098
For Use Through 02/25/2009

Pre-Test Online Survey Web Pages

93

The screenshot shows a Windows Internet Explorer browser window. The title bar reads "Online Surveys | Zoomerang - Windows Internet Explorer". The address bar contains the URL "http://www.zoomerang.com/Survey/survey-intro.zgi?p=WEB227QHKA6A5U". The page content is titled "Commitment to Career Choices Scale" in purple. Below the title is a block of text providing informed consent information for a research study. At the bottom of the text is a blue arrow button labeled "START SURVEY!". Below the button is the Zoomerang logo with the text "POWERED BY zoomerang". The browser's status bar at the bottom shows the Windows taskbar with the Start button, several open applications (Inbox, Microsoft Office, Thesis, Appearance, Edit And Review, Online Surveys), and the system clock showing 11:17 AM on 11/11/2009.

Commitment to Career Choices Scale

Informed Consent Project Title: Factors Influencing the Matriculation Decisions of College of Agricultural and Life Sciences Students Purpose of the research study: The purpose of this study is to gather information from students who chose to enroll in the University of Florida's College of Agricultural and Life Sciences regarding the recruitment efforts of the College. Specifically, the study aims to determine those factors that were most influential in student's decisions to attend the University of Florida. What you will be asked to do in the study: Complete and electronically submit a web-based questionnaire Time required: Approximately 15 minutes Risks: No risk of physical, psychological, or economic harm to participants is foreseen. Benefits/Compensation: There is no compensation or other direct benefit to you for participation. Confidentiality: Your identity will be kept confidential to the extent provided by law. Your information will be assigned a code number. The list connecting your name to this number will be kept in a locked file and destroyed once the data have been analyzed. Your name will not be used in any report. Voluntary participation: Your participation in this study is completely voluntary. There is no penalty for not participating. You do not have to answer any questions you do not want to answer. The decision to participate will not influence your grade in the course or your general standing in the program. Right to withdraw from the study: You have the right to withdraw from the study at any time without consequence. Whom to contact if you have questions about the study: Charles P. Nealis Masters Student Agricultural Education and Communication Department C/O 305 Rolfs Hall, PO Box 110540 Phone: (352) 392-0502 ext 244 Email: cpnealis@ufl.edu Fax: (352) 392-9585 Or Shannon G. Washburn, PhD Assistant Professor Agricultural Education and Communication Department 305 Rolfs Hall, PO Box 110540 Phone: (352) 392-0502 ext 237 Email: sgwash@ufl.edu Fax: (352) 392-9585 Whom to contact about your rights in the study: UFIRB Office, Box 112250, University of Florida, Gainesville, FL 32611-2250; phone: (352) 392-0433. Agreement: I have read the procedure described above. I voluntarily agree to participate and understand that by clicking below, I am consenting to participate in this study.

START SURVEY!

POWERED BY **zoomerang**

Online Surveys | Zoomerang - Windows Internet Explorer

http://www.zoomerang.com/Survey/survey.zgl?p=WEB227QHKA6A5U

Online Surveys | Zoomerang

Commitment to Career Choices Scale

Questions marked with an asterisk (*) are mandatory.

Note: All the information that you provide will remain anonymous and confidential.

Please complete the items below:

1 * ID Number

2 * Age

3 * Sex
 Male
 Female

4 Nationality

5 College

6 * Major

7 * What is your highest completed academic year/degree (& major)?

Done

start | Inbox - Microsoft Out... | Microsoft Office ... | Edit And Review - Wi... | Online Surveys | Zoo... | 11:25 AM

Online Surveys | Zoomerang - Windows Internet Explorer

http://www.zoomerang.com/Survey/survey.zgi?p=WEB227QHKA6A5U

Online Surveys | Zoomerang

8 * Previous work experience (please specify number of years, full or part time; if none, write NONE)

9 Mother's occupation (please specify)

10 Father's occupation (please specify)

11 * What year did you start your post-secondary education?

12 * What is your approximate cumulative grade point average?

- Less than 2.0
- 2.1 to 2.5
- 2.6 to 3.0
- 3.1 to 3.5
- 3.6 to 4.0

13 Marital Status:

- Single
- Married
- Widowed
- Divorced

14 Ethnic-Racial Group:

- Afro

Done

Internet 100%

start | Inbox - Microsoft Out... | 5 Microsoft Office ... | Edit And Review - Wi... | Online Surveys | Zoo...

11:26 AM

Online Surveys | Zoomerang - Windows Internet Explorer

http://www.zoomerang.com/Survey/survey.zgi?p=WEB227QHKA6A5U

Online Surveys | Zoomerang

10 Father's occupation (please specify)

11 * What year did you start your post-secondary education?

12 * What is your approximate cumulative grade point average?

- Less than 2.0
- 2.1 to 2.5
- 2.6 to 3.0
- 3.1 to 3.5
- 3.6 to 4.0

13 Marital Status:

- Single
- Married
- Widowed
- Divorced

14 Ethnic-Racial Group:

- Afro
- Caucasian
- Indo
- Mixed
- Hispanic
- Chinese
- Other, please specify

SUBMIT

Done Internet 100%

start | Inbox - Microsoft Out... | Microsoft Office ... | Edit And Review - Wi... | Online Surveys | Zoo...

11:26 AM

Online Surveys | Zoomerang - Windows Internet Explorer

http://www.zoomerang.com/Survey/survey.zgi?p=WEB227QHKA6A5U

Online Surveys | Zoomerang

Commitment to Career Choices Scale

The following items relate to the kinds of questions that you may face in making decisions about your career.

15 Write down all the different occupations that you are considering right now:

16 Which of the above are you considering most seriously (i.e., considered to be your first choice)? If you do not have a first choice, please write NONE.

17 Write down your motivations for taking this course.

SUBMIT →

Done

start | Inbox - Microsoft Out... | 5 Microsoft Office ... | Edit And Review - Wi... | Online Surveys | Zoo... | Internet | 100% | 11:27 AM

Online Surveys | Zoomerang - Windows Internet Explorer

http://www.zoomerang.com/Survey/survey.zgl?p=WEB227QHKA6A5U

Online Surveys | Zoomerang

Commitment to Career Choices Scale

Questions marked with an asterisk (*) are mandatory.

18 * For the items that follow, please use the scale below to select the number that most accurately reflects the extent to which you agree or disagree with the statement. Indicate your choice by marking the appropriate number in the space to the left of the item number. If you do not currently have a specific career goal, respond to the items in a way that would reflect your behavior and attitudes if you did have an occupational preference.

1 = *Never true about me*
 2 = *Almost never true about me*
 3 = *Usually not true about me*
 4 = *No opinion/Not sure*
 5 = *Usually true about me*
 6 = *Almost always true about me*
 7 = *Always true about me*

1	2	3	4	5	6	7
Never True	Almost Never	Usually Not	Not Sure	Usually True	Almost Always	Always True

I believe that a sign of maturity is deciding on a single career goal and sticking to it.

1 2 3 4 5 6 7

Based on what I know about my interests, I believe that I am suited for only one specific occupation.

1 2 3 4 5 6 7

The chances are excellent that I will actually end up doing the kind of work that I most want to do.

1 2 3 4 5 6 7

I may need to learn more about myself (i.e., my interests, abilities, values, etc.) before making a commitment to a specific occupation.

1 2 3 4 5 6 7

It is hard for me to decide on a career goal because it seems that there are too many possibilities.

1 2 3 4 5 6 7

I have a good deal of information about the occupational fields that are most interesting to me.

1 2 3 4 5 6 7

I have thought about how to get around the obstacles that may exist in the occupational field that I am considering.

1 2 3 4 5 6 7

I think that a wavering or indecisive approach to educational and career choices is a sign of weakness; one should take a stand and follow through with it no matter what.

Internet 100%

start | Inbox - Microsoft Out... | Microsoft Office ... | Edit And Review - Wi... | Online Surveys | Zoo... | 11:27 AM

the occupational field that I am considering.

1 2 3 4 5 6 7

I think that a wavering or indecisive approach to educational and career choices is a sign of weakness; one should take a stand and follow through with it no matter what.

1 2 3 4 5 6 7

I believe that no matter what others might think, my educational and career decisions will either be right or wrong.

1 2 3 4 5 6 7

Based on what I know about my abilities and talents, I believe that only one specific occupation is right for me.

1 2 3 4 5 6 7

While I am aware of my educational and career options, I do not feel comfortable committing myself to a specific occupation.

1 2 3 4 5 6 7

I feel uneasy about committing myself to a specific occupation because I am not aware of alternative options in related fields.

1 2 3 4 5 6 7

I find myself changing academic majors often because I cannot focus on one specific career goal.

1 2 3 4 5 6 7

I do not know enough about myself (i.e., my interests, abilities, and values) to make a commitment to a specific occupation.

1 2 3 4 5 6 7

I like the openness of considering various possibilities before committing myself to a specific occupation.

1 2 3 4 5 6 7

Based on what I know about the world of work (i.e., the nature of various occupations), I do not believe that I should seriously consider more than a single career goal at a time.

1 2 3 4 5 6 7

It is hard to commit myself to a specific career goal because I am unsure about what the future holds for me.

1 2 3 4 5 6 7

I find it difficult to commit myself to important life decisions.

1 2 3 4 5 6 7

I feel uneasy in committing myself to a career goal because I do not have as much information about the fields that I am considering as I probably should.

1 2 3 4 5 6 7

I have difficulty in making decisions when faced with a variety of options.

1 2 3 4 5 6 7

I feel confident in my ability to achieve my career goals.

Internet 100%

start | Inbox - Microsoft Out... | Microsoft Office ... | Edit And Review - Wi... | Online Surveys | Zoo...

11:28 AM

Online Surveys | Zoomerang - Windows Internet Explorer

http://www.zoomerang.com/Survey/survey.zgi?pw=WEB227QHKA6A5U

Online Surveys | Zoomerang

occupations). I do not believe that I should seriously consider more than a single career goal at a time.
 1 2 3 4 5 6 7

It is hard to commit myself to a specific career goal because I am unsure about what the future holds for me.
 1 2 3 4 5 6 7

I find it difficult to commit myself to important life decisions.
 1 2 3 4 5 6 7

I feel uneasy in committing myself to a career goal because I do not have as much information about the fields that I am considering as I probably should.
 1 2 3 4 5 6 7

I have difficulty in making decisions when faced with a variety of options.
 1 2 3 4 5 6 7

I feel confident in my ability to achieve my career goals.
 1 2 3 4 5 6 7

Based on what I know about my values (e.g., the importance of money, job security, etc.), I believe that only one single occupation is right for me.
 1 2 3 4 5 6 7

I feel uneasy in committing myself to a specific career plan.
 1 2 3 4 5 6 7

I think that I know enough about the occupations that I am considering to be able to commit myself firmly to a specific career goal.
 1 2 3 4 5 6 7

I worry about my ability to make effective educational and career decisions.
 1 2 3 4 5 6 7

I am not very certain about the kind of work that I would like to do.
 1 2 3 4 5 6 7

I would change my career plans if the field I am considering became more competitive and less accessible due to a decline in available openings.
 1 2 3 4 5 6 7

I believe that there is only one specific career goal that is right for me.
 1 2 3 4 5 6 7

**1987 by Michael V. Ellis, David L. Blustein, and Luanna E. Devenis.
All rights reserved.*

SUBMIT

Internet 100% 11:28 AM

Post-Test Online Survey Web Pages

101

Commitment to Career Choices Scale

Informed Consent Project Title: Factors Influencing the Matriculation Decisions of College of Agricultural and Life Sciences Students Purpose of the research study: The purpose of this study is to gather information from students who chose to enroll in the University of Florida's College of Agricultural and Life Sciences regarding the recruitment efforts of the College. Specifically, the study aims to determine those factors that were most influential in student's decisions to attend the University of Florida. What you will be asked to do in the study: Complete and electronically submit a web-based questionnaire Time required: Approximately 15 minutes Risks: No risk of physical, psychological, or economic harm to participants is foreseen. Benefits/Compensation: There is no compensation or other direct benefit to you for participation. Confidentiality: Your identity will be kept confidential to the extent provided by law. Your information will be assigned a code number. The list connecting your name to this number will be kept in a locked file and destroyed once the data have been analyzed. Your name will not be used in any report. Voluntary participation: Your participation in this study is completely voluntary. There is no penalty for not participating. You do not have to answer any questions you do not want to answer. The decision to participate will not influence your grade in the course or your general standing in the program. Right to withdraw from the study: You have the right to withdraw from the study at any time without consequence. Whom to contact if you have questions about the study: Charles P. Nealis Masters Student Agricultural Education and Communication Department C/O 305 Rolfs Hall, PO Box 110540 Phone: (352) 392-0502 ext 244 Email: cnealis@ufl.edu Fax: (352) 392-9585 Or Shannon G. Washburn, PhD Assistant Professor Agricultural Education and Communication Department 305 Rolfs Hall, PO Box 110540 Phone: (352) 392-0502 ext 237 Email: sgwash@ufl.edu Fax: (352) 392-9585 Whom to contact about your rights in the study: UFIRB Office, Box 112250, University of Florida, Gainesville, FL 32611-2250; phone: (352) 392-0433. Agreement: I have read the procedure described above. I voluntarily agree to participate and understand that by clicking below, I am consenting to participate in this study.

START SURVEY!

POWERED BY zoomerang

Online Surveys | Customer Satisfaction Surveys | SMS Mobile Surveys | Online Panels
Copyright © 1999-2008 MarketTools Inc. All Rights Reserved. [Privacy Policy](#) | [Terms Of Use](#) | [Help](#)

Done Internet 100% 11:33 AM

The screenshot shows a web browser window with the following content:

- Browser Title:** Online Surveys | Zoomerang - Windows Internet Explorer
- Address Bar:** <http://www.zoomerang.com/Survey/survey.zgi?p=WEB2283WJ35542>
- Page Title:** Online Surveys | Zoomerang
- Section Header:** **Commitment to Career Choices Scale**
- Instructions:** Questions marked with an asterisk (*) are mandatory.
- Note:** *Note: All the information that you provide will remain anonymous and confidential.*
- Request:** *Please complete the items below:*
- Form Item:** A text input field labeled "1 * ID Number".
- Submit Button:** A blue button with the text "SUBMIT" and a right-pointing arrow.

The Windows taskbar at the bottom shows the Start button and several open applications, including Microsoft Office Word documents and the Zoomerang survey page. The system clock indicates the time is 11:33 AM.

Online Surveys | Zoomerang - Windows Internet Explorer

http://www.zoomerang.com/Survey/survey.zgi?p=WEB2283WJ35542

Online Surveys | Zoomerang

Commitment to Career Choices Scale

The following items relate to the kinds of questions that you may face in making decisions about your career.

2 Write down all the different occupations that you are considering right now:

3 Which of the above are you considering most seriously (i.e., considered to be your first choice)? If you do not have a first choice, please write NONE.

SUBMIT

Done Internet 100%

start | Inbox - Microso... | Elio Thesis [Co... | Brian thesis [Co... | FINAL THESIS [... | Chapters 1 thr... | Letter to stude... | Edit And Revie... | Online Surveys ... | 11:33 AM

Online Surveys | Zoomerang - Windows Internet Explorer

http://www.zoomerang.com/Survey/survey.zgl?p=WEB2283WJ3542

Online Surveys | Zoomerang

Add to Favorites (Alt+Z) **ent to Career Choices Scale**

Questions marked with an asterisk (*) are mandatory.

4 * For the items that follow, please use the scale below to select the number that most accurately reflects the extent to which you agree or disagree with the statement. Indicate your choice by marking the appropriate number in the space to the left of the item number. If you do not currently have a specific career goal, respond to the items in a way that would reflect your behavior and attitudes if you did have an occupational preference.

1 = *Never true about me*
 2 = *Almost never true about me*
 3 = *Usually not true about me*
 4 = *No opinion/Not sure*
 5 = *Usually true about me*
 6 = *Almost always true about me*
 7 = *Always true about me*

1	2	3	4	5	6	7
Never True	Almost Never	Usually Not	Not Sure	Usually True	Almost Always	Always True

I believe that a sign of maturity is deciding on a single career goal and sticking to it.

Based on what I know about my interests, I believe that I am suited for only one specific occupation.

The chances are excellent that I will actually end up doing the kind of work that I most want to do.

I may need to learn more about myself (i.e., my interests, abilities, values, etc.) before making a commitment to a specific occupation.

It is hard for me to decide on a career goal because it seems that there are too many possibilities.

I have a good deal of information about the occupational fields that are most interesting to me.

I have thought about how to get around the obstacles that may exist in the occupational field that I am considering.

I think that a wavering or indecisive approach to educational and career choices is a sign of weakness; one should take a stand and follow through with it no matter what.

Internet 100%

start | Inbox - Microso... | Elio Thesis [Co... | Brian thesis [Co... | FINAL THESIS [... | Chapters 1 thr... | Letter to stude... | Edit And Revie... | Online Surveys ... | 11:34 AM

the occupational field that I am considering.

1 2 3 4 5 6 7

I think that a wavering or indecisive approach to educational and career choices is a sign of weakness; one should take a stand and follow through with it no matter what.

1 2 3 4 5 6 7

I believe that no matter what others might think, my educational and career decisions will either be right or wrong.

1 2 3 4 5 6 7

Based on what I know about my abilities and talents, I believe that only one specific occupation is right for me.

1 2 3 4 5 6 7

While I am aware of my educational and career options, I do not feel comfortable committing myself to a specific occupation.

1 2 3 4 5 6 7

I feel uneasy about committing myself to a specific occupation because I am not aware of alternative options in related fields.

1 2 3 4 5 6 7

I find myself changing academic majors often because I cannot focus on one specific career goal.

1 2 3 4 5 6 7

I do not know enough about myself (i.e., my interests, abilities, and values) to make a commitment to a specific occupation.

1 2 3 4 5 6 7

I like the openness of considering various possibilities before committing myself to a specific occupation.

1 2 3 4 5 6 7

Based on what I know about the world of work (i.e., the nature of various occupations), I do not believe that I should seriously consider more than a single career goal at a time.

1 2 3 4 5 6 7

It is hard to commit myself to a specific career goal because I am unsure about what the future holds for me.

1 2 3 4 5 6 7

I find it difficult to commit myself to important life decisions.

1 2 3 4 5 6 7

I feel uneasy in committing myself to a career goal because I do not have as much information about the fields that I am considering as I probably should.

1 2 3 4 5 6 7

I have difficulty in making decisions when faced with a variety of options.

1 2 3 4 5 6 7

I feel confident in my ability to achieve my career goals.

Internet 100%

start | Inbox - Microso... | Elio Thesis [Co... | Brian thesis [Co... | FINAL THESIS [... | Chapters 1 thr... | Letter to stude... | Edit And Revie... | Online Surveys ... | 11:34 AM

Online Surveys | Zoomerang - Windows Internet Explorer

http://www.zoomerang.com/Survey/survey.zgi?p=WEB2283WJ35542

Live Search

Online Surveys | Zoomerang

occupations). I do not believe that I should seriously consider more than a single career goal at a time.
 1 2 3 4 5 6 7

It is hard to commit myself to a specific career goal because I am unsure about what the future holds for me.
 1 2 3 4 5 6 7

I find it difficult to commit myself to important life decisions.
 1 2 3 4 5 6 7

I feel uneasy in committing myself to a career goal because I do not have as much information about the fields that I am considering as I probably should.
 1 2 3 4 5 6 7

I have difficulty in making decisions when faced with a variety of options.
 1 2 3 4 5 6 7

I feel confident in my ability to achieve my career goals.
 1 2 3 4 5 6 7

Based on what I know about my values (e.g., the importance of money, job security, etc.), I believe that only one single occupation is right for me.
 1 2 3 4 5 6 7

I feel uneasy in committing myself to a specific career plan.
 1 2 3 4 5 6 7

I think that I know enough about the occupations that I am considering to be able to commit myself firmly to a specific career goal.
 1 2 3 4 5 6 7

I worry about my ability to make effective educational and career decisions.
 1 2 3 4 5 6 7

I am not very certain about the kind of work that I would like to do.
 1 2 3 4 5 6 7

I would change my career plans if the field I am considering became more competitive and less accessible due to a decline in available openings.
 1 2 3 4 5 6 7

I believe that there is only one specific career goal that is right for me.
 1 2 3 4 5 6 7

**1987 by Michael V. Ellis, David L. Blustein, and Luanna E. Devenis.
All rights reserved.*

SUBMIT →

Internet 100%

start | Inbox - Microso... | Elio Thesis [Co... | Brian thesis [Co... | FINAL THESIS [... | Chapters 1 thr... | Letter to stude... | Edit: And Revie... | Online Surveys ... | 11:34 AM

LIST OF REFERENCES

- Agresti, A., & Finlay, B. (1997). *Statistical methods for the social sciences* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.
- Alwin, D. F., & Jackson, D.J. (1980). Measurement models for response errors in surveys: Issues and applications. In K.F. Schuessler (Ed.), *Sociological methodology 1980* (pp. 68-119). San Francisco: Jossey-Bass.
- Anderson, S.L., & Betz, N.E. (2001). Sources of social self-efficacy expectations: Their measurement and relation to career development. *Journal of Vocational Behavior*, 58, 98-117.
- Ary, D., Jacobs, L.C., & Razavieh, A. (2002). *Introduction to research in education* (6th ed.). Belmont, CA: Wadsworth Group.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review*, 84, 191-215.
- Bandura, A. (1994). Self-efficacy. In V. S. Ramachandran (Ed.), *Encyclopedia of human behavior* (Vol. 4, pp. 71-81). New York: Academic Press.
- Blustein, D.L. (1990). *Explorations of the career explorations literature: Current status and future directions*. Paper presented at the meeting of the American Educational Research Association.
- Blustein, D.L., Ellis, M.V., & Devenis, L.E. (1989). The development and validation of a two-dimensional model of the commitment to career choices process. *Journal of Vocational Behavior*, 35, 342-378.
- Blustein, D.L., Pauling, M.L., DeMania, M.E., & Faye, M. (1994). Relation between exploratory and choice factors and decisional progress. *Journal of Vocational Behavior*, 44, 75-90.
- Bobbitt, L.M., Inks, S.A., Kemp, K.J., & Mayo, D.T. (2000). Integrating marketing courses to enhance team-based experiential learning. *Journal of Marketing Education*, 22, 15-24.
- Brown, C., George-Curran, R., & Smith, M.L. (2003). The role of emotional intelligence in the career commitment and decision-making process. *Journal of Career Assessment*, 11(4), 379-392.
- Bureau of Labor Statistics, U.S. Department of Labor (2004). Occupational outlook handbook, 2004-05 ed. *Agricultural and Food Scientists*. Retrieved June 3, 2007, from <http://www.bls.gov/oco/ocos046.htm>.
- Campbell, D.T., & Stanley, J.C. (1963). *Experimental and quasi-experimental designs for research*. Boston, MA: Houghton Mifflin Company.

- Carson, K.D., & Carson, P.P. (1998). Career commitment, competencies, and citizenship. *Journal of Vocational Behavior*, 6(2), 195-208.
- Case, D.M. (1993). *The USDA/1890 Land grant university summer internship program: A case study of Lincoln University participants*. Unpublished doctoral dissertation, University of Missouri-Columbia, Columbia, MO.
- Conroy, C. (1997). Influences on career choice of rural youth and resulting implications for career development and programming: When job awareness and exploration are not enough. *Journal of Vocational Education Research*, 22(1), 3-19.
- Conroy, C.A. (2000). Reinventing career education and recruitment in agricultural education for the 21st century. *Journal of Agricultural Education*, 41(4), 73-84.
- Coon, T.K., & Cantrell, M.J. (1985). Agriculture in black and white. *The Agricultural Education Magazine*, 58(4), 22-23.
- Creed, P.A., Patton, W., & Prideaux, L. (2007). Predicting change over time in career planning and career exploration for high school students. *Journal of Adolescence*, 30, 377-392.
- Dillman, D. (2007). *Mail and internet surveys: The tailored design method* (2nd ed.). New York: John Wiley and Sons.
- Dyer, J.E., Lacey, R., & Osborne, E.W. (1996). Attitudes of University of Illinois College of Agriculture freshmen toward agriculture. *Journal of Agricultural Education*, 37(3), 33-42.
- Dziuban, C.D., Tango, R.A., & Hynes, M. (1994). An assessment of the effect of vocational exploration on career decision making. *Journal of Employment Counseling*, 31, 127-136.
- Esters, L.T. (2007). Exploring the relationship between career indecision and career exploration in agriculture students. *NACTA Journal*, 11-16.
- Esters, L.T., & Bowen, B.E. (2005). Factors influencing career choices of urban agricultural education students. *Journal of Agricultural Education*, 46(2), 24-35.
- Felsman, D.E., & Blustein, D.L. (1999). The role of peer relatedness in late adolescent career development. *Journal of Vocational Behavior*, 54, 279-295.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior*. Reading, MA: Addison-Wesley Publishing.
- Frick, M. J., Birkenholz, R. J., Gardner, H., & Machtmes, K. (1995). Rural and urban inner-city high school student knowledge and perception of agriculture. *Journal of Agricultural Education*, 36(4), 1-9.
- Gall, M.D., Gall, J.P., & Borg, W.R. (2006). *Educational research: An introduction* (8th ed.). Boston, MA: Allyn and Bacon.

- Gati, I., & Asher, I. (2001). The PIC model for career decision making: Prescreening, in-depth exploration, and choice. In T.L. Leong & A. Barak (Eds.), *Contemporary models in vocational psychology: A volume in honor of Samuel H. Osipow* (pp. 6-54). New Jersey: Lawrence Erlbaum Associates.
- Gati, I., Krausz, M., & Osipow, S.H. (1996). A taxonomy of difficulties in career decision making. *Journal of Counseling Psychology, 43*, 510-526.
- Germeijs, V., & Verschueren, K. (2006). High school students' career decision-making process: A longitudinal study of one choice. *Journal of Vocational Behavior, 68*, 189-204.
- Germeijs, V., & Verschueren, K. (2007). High school students' career decision-making process: Consequences for choice implementation in higher education. *Journal of Vocational Behavior, 70*, 223-241.
- Gianakos, I. (1999). Patterns of career choice and career decision-making self-efficacy. *Journal of Vocational Behavior, 54*, 244-258.
- Gray, K. (1996). *Other ways to win: Creating alternatives for high school graduates*. Thousand Oaks, CA: Corwin Press.
- Hardin, E.E., Varghese, F.P., Tran, U.V., & Carlson, A.Z. (2006). Anxiety and career exploration: Gender differences in the role of self-construal. *Journal of Vocational Behavior, 69*, 346-358.
- Harren, V.A. (1979). A model of career decision making for college students. *Journal of Vocational Behavior, 14*, 119-133.
- Hartung, P.J., Porfeli, E.J., & Vondracek, F.W. (2005). Child vocational development: A review and reconsideration. *Journal of Vocational Behavior, 66*, 385-419.
- Heebner, A.L. (1995). The impact of career magnet high schools: Experimental and qualitative evidence. *The Journal of Vocational Education Research, 20*(2), 27-56.
- Hitch, J., & Gore, P.A. (2005). Occupational classification systems and sources of occupation information. In P.A. Gore (Ed.), *Facilitating the career development of students in transition* (pp. 61-86). Columbia, SC: University of South Carolina, National Resource Center for the First-Year Experience and Students in Transition.
- Holland, J.L. (1996). Exploring careers with a typology. *American Psychologist, 51*, 397-406.
- Hoover, T.S., & Scanlon, D.C. (1991). Enrollment issues in agricultural education and FFA membership. *Journal of Agricultural Education, 2*-10.
- Jones, W.A., & Larke, A. (2001). Factors influencing career choice of African American and Hispanic graduates of a land-grant college of agriculture. *Journal of Agricultural Education, 42*(1), 39-49.

- Jordaan, J.P. (1963). Exploratory behavior: The formation of self and occupational concepts. In D.E. Super, R. Starishevsky, N. Matlin, & J.P. Jordaan, (Eds.), *Career development: Self-concept theory*. New York: College Entrance Examination Board.
- Jordaan, J.P. (1974). Life stages as organizing modes of career development. In E.L. Herr (Eds.), *Vocational guidance and human development* (pp. 263-295). Boston, MA: Houghton Mifflin.
- Kelly, K.R., & Lee, W. (2002). Mapping the domain of career decision problems. *Journal of Vocational Behavior*, *61*, 302-326.
- Knight, J. (1987). Recruiting and retaining students: A challenge for vocational agriculture. *The Agricultural Education Magazine*, *60*(1), 9-10.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.
- Ladany, N., Melincoff, D.S., Constantine, M.G., & Love, R. (1997). At-risk urban high school students commitment to career choices. *Journal of Counseling and Development*, *76*, 45-52.
- Landy, F.J. (1986). Stamp collecting versus science: Validation as hypothesis testing. *American Psychologist*, *41*, 1183-1192.
- Leal-Muniz, V., & Constantine, M.G. (2005). Predictors of the career commitment process in Mexican American college students. *Journal of Career Assessment*, *13*(2), 204-215.
- Leatherberry, E., & Wellman, E. (1988). Black high school students' images of forestry as a profession. *Journal of Negro Education*, *57*.
- Malecki, C.L., Israel, G.D., & Toro, E. (2004). *Using "Ag in the Classroom" curricula: Teachers' awareness, attitudes and perceptions of agricultural literacy*. Retrieved June 2, 2007, from <http://edis.ifas.ufl.edu>.
- Marcia, J.E., Waterman, A.S., Matteson, D.R., Archer, S.L., & Orlofsky, J.L. (1993). *Ego identity: A handbook for psychological research*. New York: Springer.
- McCallister, D.L., Lee, D.J., & Mason, S.C. (2005). Student numbers in agronomy and crop science in the United States: History, current status, and possible actions. *NACTA Journal*, *24*-29.
- National Association of Colleges and Employers (2004). *Salary survey*, *43*(3), 4-5.
- National Council for Agricultural Education. (1999). *A new era in agriculture*. Washington, D.C.: Author.

- Orndorff, R.M., & Herr, E.L. (1996). A comparative study of declared and undeclared college students on career uncertainty and involvement in career development activities. *Journal of Counseling and Development, 74*, 632-639.
- Orthel, G., Sorensen, J., Lerman, S., & Riesenber, L. (1989). High school students' perceptions of agriculture and careers in agriculture. In *Proceedings of the 16th Annual National Agricultural Education Research Meeting*, Orlando, FL.
- Osborne, E.W., & Dyer, J.E. (2000). Attitudes of Illinois agriscience students and their parents toward agriculture and agricultural education programs. *Journal of Agricultural Education, 41*(3), 50-59.
- Raskin, P.M. (1989). Identity status research: Implications for career counseling. *Journal of Adolescence, 12*, 375-388.
- Russell, E.P. (1989). *Youth development: Needed high priority in the college of agriculture*. Proposal submitted to the University of Illinois College of Agriculture Priorities Committee.
- Russell, E.B. (1993). *Attracting youth to agriculture*. Retrieved June 2, 2007, from <http://www.joe.org/joe/1993winter/a2.html>.
- Salovey, P., & Mayer, J.D. (1990). Emotional intelligence. *Imagination, Cognition, and Personality, 9*, 185-211.
- Scott, D.J., & Church, A. T. (2001). Separation/attachment theory and career decidedness and commitment: effects of parental divorce. *Journal of Vocational Behavior, 58*, 328-347.
- Shivy, V.A., & Koehly, L.M. (2002). Client perceptions and preferences for university-based career services. *Journal of Vocational Behavior, 60*, 40-60.
- Sorenson, D.D. (1987). How to keep 'em on the farm and farming. *The American School Board Journal, 174*, 6-28.
- Spokane, A.R. (1991). *Career interventions*. Englewood Cliffs, NJ: Prentice-Hall.
- Sullivan, K.R., & Mahalik, J.R. (2000). Increasing career self-efficacy for women: Evaluating a group intervention. *Journal of Counseling & Development, 78*, 54-62.
- Super, D.E. (1957). *The psychology of careers: An introduction to vocational development*. New York: Harper and Brothers.
- Super, D.E., Crites, J.O., Hummel, R.D., Mosher, H.P., Overstreet, P.L., & Warnath, C.F. (1957). *Vocational development: A framework for research*. New York: Teachers College, Bureau of Publications.

- Super, D.E. (1990). A life-span, life-space approach to career development. In D. Brown & L. Brooks (Eds.), *Career choice and development: Applying contemporary theories to practice* (pp. 197-261). San Francisco: Jossey-Bass.
- Stumpf, S.A. (1992). Career exploration. In *The encyclopedia of career decision and work issues*. Phoenix, AZ: Oryx Press.
- Stumpf, S.A., Colarelli, S.M., & Hartmann, K. (1983). Development of the career exploration survey (CES). *Journal of Vocational Behavior*, 22, 191-226.
- Tiedeman, D.V., & O'Hara, R.P. (1963). *Career development: Choice and adjustment*. New York: College Entrance Examination Board.
- Wang, N., Jome, L.M., Haase, R.F., & Bruch, M.A. (2006). The role of personality and career decision-making self-efficacy in the career choice commitment of college students. *Journal of Career Assessment*, 14(3), 311-332.
- Washington, W.J., & Rodney, E. (1984). *Careers in natural resources for urban minorities* (Grant #23-617). Washington, DC: United States Department of Agriculture, Forest Service.
- Werbel, J.D. (2000). Relationships among career exploration, job search intensity, and job search effectiveness in graduating college students. *Journal of Vocational Behavior*, 57, 379-394.
- Young, R.A., Paseluikho, M.A., & Valach, L. (1997). The role of emotion in the construction of career in parent-adolescent conversations. *Journal of Counseling and Development*, 76, 36-44.
- Young, R.A., Valach, L., & Collin, A. (1996). A contextual explanation of career. In D. Brown & L. Brooks (Eds.), *Career choice and development* (pp. 477-512). San Francisco: Jossey-Bass.
- Zervanos, S.M, & McLaughlin, J.S. (2003). Teaching biodiversity & evolution through travel course experiences. *The American Biology Teacher*, 65(9), 683-688.

BIOGRAPHICAL SKETCH

Charlie Nealis was born in DeLand, Florida, in 1984. He graduated from DeLand High School in May 2002. In December 2006, Mr. Nealis earned his undergraduate degree from the University of Florida in food and resource economics with a minor in plant science. While an undergraduate, Nealis worked at the University of Florida Pine Acres Research Farm in Citra, Florida, and was an active member of the University of Florida Agronomy and Soils Club.

In January 2007, Mr. Nealis entered the graduate program in the Department of Agricultural Education and Communication at the University of Florida where he specialized in extension education. During his time in the graduate program at the University of Florida, he served as a graduate teaching assistant for Effective Oral Communication. He also was a Crop Science Society of America Golden Opportunity Scholar and was a Students of Agronomy, Soils, and Environmental Sciences national officer.