

# Exploring the Relationship between Career Indecision and Career Exploration of Agriculture Students



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## Abstract

The purpose of this study was to explore factors which influence the level of career exploration of students enrolled in a college of agriculture. The major objective was to explain variance in the level of career exploration that could be explained by selected factors. Data for the study were collected using the three factor solution of the Career Decision Scale and the Career Exploration Survey. The three career indecision factors were: Identity Diffusion, Positive Choice Conflict, and Tentative Decision. Career exploration was measured using a composite score of the self and environmental career exploration scales of the Career Exploration Survey. Low negative relationships were found among Identify Diffusion, Tentative Decision, and level of career exploration. Thus, higher levels of career indecision were associated with lower levels of career exploration. Regression analysis revealed that two career indecision factors, Identity Diffusion and Positive Choice Conflict, explained seven percent of the variance in the level of career exploration. Although two career indecision factors were found to predict undergraduate students' level of career exploration, these factors were fairly weak predictors. Recommendations and implications for future research are discussed.

## Introduction

Career indecision is one of the major career-related problems students have to contend with and has been a major focus of vocational research over the last few decades (Guay et al., 2003; Osipow, 1999). Career indecision has been used to refer to the problems individuals may have in making their career decision (Slaney, 1988) as well as the precursors that may influence or impede career choice (Swanson and D'Achiardi, 2005). Historically, research on career indecision has focused on the differences between decided and undecided students in order to understand factors that might explain a student's inability to choose a major or occupation (Callanan and Greenhaus, 1992). Individuals who are undecided often delay the process of making career-related decisions while they acquire additional information about themselves, occupations and the world of work, or the decision-making process.

There have been several measures of career decision-making developed to help researchers better understand career indecision (Hackett and Watkins, 1995). However, the Career Decision Scale (CDS; Osipow, 1987) is the most widely used scale and has stimulated a large body of research (Osipow, 1991). The CDS is designed to identify barriers that prevent individuals from making career decisions (Osipow and Fitzgerald, 1996). It is based on the rationale that a finite number of relatively discrete circumstances are responsible for the problems people have in implementing career decisions.

Although the CDS has been used for years, the factor structure of the CDS has been the subject of debate. In particular, some have questioned whether or not the CDS should be considered a multidimensional or a unidimensional measure of career indecision. For example, researchers have found four factor-based scales within the CDS are better than a single decision score (Shimizu et al., 1988). The four factor-based scales are: Diffusion, Support, Approach-Approach, and External Barriers (Whitson, 1996). Stead (1991) also found the CDS to be multidimensional in nature, identifying a two factor structure when the CDS was used with South African adolescents. However, other researchers (Laplante et al., 1994; Martin et al., 1991) contend the CDS is unidimensional and the use of multiple subscales is not appropriate.

More recently, Kelly and Lee (2002) investigated the factor structure of several career assessment instruments which measure the construct of career indecision including the CDS, Career Factors Inventory, and the Career Decision Making Difficulties Questionnaire. Kelly and Lee (2002) concluded that the CDS was a multidimensional measure of career indecision comprised of three factors. The first factor, Identity Diffusion, is the inability to adequately crystallize one's career relevant characteristics or to see how one's personal characteristics can be implemented in careers. The second factor, Positive Choice Conflict, represents the indecision of choosing one career from a number of attractive alternatives. The third factor, Tentative Decision, indicates that a career decision has been made and that there are questions on how to implement the decision. In summary, empirical evidence

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indicates that the underlying factor structure of the CDS is not unidimensional, thus efforts to diagnose career indecision should not rely on a unidimensional global index as the total CDS score (Schulenberg et al, 1988).

Another area critical to the career decision-making process is career exploration. Career exploration is defined as the self-appraisal and external activities that provide individuals with information to foster progress in the selection of, entry into, and adjustment to an occupation (Blustein, 1989a; Jordann, 1963; Stumpf et al., 1983). The purpose of career exploration is to collect and analyze career-related information in order to enhance the individual's career management process (Stumpf, 1992).

Jordaan (1963) reasoned that career exploration would be influenced by personal traits and environmental conditions. Twenty years later, Stumpf et al. (1983) proposed an interactive model of career exploration, emphasizing three discrete aspects of exploration: 1) exploration beliefs, 2) exploration process, and 3) reactions to exploration. This model suggested that these three categories interact in a reciprocal manner, resulting in unique exploration experiences for each individual (Bartley and Robitschek, 2000).

Individuals can gather career information from a variety of sources, but the two primary sources include the environment and oneself (Stumpf et al., 1983). Self-exploration is an examination of one's personal goals, values, skills, needs, and interests (Werbel, 2000). It involves gathering information about the personal aspects related to making assessments of the person-environment fit of different employment opportunities. The second dimension of career exploration is environmental exploration which is concerned with gathering information about the personal aspects of person-environment fit that will help to determine the job seeker's degree of interests in a given employment opportunity (Stumpf et al., 1983). It may include gathering information to determine where different relevant job opportunities exist, the demands of different types of work environments, and the nature of different types of organizational cultures.

Most research on career decision-making has focused on issues such as career indecision and indecisiveness (Slaney, 1980; Salmone, 1982), career decision-making self-efficacy (Taylor and Betz, 1983), and career decision-making styles (Blustein and Phillips, 1990), yet few studies have focused on the influence of career indecision on career exploratory behaviors. In a study of introductory psychology students, Betz and Voyten (1997) found that higher levels of career indecision were related ( $r = .25$ ) to career exploratory intentions for women; while, the opposite was true for males ( $r = -.05$ ). Similarly, Baker (2002) hypothesized that lower levels of career indecision would be a likely outcome of participation in the Armed Services Aptitude Battery (ASVAB)

Career Exploration Program. Baker assessed career indecision treating the CDS as a multidimensional measure. Findings confirmed that participation in the ASVAB Career Exploration program lowers certain kinds of career indecision. Additionally, Taveira (1997) reported that higher levels of career exploration results in lower levels of career indecision.

Historically, career development research in agricultural education has focused on assessing a number of career-related issues such as career aspirations, career perceptions, and career choice. However, despite the importance of career exploration throughout the career development process (Blustein and Phillips, 1988; Phillips, 1982; Sugalski and Greenhaus, 1986), no research has focused on this area in agricultural education. Furthermore only one study has investigated the construct of career indecision in agricultural education. Kotrlik (1990) sought to determine the career indecision levels of senior agriscience students and to investigate factors related to career indecision. Kotrlik used the CDS as a unidimensional measure and found that CDS scores are "fairly high" when compared with data on other high school seniors in the CDS manual. Given the lack of research in these two areas, the present study begins to fill these gaps by exploring both the constructs of career indecision and career exploration among postsecondary agriculture students. Specifically, the purpose of this study was to explore factors which influence the level of career exploration of students enrolled in a college of agriculture. The objectives of this study were to: 1) describe selected demographic characteristics of undergraduate students enrolled in a college of agriculture, 2) describe relationships between career indecision and level of career exploration, 3) explain variance in the level of career exploration that can be explained by selected factors.

## Methods

The target population for this study consisted of all freshmen and seniors ( $N=1,284$ ) enrolled in the College of Agriculture at Iowa State University. A purposive sample of freshmen students enrolled in freshmen orientation courses and seniors enrolled in senior capstone/seminar courses from eight of 15 academic departments of the college were used in the study. The final sample ( $n=310$ ) consisted of freshmen ( $n=130$ ) and senior ( $n=180$ ) students.

The measures used to collect data for the study consisted of the CDS and the Career Exploration Survey (CES; Stumpf et al., 1983) as well as items requesting demographic information such as gender, grade point average, race, and residence. The CDS is a widely used instrument to assess career indecision. The CDS contains 19 items. Two measure career certainty (i.e., the Certainty Scale), 16 measure career indecision (i.e., the Indecision Scale), and one is a free response item which allows respondents to

list other barriers not reported in the existing scale items. Responses are recorded on a 4-point Likert scale ranging from 1 = “not at all like me” to 4 = “exactly like me.” Scores on the Certainty Scale can range from 2 to 8 with higher scores indicating greater certainty. Scores on the Indecision Scale can range from 16 to 64 with higher scores indicating greater indecision. Osipow et al. (1976) reported test-retest reliabilities of .90 and .82 for the Indecision Scale using two separate samples of college students. There is also a substantial body of evidence supporting its reliability and validity (Slaney, 1988; Hackett and Watkins, 1995).

It is widely accepted that career indecision is a complex, multidimensional construct (Hartman et al., 1986). For this reason, the researcher used a three factor solution identified by Kelly and Lee (2002). The first factor, Identity Diffusion, is comprised of six of the original CDS items (items 5, 7, 8, 10, 13, and 14) and is defined as the inability to adequately crystallize one's career relevant characteristics or to see how one's personal characteristics can be implemented in careers. The second factor, Positive Choice Conflict, is comprised of two CDS items (items 4 and 15) and represents the indecision of choosing one career from a number of attractive alternatives. The third factor, Tentative Decision, is comprised of three CDS items (items 12, 16, and 18) and indicates that a career decision has been made and there are questions on how to implement the decision. Scores on the Indecision Scale using the factor solution can range from 6 to 24 on Identify Diffusion, 2 to 8 on Positive Choice Conflict, and 3 to 12 on Tentative Decision with higher scores indicating greater indecision on each factor. Kelly and Lee (2002) reported internal consistency reliabilities of .82 (Identity Diffusion), .57 (Positive Choice Conflict), and .63 (Tentative Decision) respectively for the three factors. The present study yielded internal consistency reliabilities of .82 (freshmen) and .83 (seniors) for Identity Diffusion; .50 (freshmen) and .70 (seniors) for Positive Choice Conflict; and .60 (freshmen) and .70 (seniors) for Tentative Decision.

Level of career exploration was assessed using the Career Exploration Survey (Stumpf et al., 1983). Specifically, a composite score for career exploration was obtained by combining the scores from the five-item Self-Exploration (SE) scale and the six-item, Environmental Exploration-Revised (EE-R; Blustein, 1989a). Using a composite measure of career exploration is consistent with previous research (Brown et al., 1999). The EE and SE-R scales consist of items that respondents rate using a 5-point Likert scale ranging from 1 = “little” to 5 = “a great deal.” Possible scores for Environmental and Self-Exploration range from 6 to 30 and 5 to 25, respectively. Higher scores indicate greater use of the respective career exploration strategies.

Blustein (1989b) reported an internal consistency reliability of .89 for the EE-R scale and a test-

retest reliability coefficient of .85. Stumpf et al. (1983) reported an internal consistency reliability for the SE scale as .88. For the present study, internal consistency reliabilities were .84 (freshmen) and .90 (seniors) for the EE-R scale, and .81 (freshmen) and .83 (seniors) for the SE scale. According to Blustein (1989a), evidence of the construct validity of the CES scales can be inferred from a factor structure consistent with theoretical expectations and relationships between CES scorers and predicted outcomes.

Data were coded and analyzed using the Statistical Package for the Social Sciences (SPSS version 12.0). Descriptive statistics used included frequencies, percentages, means, and standard deviations. Pearson and point biserial correlations were used to address objectives one and two. Relationships were described using Davis's (1971) conventions. Objective three was addressed using stepwise multiple regression. The use of inferential statistics was based on the assumption that students included in this study were a time and place sample representative of past, present, and future undergraduate students of similar characteristics entering a college of agriculture (Oliver and Hinkle, 1981). Effect sizes were interpreted using Cohen's (1988) criteria.

## Results

The first objective of this study was to describe selected demographic characteristics of students enrolled in a college of agriculture. Three-hundred ten students participated in the study. Over half the students were classified as seniors. Ninety-seven percent of the students were Caucasian. Sixty-four percent of the students in the study were male, and 36% were female. Seventy-four percent of the students were from rural areas, and 26% were from urban areas.

The second objective of this study was to describe relationships between career indecision and level of career exploration. Pearson and point biserial correlation coefficients were used to describe the relationships (Table 1). There was a low negative relationship found between Identify Diffusion and level of career exploration. Thus, higher levels of career indecision (as measured by the Identity Diffusion factor) were associated with lower levels of career exploration. In addition, there was a low negative relationship between Tentative Decision and level of career exploration; i.e., higher levels of career indecision (as measured by the Tentative Decision factor) were associated with lower levels of career exploration. A moderate positive relationship was found between Positive Choice Conflict and Identify Diffusion. Thus, higher levels of Positive Choice Conflict were associated with higher levels of Identify Diffusion. The relationship between Tentative Decision and Identify Diffusion was strong and positive; i.e., higher levels of Tentative Decision were associated with higher levels of Identify

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Diffusion. Additionally, there was a low positive relationship between Tentative Decision and Positive Choice Conflict. Thus, higher levels of Tentative Decision were associated with higher levels of Positive Choice Conflict.

**Table 1**

Intercorrelations Among Career Indecision Factors, Level of Career Exploration, and Gender (n = 309)

Variables	1	2	3	4
1. Career Exploration	--			
2. Identity Diffusion	-.22*	--		
3. Positive Choice Conflict	.05	.33*	--	
4. Tentative Decision	-.17*	.61*	.29*	--
5. Gender <sup>z</sup>	.03	-.03	.01	.00

<sup>z</sup>0=Male; 1=Female

\*P=0.05

The third objective of this study sought to determine if selected factors could explain variance in the level of career exploration. The dependent variable was level of career exploration, which was measured by a composite score of the SE and EE-R scales of the CES. Independent variables included Identity Diffusion, Positive Choice Conflict, Tentative Decision, and gender. The variables were entered using the "stepwise" entry method. The regression analysis revealed that two variables entered the model and explained 7% of the variance in the level of career exploration, which is a small effect size according to Cohen (1988) (Table 2). Identity Diffusion accounted for 5% of the variance in the level of career exploration. Adding Positive Choice Conflict to the regression model explained an additional 2%. The variables that did not explain a significant proportion of the variance were Tentative Decision and gender.

**Table 2**

Stepwise Regression of Career Indecision Factors and Gender on Level of Career Exploration (n = 309)

Variables	R <sup>2</sup>	R <sup>2</sup> Change	b	p
Identity Diffusion	.05	.05	-.287	.000***
Positive Choice Conflict	.07	.02	.309	.024*
Constant			18.436	

\*P=0.05 \*\*\*P=0.001

## Summary

Three objectives guided this study. The goal of objective one was to describe selected demographic characteristics of undergraduate students enrolled in a college of agriculture. Three-hundred ten undergraduate students participated in this study of which a majority were senior, Caucasian, male students.

The second objective sought to describe relationships between career indecision and level of career exploration. Career indecision was measured using

Kelly and Lee's (2002) three factor solution of the CDS. The three factors used in the analysis were: Identity Diffusion, Positive Choice Conflict, and Tentative Decision. Career exploration was measured using a composite score for of the self and environmental

career exploration scales of the Career Exploration Survey (CES; Stumpf et al., 1983). Low negative relationships were found between Identify Diffusion, Tentative Decision, and level of career exploration. Thus, higher levels of career indecision were associated with lower levels of career exploration. The findings of this study support the findings of Betz and Voyten

(1997), Baker (2002), and Taveira (1997) who found an inverse relationship between career indecision and the level of career exploration. Additionally, there were significant relationships found among the three career indecision factors which ranged from low positive to strong positive. No significant relationships were found among gender, career indecision, and level of career exploration.

The goal of the objective three was to explain variance in the level of career exploration that could be explained by selected factors. Regression analysis revealed that two career indecision factors, Identity Diffusion and Positive Choice Conflict, explained 7% of the variance in the level of career exploration. Identity Diffusion is the inability to adequately crystallize one's career relevant characteristics or to see how one's personal characteristics can be implemented in careers. Thus, students who are experiencing higher levels of this type of career indecision are

less likely to engage in career exploratory behavior. Interestingly, Positive Choice Conflict was positively related to the level of career exploratory behaviors. Positive Choice Conflict involves a problem in implementing a career decision occurring during the career decision-making process. This finding is

interesting. One possible explanation for this finding could be that students are "decided" on the type of career they wish to pursue, which then impacts how assertive they are at gathering additional information on how to obtain specific work or educational experiences for a particular career.

## Recommendations and Implications

Although two career indecision factors were found to predict undergraduate students' level of

career exploration, these factors were fairly weak predictors. In other words, a substantial amount of variance (i.e., 93%) was still unexplained. This clearly suggests that additional variables should be examined to determine their effects on undergraduate agriculture students' level of career exploration. Previous research suggests factors such as motivational orientation (Deci and Ryan, 1985); career exploratory beliefs (Stumpf et al., 1983); career decision-making self-efficacy (Betz and Vuyten, 1997; Blustein, 1989b); career outcome expectations (Betz and Vuyten, 1997) and sociocultural factors (Blustein and Flum, 1999) are antecedents of career exploration. Therefore, it is recommended that researchers consider examining these factors in future studies of undergraduate agriculture students' level of career exploration. For example, one inquiry could involve determining if undergraduate agriculture students' motivational orientation influences the degree to which they engage in career exploratory behaviors. Further, because of the homogenous sample of this study, future research should focus on students from more diverse demographic and socioeconomic backgrounds, thereby testing the influence of sociocultural factors on the level of career exploration. Because this study was limited to freshmen and senior undergraduate students, future research should also expand the sample to include sophomore and junior undergraduate students in order to determine if findings are consistent across other grade levels.

Finally, the findings of this study also have implications for possible career interventions. Career interventions, which are designed to enhance a person's career development or to enable an individual to make more effective decisions (Spokane, 1991), include a variety of activities that help people develop self-awareness, vocational awareness, learn career decision-making skills, and adjust to occupational choices after they have been implemented (Niles and Harris-Bowlsbey, 2002). In addition, findings of this study suggests that career indecision, although weakly related, influences career exploration. Thus, it is possible that interventions could be designed to help students resolve certain kinds of career indecision (e.g., Identify Diffusion) which could increase the likelihood that they participate in future career exploratory activities (Baker, 2002). Similarly, an increased sense of career relevant self-knowledge could also help students begin to resolve the positive choice conflict experienced when trying to choose from among a number of equally attractive alternatives. Career interventions could also include the use of instructional approaches such as specific experiential learning activities which helps to facilitate students' use of career information (Hitch and Gore, 2005), or teaching students how to acquire occupational information and assess its personal relevance (Long et al., 1995).

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