
Undecided Careers among Agriculture Undergraduates: An Analysis of Determinants

Dahanayake, W.E.^a and Priyashantha, K.G.^b

^a English Language Teaching Unit, University of Peradeniya, Sri Lanka

waruniedahanayake@gmail.com

^b Department of Human Resource Management, Faculty of Management and Finance,

University of Ruhuna, Sri Lanka

prigayan@badm.ruh.ac.lk

Abstract

Career indecision amongst university undergraduates is defined as an inability to select a university major or an occupation. Making a career decision, in fact is one of the paramount decisions that young adults are confronted in a crucial period of their life. Factors such as external locus of control, societal expectations and poor identity formation could lead to stress and anxiety in young adults in their pursuit of success in life in terms of the career. Career indecision is linked to issues related to career development and problems in making career related decisions. Self-efficacy, career counseling opportunities, family support, and personality traits may have an impact on the student's ability to make career choices. This study examined the level and differences in career indecision by evaluating the impact of self-efficacy, career counseling opportunities, family support and personality on career indecision. The big five personality model was used to examine the personality variable which tested the characteristics of extraversion, agreeableness, conscientiousness, neuroticism and openness to experience. For this study, simple random sampling technique was used and 150 Self-administered questionnaires were distributed to the sample which consisted of third year male and female Agriculture undergraduates of University of Peradeniya. The results indicated that there was a statistically significant negative impact of self-efficacy, career counseling opportunities, family support and conscientiousness while there was a negative impact of extraversion, agreeableness and openness to experience in career indecision. Furthermore, the findings revealed that there was a positive impact of neuroticism on career indecision.

Keywords: *Big five personality model, Career Indecision, Career Counseling Opportunities, Family Support, Self-Efficacy*

1. Introduction

In a globalized world, the advancement of technology, diverse labor markets, and the complexity of life have made unlimited options in tertiary education and occupational choices. The availability of variety of options and narrowing down these numerous options in order to select the best option can be extremely daunting and challenging for young adults. Choosing a career is a vital step that every individual has to take as it will satisfy an individual's needs, interests and goals thereby making an immense impact on the quality of their life and the future success.

The researchers have observed that although young people are required to make their career related decisions, they usually tend to experience career indecision due to many factors. Furthermore, the researchers have also observed career indecision as a normal response of young adults when making career decisions. Career decision making is defined as "the thought processes by which an individual integrates self-knowledge and occupational knowledge to arrive at an occupational choice" (Brown et al., 1996, p.426). Brown et al., (1996) further states that the more informed an individual about career choices and his abilities, the more likely they are to make good career choices as they are confident enough and prepared enough to decide and execute their decisions. Thus, it is clear that individuals need to have a self-knowledge on their skills, abilities and passion as well as career knowledge to understand the nature of their preferred profession and how well the individual would fit in the chosen career path.

Career indecision amongst university students can be defined as problems relating to career development, particularly problems in making career-related decisions. Simply it can be explained as the "inability to select a university major or an occupation" (Brogen & Hiebert, 2006, p.58) .Career indecision is often confused with the term career uncertainty. Although they appear to be closely related, the meanings differ. According to Jordaan et. al. (2009) career uncertainty is a contributory variable which ultimately leads to career indecision. Chaung et al., (2009) declares that students' intentions on decisiveness of a career is influenced by their chosen academic majors. He further denotes that students are more decisive and committed to a career goal if their academic majors are profession oriented. Thus, it is clear that the nature of the degree has made some students to be less undecided than others. In addition, the pressure from the society, societal expectations and the notion of white collar and blue collar job can be considered. The society has accepted certain occupations to be high valued, hence the common perceptions push people to give up on their desired careers. Instead, it makes them to pursue the socially preferred careers. This attempt to satisfy social expectations can

gravely affect the students' career choices. Furthermore, issues related to career development, role of the family, availability of career guidance, self-efficacy and the nature and traits of the personality are some of the other important factors identified as the influential factors for career indecision.

Accordingly, the purpose of this research study was to assess the career indecision level experienced among third year undergraduates at a public academic institution. The research was conducted to identify and the factors that determine various factors that affect career indecision in undergraduates, to examine the impact of career counselling and to assess the relationships between the nature of big five personality traits with the career indecisiveness.

1.1. Research Problem

Niles & Bowsby (2009) state that students in higher education need to be competent, possess the necessary skills to make decisions and also have the required skills to make career transitions.

Callanan & Greenhaus (1992) postulated that career indecision as a negative status that refers to the inability of an individual to select a career goal, and to further feel uncertain about the goal. According to Herr, Cramer and Niles (2004), 50% of university students experience career related problems, some of which are associated with students being undecided about various career options, causing anxiety in university students. Nevertheless, making a career decision can be a difficult and confusing task for many people. (Gati et al., 2000) Trusty and Niles (2004) found that a relationship exists between career indecision and student's achievement of self-awareness, knowledge of occupations and the development of planning capability. Herr et al., (2004) on the other hand, noted that career indecision was associated with aptitude scores, interests, subject preferences, part-time employment experiences, and engagement in the educational planning process. Hence, it is clear that the students should encounter with their own experiences about themselves and about the realistic world, they need to have an understanding of what they enjoy doing, what they are good at and what would they achieve by following a particular career path. They are required to have good planning skills in order to decide them. Talib & Tan (2009) declared that career indecision can be looked through many lenses. Personality variables may include anxiety, vocational identity, and problem-solving abilities. Brown, D & Brooks, L (1996) specified career indecision as a demonstration which reduces a person's inspiration and it constrains people to move into the direction of their objectives and to accomplish them. Reeve, Nix and Hamm (2003 cited in Johnson, 2007) claimed that when students feel that they do not have a definite career choice, they experience lower levels of motivation, whereas Gati et al., (1996) and Tak & Lee (2003 cited in Mylonas, Argyropoulou & Tampouri, 2012) viewed that lack of motivation as one of the leading factors embedded in career indecision among undergraduates. In addition, higher levels of stress are

believed to deal with decisions pertaining to a desired career. Reece (2011) identified a significant relationship between stress and career indecision and he further added that higher levels of career indecision are associated with higher levels of stress. Newman & Fuqua (1999) indicated that students who often find it difficult to make decisions in life would experience high level of anxiety associated with personal or social conflicts, devitalizing their life. They also indicated that the undecided student would still find it difficult to make a commitment even when all information is known about possible, realistic alternatives in the decision making.

A preliminary survey was done to observe and to consider the practical context of the chosen institute, the faculty of agriculture, University of Peradeniya, It was observed through discussions with the students and lecturers that students tend to show career indecisiveness. Apart from most of the students who study Food science and Technology and Fisheries and animal science, the students who follow Agricultural Technology and Management would show career indecisiveness since the scope of their degree program is wider than the above mentioned other two degree programs offered. The students who get enrolled to the faculty have studied either Bio science or Agriculture stream at the Advanced level. It is a well-known fact that the final aim of almost all the students who take up the Bio Science stream wish for perceiving a career in the medical field so as to do higher studies into medical sciences. The students who get an average z-score from 1.4 up to 1.8 get selected to the faculty of Agriculture, hence their perceived career dream of becoming a doctor is missed by few points. In addition, there are instances in which students who have got registered to the faculty of Agriculture from the first or second attempt of exams getting enough z-scores to follow the medical sciences in their next attempt. However, under legal terms, such students are not allowed to join another faculty once getting registered to another faculty. The students sometimes have to accept the path that they deserve based on the degree program offered for their results. This will ultimately make them give up the actual path they desired. The frustration of having lost long term career aspirations can cause possible regret. As a result, dissatisfaction and showing less passion for the discipline could be observed which would eventually lead into career indecisiveness. Furthermore, the students are also taught subjects of management discipline along with the agriculture related subjects, and students have shown a tendency on seeking careers in management related field, banking, teaching, administration etc. Some students might perceive a career abroad with respective to above mentioned fields including the agriculture field. The availability of many options and lack of passion for the field can cause career anxiety in undergraduates. Such students who are in a dilemma of which field to choose often face the trepidation of career indecisiveness.

Young undergraduates' career indecision will not bring positive outcomes when they try to pursue a career in the job market. Hence the students should be given proper career guidance and counselling. The faculty of Agriculture currently has a career guidance unit, but it was

observed that students show less interest in seeking proper guidance through it. Thus the students should have been motivated to set proper career goals and to choose a career path by utilizing the maximum benefit of available opportunities within the faculty.

Due to above mentioned reasons, the researcher identified career indecision among undergraduates as the area of study. This research study aimed to determine factors that influence on career indecision in reference to third year students of the Faculty of agriculture, University of Peradeniya.

1.2. Research Questions

1.2.1. General Question

- What are the determinants of career indecision?

1.2.2. Specific Questions

- What is the impact of self-efficacy on career indecision?
- What is the impact of family support on career indecision?
- What is the impact of career counseling opportunities on career indecision?
- What is the impact of personality on career indecision?

2. Literature Review

2.1. Career Indecision

Career indecision is a negative status that refers to the inability to select a career goal or having selected a career goal, and to experience significant feelings of uncertainty about the goal (Callanan & Greenhaus, 1992). Feldman (2003) defined career indecision as “the inability to formulate initial career goals and experience commitment to initial vocational choices.” Zimmerman & Kontosh (2007), found that many career development studies have described career indecision as an inability to make career related decisions and linked it to the interpersonal and intrapersonal processes of an individual. Crites (1969) defines an indecisive individual as “one who cannot make a vocational choice even after all the conditions for doing so, such as a choice supply, incentive to make a choice, and the freedom to choose are provided” (p. 306).

2.2. Self-Efficacy

Self-efficacy is beliefs that determine how people feel, think, motivate themselves and behave. Such beliefs produce these diverse effects through four major processes (Bandura, 1997). Self-efficacy assesses a broad and stable sense of personal competence to deal effectively with a

variety of stressful situations (Schwarzer & Wiedemann, 1997). The research findings of Tylor and Betz (1983) postulated that students who have less confidence in their ability to make decision making tasks were found to be more undecided than those reported higher levels of confidence.

2.3. Family Support

Family Support is defined as an integrated network of community based resources and services that strengthen parenting practices and the development of children (Family Support, n.d.). Family factors have been discussed as antecedent influences on career choice. (Holland, 1997). Lopez and Andrews (1987) considered that indecision can be conceptualized as an outcome of many transactions between the person and the family. They further suggested that career decision making can catalyze a transformation in family functioning. Family support is conceptualized as three different patterns; they are acceptance/involvement, strictness/supervision, and psychological autonomy. Acceptance/involvement refers to the degree to which the individuals perceive their parents as loving, responsive, and involved; strictness/ supervision reflects ultimate parental monitoring and supervision of the children; and psychological autonomy refers to non-coercive and democratic discipline of parents (Lamborn,1991). Pearson and Dellman-Jenkins (1997) identified that too tight or loose family patterns, lack of emotional attachment can lead to premature separation without enough guidance in enabling effective decision making in students.

2.4. Career Counseling Opportunities

Career counseling helps the counselee to make decisions that he or she needs to make, and gives knowledge and skills that the counselee needs to make future career and life decisions (Savickas, 1993). Nathan and Hill (2006) cited in Mylonas et al. (2012) state that individuals seek career counselling when they experience difficulties in making a decision due to not having information that is needed to make a choice, individuals not knowing themselves, as well as lack of knowledge regarding their interests and abilities, which impacts the decision making process (Sampson, Peterson, Lenz, Reardon & Saunders, 1998 cited in Mylonas et al., 2012).

2.5. Personality

Funder (2001) refers to personality as individuals' characteristic patterns of thought, emotion, and behavior, together with the psychological mechanisms, hidden or not behind those patterns. According to Kelly and Lee (2005), extroverted types are more decisive as opposed to introverted types, due to the fact that extroverts have a tendency to gather more information about careers because of their exploration of the outside world. Therefore, there is a

relationship between personality and career indecision. There are various personality traits that are linked to career indecision, traits such as self-esteem, self-identity and the big five personality traits.

2.5.1. The Big Five Personality Model

The 'Big five' or Five-Factor Model (FFM) is the personality trait model constituted by the five factors or dimensions Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Intellect or Openness to Experience. This model is emerged from applying the principles of the psycho lexical approach to personality (De Raad, 2000)

- Openness to experience has been found to contribute to one's likelihood of obtaining a leadership position, likely due to the ability to entertain new ideas and think outside the box (Lebowitz, 2016a). Openness is also connected to universalism values, which include promoting peace and tolerance and seeing all people as equally deserving of justice and equality (Douglas, Bore, & Munro, 2016). Not only has openness been linked to knowledge and skills, but it was also found to correlate positively with creativity, originality, and a tendency to explore their inner selves. (Soldz & Vaillant, 1999).
- Conscientiousness has been linked to achievement, conformity, and seeking out security, as well as being negatively correlated to placing a premium on stimulation and excitement (Roccas, Sagiv, Schwartz, & Knafo, 2002). Those high in conscientiousness are also likely to value order, duty, achievement, and self-discipline, and they consciously practice deliberation and work towards increased competence (Roccas, Sagiv, Schwartz, & Knafo, 2002).
- Extraversion deals with likeliness to value achievement and stimulation, and unlikely to value tradition or conformity (Roccas, Sagiv, Schwartz, & Knafo, 2002). Extroverts are often assertive, active, and sociable, shunning self-denial in favor of excitement and pleasure. High extroversion is a strong predictor of leadership, and contributes to the success of managers and salespeople as well as the success of all job levels in training proficiency (Barrick & Mount, 1991). Over a lifetime, high extroversion correlates positively with a high income, conservative political attitudes, early life adjustment to challenges, and social relationships (Soldz & Vaillant, 1999).
- Agreeableness in individuals tend to value benevolence, tradition, and conformity while avoiding placing too much importance on power, achievement, or the pursuit of selfish pleasures (Roccas, Sagiv, Schwartz, & Knafo, 2002). Agreeableness affects many life outcomes because it influences any arena in which interactions with others are important—and that includes almost everything. In the long-term, high

agreeableness is related to strong social support and healthy midlife adjustment but slightly and negatively correlated to creativity (Soldz & Vaillant, 1999).

- Neuroticism has been found to correlate negatively with self-esteem and general self-efficacy, as well as with an internal locus of control (feeling like one has control over his or her own life) (Judge, Erez, Bono, & Thoresen, 2002). In addition, neuroticism has been linked to poorer job performance and lower motivation, including motivation related to goal-setting and self-efficacy (Judge & Ilies, 2002).

2.6. Prior Research on Study Variables

Nota et al., (2007) have focused on how self-efficacy and family support determine career indecision. They have concluded that family support influences both self-efficacy beliefs and decision-making when careers are considered. The study revealed that career search self-efficacy mediated to a certain extent the relationship between family support and career indecision. The study also revealed that family support directly impacted career search self-efficacy and that career search self-efficacy was associated with career indecision.

Germeijs & De Boeck (2003) identified that three elements of career indecision could be obtained from decision theory: insufficient awareness regarding alternatives, valuation issues and vulnerability about results. The three components were examined in the career decision-making process of high school students. Using factor analysis, researcher discovered empirical evidence for a differentiation between the three theoretical sources of career indecision: information, valuation and outcomes.

Stărică' (2012) considered predictors of career indecision among adolescents. The counseling of adolescents with respect to career choice was found to be an important element of proceeding along the path of career development. The study was designed to explore the contribution of career decision self-efficacy, locus of control, academic self-esteem, personality traits and parental support to the prediction of career indecision among adolescents. The career locus of control, academic self-esteem and neuroticism were found to be significant predictors of career indecision.

Jordaan (2009) drawing from a sample of honors students in Accounting Sciences, Financial Management, Economics and Marketing, measured career indecision to demonstrate differences between students whose employment status differs and those who were studying for different degrees. It was found that career indecision plays a major role in the way students perceive their future career prospects and how they approach these prospects.

Di Fabio (2016) conducted research on the role of personality in the career decision-making difficulties of young adults. The results showed that both career-related developmental indecision and chronic indecisiveness are manifested in the difficulties individuals experience when choosing a career Goliath (2012), investigating career indecision among undergraduates in a university in the Western Cape, looked at the relationship between a lack of information and career indecision and lastly access to a career counsellor and career indecision. The results indicated that there are significant differences in career decision making based on gender and age. In addition, the results revealed that there is a moderate relationship between lack of information and career indecision and findings also indicated a significant relationship between access to a career counsellor and career indecision.

According to an empirical study of university students with respect to personality traits and career decidedness by Ryan M Smith (2011) indicated, as hypothesized, that career decidedness correlated positively with personality traits such as openness, conscientiousness, and agreeableness. However, it did not correlate as expected with the broad trait, extraversion, and correlated significantly and inversely with the broad trait, neuroticism, only for low-achievement students. Results showed that the narrow traits of optimism and work drive correlated significantly and positively with career decidedness and that these narrow traits alone accounted for an additional 5.6% variance in career decidedness above and beyond broad traits (5.8%). Career decidedness correlated positively with chronological age, as predicted in the hypothesis. However, it only increased through the first three of four years of college, and contrary to predictions, showed a non-significant decline in the senior year.

3. Methods

3.1. Research Method

A descriptive research design based on the quantitative approach was used to examine the determinants of career indecision among undergraduates. This research which is a cross-sectional quantitative study, was done to examine whether the factors of self-efficacy, career counseling opportunities, family support and big five personality traits are related to career indecision. The research approach was a quantitative survey and primary data for the research was collected using self-administered questionnaires. In order to conduct the research, convenience-sampling method was used to gather information from third year undergraduates at the Faculty of Agriculture. The 2015/2016 batch, which is the current third year batch consists of 221 students. Due to practical constraints 150 students out of the 221 students from the third year undergraduates were taken as the sample to increase the generalizability. the responses were statistically analyzed using SPSS version 20.

Based on the research model, following hypotheses have been formulated to cover the scope of the study. Prior research findings were taken into consideration in formulating the hypotheses. Previous researches revealed that self-efficacy impacts negatively on career indecision. (Harriott et al., 1996; Nota et al., 2007; Greenhaus et al., 1995). The findings of the Maduwanthi and Priyashantha (2018) revealed that self-efficacy negatively impacts on career indecision. Hence a hypothesis was developed as follows:H1: There's a negative impact of self-efficacy on career indecision. Existing literature findings revealed that there's a negative impact of career counselling opportunities on career indecision. (Savickas,1993; Herr et al.,2004). The research findings of Maduwanthi and Priyashantha (2018) indicated that there's a negative impact of career counselling opportunities on career indecision. Upon those findings a hypothesis was developed as:H2: There is a negative impact of career counseling opportunities on career indecision. Previous researches have also revealed that Family support impacts negatively on career indecision (Parsons, 1909; Lee,K. H., 2005; Nota et al., 2007).However, the results of Maduwanthi and Priyashantha (2018) indicated a positive impact of family support on career indecision. Based on these findings, a hypothesis was developed as follows:H3: There is a negative impact of family support on career indecision. Several studies have found correlations between personality traits and career indecision, and most studies have considered the five-factor model (McCrae & Costa, 1999), claims that personality traits can be parsimoniously captured by five higher-order personality dimensions (neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness).Accordingly, studies of personality have sought to provide broader understanding of career decidedness by adding insight about individual differences. (Shafer, 2000). Based on that, a hypothesis was developed as: H4: There is an impact of personality on career decision.

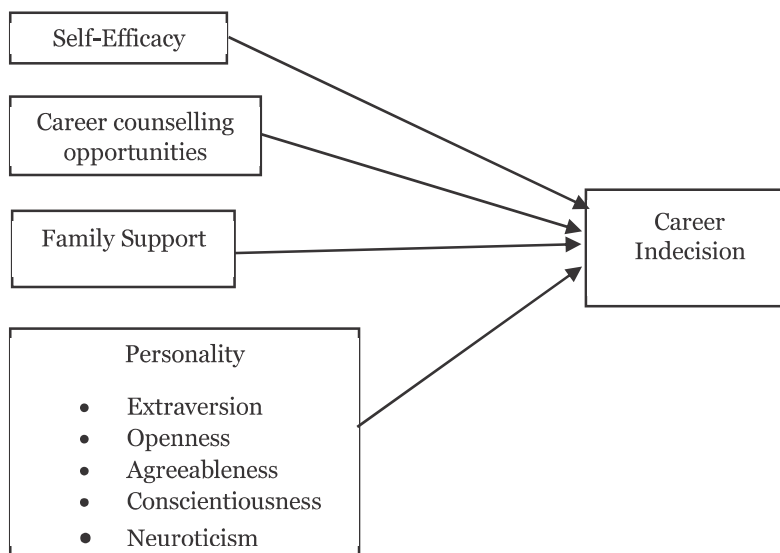


Figure 1: Conceptual Framework

The Big Five trait most commonly reported to be associated with career decidedness is Neuroticism. For instance, Meyer & Weiner (1993) compared three different career decision scales and found Neuroticism to be the trait most strongly connected to career indecision. Furthermore, a more advanced analysis by Chartrand, Rose et al., (1993) and a mediation model from Shafer (2000) including Big Five traits both confirmed neuroticism as the strongest and only direct predictor of affective elements of indecision. Lounsbury et al. (1999) investigated career decidedness in relation to personality constructs and life satisfaction. Their findings further revealed that career decidedness is negatively related to neuroticism. Accordingly, a hypothesis was formulated as: H4.1: There is a positive impact of neuroticism on career indecision. As suggested by the findings of Tango & Dziuban (1984), it was proven that social and avoidant personality characteristics empower negative thoughts and/or irrational thinking that give way to a fear that in turn heightens career indecision. The researches also supported a significant association between extraversion and career decidedness. (Chartrand et al., 1993; Gaffner & Hazler, 2002; Jin, Watkins, & Yuen, 2009) Hence a hypothesis was developed as: H4.2: There is a negative impact of extraversion on career indecision. Chartrand, Rose, et al (1993) also found the Big Five personality trait of Openness (e.g., being open to new experiences) to be positively associated with problem approach and self-reported coping skills, both of which would have perceived benefit for exploring career options. Based on that, a hypothesis was developed as follows: H4.3: There is a negative impact of openness on career indecision. Lounsbury, Hutchens, & Loveland (2005) reported that students “who were more orderly, rule-following, dutiful, reliable, and structured were more likely to have decided upon a career” (p. 33). Theoretically, someone who is conscientious would approach tasks in the career selection process with diligence and discipline that should pave the way for reaching a career decision. Shafer (2000) provided additional evidence and further clarified that successful progress on career tasks may mediate the effect conscientiousness has upon decision-making. Hence, a hypothesis was formulated as: H4.4: There is a negative impact of conscientiousness on career indecision. The findings for Agreeableness are less conclusive, since the results have been mixed. However, Newman and Fuqua (1999) discovered that individuals demonstrating high career indecision scored significantly lower on what they label the ‘Consensuality factor’ (e.g., reliable, agreeable, cooperative) of the California Psychological Inventory (CPI). In general, the analyses indicate that those who showed greater career indecision had lower pro-social orientation; specifically, a propensity for being nonconformists, which would relate to low agreeableness. Accordingly, a hypothesis was developed as follows: H4.5: There is a negative impact of agreeableness on career indecision.

3.2. Questionnaire Design

The questionnaire was designed focusing on obtaining quantitative data to support the quantitative analysis. Information with statistical value was obtained by asking a series of scale based rated questions which will help to generate statistics for quantitative analysis. In order to gather data, a questionnaire which was used in the previous research of Maduwanthi and Priyashantha (2018) was used. Further modifications to the questionnaire was done by the researcher. The original questionnaire consisted of five sections based on the hypotheses and one more section was added to the questionnaire to test the personality variables of the big five model. The questionnaire consisted of five-point Likert-scale to capture responses from the respondents. Their level of agreement was tested as, strongly agree, agree, neutral, disagree, and strongly disagree. A pilot test was conducted by giving the sample questionnaire to 10 undergraduates prior to actual research in order to take comments and to make further improvements to the questionnaire. The Questionnaire included six main sections. section 1 included the questions about demographic factors of the respondents. Section 2 included questions regarding self-efficacy, Section 03 for career counseling opportunities, section 04 for family support, section 5 comprised questions regarding the dependent variable called career indecision and the section 06 comprised questions that test big five personality traits. The researcher did some modifications to the questions as per requirements.

4. Data analysis

4.1. Demographic Analysis

A demographic analysis was done considering the frequencies of demographic variables. One hundred and fifty third year undergraduates were selected as respondents to study the determinants of career indecision. Out of 150 responses, 44.7% were male undergraduates whereas 55.3% were female undergraduates. When considering the field of specialization, a majority were specializing in Agriculture Technology Management which is 74% of the total responses. 16.7% were specializing in Animal Science and Fisheries while 9.3% were specializing in Food Technology.

4.2. Reliability of Study Variables

Cronbach's alpha reliability test was carried out to check the internal reliability of the study variables. The Reliability Analysis procedure calculates a number of commonly used measures of scale reliability and provides information about the relationships between individual items in the scale. The test will be significant when alpha value result more than 0.7. George and Mallery (2003) provide the following rules for alpha values: (Alpha value > 0.9 – Excellent,

Alpha value > 0.8 – Good, Alpha value > 0.7 – Acceptable, Alpha value > 0.6 – Questionable, Alpha value > 0.5 – Poor, Alpha value < 0.5 – Unacceptable). The Alpha that measured Extraversion got a value above 0.8 which depicts a good reliability value while other variables got a Cronbach alpha above 0.7, which indicated that there's an acceptable internal reliability in the measures. Altogether, the below table illustrates that there is a good internal consistency in the measures and the reliability of the research constructs are in acceptable levels.

Table 1: Reliability statistics of Study Variables

Variables	Cronbach's Alpha	No. of items
Self-efficacy	0.798	5
Career counseling opportunities	0.725	5
Family Support	0.711	5
Career Indecision	0.781	5
Extraversion	0.810	6
Agreeableness	0.785	6
Conscientiousness	0.752	6
Neuroticism	0.781	6
Openness to experience	0.728	6

Source: Construct by the Researcher, 2019

4.3. Correlation Analysis

The correlation analysis helped to determine the relationship between the independent variables and the dependent variable. Pearson's correlation coefficient was used to show the direction, strength, and significance of the relationship. The correlations of the self-efficacy, career counseling opportunities, family support, personality (extraversion, agreeableness, conscientiousness, neuroticism, openness to experience) and career indecision are given in the table below. Considering the correlation between the other pairs of independent variables, it was observed that the pairs of some independent variables exerted significant relationships with one another. When considering pairs such as; self-efficacy-career counseling opportunities, self-efficacy- family support, self-efficacy- extraversion, self-efficacy-agreeableness, self-efficacy- openness to experience showed a significant positive relationship with each other. Furthermore, family support showed a significant positive relationship with extraversion. The pairs of independent variables such as extraversion- agreeableness, extraversion- conscientiousness and extraversion- openness to experience showed a significant weak positive relationship while extraversion showed a significant weak relationship with neuroticism. When considering the other personality traits, agreeableness showed a significant weak positive relationship with extraversion and openness to experience respectively while it

showed a significant weak negative relationship with neuroticism. Pairs of neuroticism-conscientiousness and neuroticism- openness to experience depicted a significant weak negative correlation with each other. Further, a significant weak positive relationship was observed between the pairs of conscientiousness and openness to experience. Hence these are the ways in which the dependent variable with independent variables and pairs of independent variables correlate and show relationships with each other.

Table 2: Correlation coefficient with control effect

	CI	SE	CCO	FS	EX	AG	CO	NE	OP
CI	1								
SE	-.266**	1							
CCO	-.266**	.201*	1						
FS	-.267**	.213*	.026	1					
EX	-.074	.255**	.006	.246**	1				
AG	-.151	.186*	-.037	.147	.343**	1			
CO	-.172*	.117	.002	.193	.293**	.366**	1		
NE	.002	-.085	.041	-.093	-.324**	-.344**	-.356*	1	
OP	-.028	.150*	.112	.182	.271**	.302**	.352**	-.326**	1

Source: Survey data, 2019

Note; N=150, P**<0.01, P*< 0.05, SE= Self Efficacy, CCO= Career Counseling Opportunities, FS= Family Support, CI= Career Indecision EX=Extraversion, AG=Agreeableness, CO=Conscientiousness, NE=Neuroticism, OP=Openness to experience; P**<0.01, P*< 0.05

4.4. Regression Analysis

The regression model can be depicted in this equation ($Y = \alpha - \beta^1 \times x^1 + \beta^2 \times x^2$). In that model β value or coefficients of partial regression is the percentage of the variance in career indecision (Dependent variable) that is explained by self-efficacy, career-counseling opportunities, family support, extraversion, agreeableness, conscientiousness, neuroticism and openness to experience. (Independent variable).

The partial regression coefficients (β), standardized beta coefficients, and t value are given in the table above. According to that table, partial regression coefficient for self-efficacy was -0.225, -0.207 for career counseling opportunities and -0.305 for family support. Out of the personality traits, partial regression coefficient for extraversion was -0.367, -0.564 for agreeableness, -0.241 for conscientiousness, 0.114 for neuroticism and -0.295 for openness to experience. This means that variation in one unit of self-efficacy will result to -0.225 variations in career indecision. In other words, if one unit of self-efficacy increases, the career indecision

will decrease by 0.225. Similarly, if one unit of career counseling opportunities increases, the career indecision will decrease by 0.207.

Table 3: Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.816	.810		5.942	.000
SE	-.225	.094	-.196	-2.404	.017
CCO	-.207	.065	-.250	-3.177	.000
FS	-.305	.084	-.324	-3.631	.000
EX	-.367	.097	-.289	-3.769	.000
AG	-.564	.074	-.873	-4.598	.000
CO	-.241	.077	-.216	-2.695	.002
NE	.114	.080	.134	1.1754	.082
OP	-.295	.119	-.239	-2.471	.051

Source: Survey data, 2019

Note; SE= Self Efficacy, CCO= Career Counseling Opportunities, FS= Family Support, CI=Career Indecision EX=Extraversion, AG=Agreeableness, CO=Conscientiousness, NE=Neuroticism, OP=Openness to experience

Further, if one unit of family support increases, the career indecision will decrease by -0.305. When considering the personality traits it was proven that if one unit of extraversion increases, the career decision will decrease by -0.367, whereas if one unit of agreeableness increases the career decision will decrease by -0.564. Furthermore, it was also shown that if one unit of conscientiousness increases, the career decision will decrease by -0.241 whereas if one unit of openness to experience increases, the career decision will decrease by -0.295. Hence all the above mentioned independent variables show an inverse impact of relationship with the dependent variable, the career indecision except one independent variable. Apart from the above mentioned independent variables, the variation in one unit of neuroticism showed a 0.114 variation in career indecision. This is a positive variation and it can be also interpreted as, if one unit of neuroticism, the career indecision will increase by 0.114 value.

Since the standardized beta coefficients is the good measure of the regression, there was -0.196 for the self-efficacy, -0.250 for career counseling opportunities, -0.324 for family support, -0.289 for extraversion, -0.873 for agreeableness, -0.216 for conscientiousness, -0.239 for openness to experience and 0.134 for neuroticism. This means that, one unit of variations in self-efficacy, career counseling opportunities, family support, extraversion, agreeableness,

conscientiousness, openness to experience and neuroticism will result to -0.196, -0.250, -0.324, -0.289, -0.873, -0.216, -0.239 and 0.134 variations in career indecision respectively. This reveals further that self-efficacy, career counseling opportunities, family support, extraversion, agreeableness, conscientiousness, openness to experience have a negative relationship between career indecision. In addition, the relationship between neuroticism and career indecision is positive, many of the relationships between the variables are highly significant ($p=0.000$) when it comes to the significance. This gives a high level of assurance that the coefficient is not equal to zero and reveals the independent variables as a good predictor for the career indecision. It can be said that, it is at a 95% confidential level.

Further, the most significant independent variables which showed a significant value were career counseling opportunities ($p=0.000$) and family support ($p=0.000$), extraversion ($p=0.000$), agreeableness (0.000). A less significant determinant was recorded by self-efficacy ($p=0.017$) at 95% confidence interval. The coefficient for neuroticism is not statistically significant because its p -value ($p=0.082$) is larger than 0.05. Also, the coefficient for openness to experience which had a p -value larger than 0.05 ($p=0.051$) was not statistically significant.

Considering the above results, regression equation for the study is derived as follows.

$$CI = \alpha + \beta_1(SE) + \beta_2(CCO) + \beta_3(FS) + \beta_4(EX) + \beta_5(AG) + \beta_6(CO) + \beta_7(NE) + \beta_8(OP)$$

$$CI = 4.816 + (-0.225(SE)) + (-0.207(CCO)) + (-0.0305(FS)) + (-0.367(EX)) + (-0.564(AG)) + (-0.241(CO)) + 0.114(NE) + (-0.295(OP))$$

CI=Career Indecision SE=Self Efficacy, CCO= Career Counseling Opportunities, FS= Family Support, EX=Extraversion, AG=Agreeableness, CO=Conscientiousness, NE=Neuroticism, OP=Openness to experience

4.5. Model Fit

Since the model gives a high level of assurance for the career indecision, it is also important to find the overall predictive fit of the model. The predictive fit capacity is derived from the R^2 which is 0.374 for the model. This R^2 is obtained from the R , which is the correlation coefficient. The correlation coefficient R for this model was 0.611^a. This value reflects the degree of the association between the career indecision and the eight independent variables of self-efficacy, career counseling opportunities family support, extraversion, agreeableness, conscientiousness, neuroticism and openness to experience. Further, Zikmund (2003) defines the R^2 as “the percentage of variance in the dependent variable that is explained by the variation in the independent variables”. According to the table 4.9 and based on the definition

of Zikmund (2003), there was 37.4% variation of career indecision from the eight independent variables of self-efficacy, career counseling opportunities, family support, extraversion, agreeableness, conscientiousness, neuroticism and openness to experience.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	Sig. F Change
1	.611 ^a	.374	.338	.41115	.374	10.515	.000

a. Predictors: (Constant), OP, FS, CCO, CO, EX, AG, NE, SE

b. Dependent Variable: CI

Source: Survey data, 2019

Furthermore, the adjusted R^2 is taken in to consideration in order to reduce the inflation of the R^2 when adding more independent variables to the model. Since there are eight independent variables, it is better to take the adjusted R^2 for interpretation. Therefore, 33.8% of the career indecision is explained by the three independent variables used for this study. For this calculation, statistical assurance can be given from the F value. The F value is 10.515 and it is highly significant ($p=0.000$). This means that the regression model is statistically significant; it can be said that at a 95% confident level that the career indecision is influenced by self-efficacy, career counseling opportunities, family support and big five personality traits.

5. Results and Discussion

In this study, career indecision was determined via eight possible determinants, which were briefly discussed in the literature. Self-efficacy, career counseling opportunities and family support have been pointed out as factors that negatively affect career indecision from previously done research by Stărică (2012), Nota et al. (2007), and Parsons (1909) However, according to the results of this study, self-efficacy and career counseling opportunities and family support have a negative impact on career indecision. Thus, the findings of this research on a Sri Lankan university context further proved and supported the existing literature which assessed the impact of above mentioned three determinants with career indecision.

In a world where more and more diverse career options and professional opportunities are emerging, career counselling assist the individuals to make the right decision about their career paths, career development and career change. The main aim of career counselling is to help students to choose a field that is in tune with their skills and their job expectations. Thus, with the help of career counselling, most candidates end up choosing the right career, and perform

their level best, which ultimately help them in succeeding. Hence it is evident that under a given context with good career counselling, there's less chance for career indecision. The findings of this research proved the inverse relationship between career counselling opportunities and career indecision. In the Sri Lankan university context, maintaining an effective, sensitive and a reachable career guidance unit might be able to provide realistic solutions to possible career indecision among undergraduates. The students on the other hand should get the opportunity to make use of it for their betterment in making career choices.

The previous studies provided an insight that family support impacts negatively on career indecision. (Parsons, 1909). Family support can be seen in the forms of emotional support and the financial support that the young adults receive from the families. The family backgrounds and the occupation of parents and the family would also affect career related decisions among young individuals. However, in Maduwanthi and Priyashantha (2018) the research findings revealed that there's a positive impact of family support to career indecision. Thus, over caring and being too much dependent on family might also affect the individual career related decision making in children. The findings of this research supported and proved the existing claim that family support has an inverse relationship with career indecision.

Several studies have found correlations between personality traits and career indecision, and most studies have considered the big five personality model (McCrae & Costa, 1999). Accordingly studies of personality have sought to provide broader understanding of career decidedness by adding insight about individual differences. (Smith, 2011) . When considering the previous literature, Meyer & Weiner (1993) confirmed neuroticism to be the trait most strongly connected to career indecision. Individuals who score high on neuroticism are more likely than average to be moody and to experience such feelings as anxiety, worry, fear, anger, frustration, envy, jealousy, guilt, depressed mood, and loneliness. In the research findings of this research it was supported that neuroticism has a positive impact on career decision. This is clearly understood as when individuals tend to be anxious and frustrated over situations it could impair his/her decision making abilities including career decidedness. Thus their lack of decision making can reduce one's sense of autonomy, self- efficacy thereby increasing fear of decisions. Similarly, Betz & Sterling (1993) suggested fear of commitment to a career decision may be prompted by a belief that there is only one correct choice or career option for them, which could impetus for more irrational thinking which would affect ineffective career decisions.

Chartrand, Rose et al. (1993) and Lounsbury (2005) postulated that there's a negative association between extraversion, agreeableness with career indecision. The personality of extraversion tends to show desire to be the life of the party and enjoy being with people. Agreeableness is a personality trait manifesting itself in individual behavioral characteristics

that are perceived as kind, sympathetic, cooperative, and considerate. When taken together, individuals with such personality characteristics typically are shown to be warm, social, welcoming people. This particular nature can affect their career decision making abilities as well. Caldwell & Burger (1998) indicated extroverts report having less career decision making difficulties, but rather their challenge is not the process of coming to a decision but the desire for variety that may prevent commitment to a specific decision. Although many researches have proved the inverse relationship between extraversion and career indecision, some researches have derived mixed results including researches done by Fabio & Palazzeschi (2009). Lubinski et al. (2001) has explained variety as a characteristic often associated with extraversion. Thus, although it is believed that extroverts show less career indecision in their preference for diverse interests and inability to be limited to a single option might hinder extroverts making good career decisions. Hence the previous researches have got mixed results. However, the findings of this research supported the inverse relationship between the two variables. Apart from that, cooperative, social individuals who are more approachable are believed to be able to foster and maintain relationship connections that would have a positive influence in acquiring necessary insight for making a good career choice. Especially during an era of social media where interdependence and social relationships are paramount, the receptive and cooperate behavior of individuals would help make realistic career decision seeking information about job opportunities and social contacts. Thus, the findings of this research that agreeableness has a negative impact on career decision is supported by the above mentioned ideas.

Shafer (2000) claimed that theoretically, someone who is conscientious would approach tasks in the career selection process with diligence and discipline that would eventually pave the way for reaching a career decision. Practically it is an observable fact that individuals with traits like achievement orientation, discipline, orderliness can be more productive in them upon deciding a career due to their target oriented and organized nature. People with these personality qualities know how to avoid distractions to continuously focus on their goals. A research done by Chartrand et al (1993) proved how conscientiousness link with problem solving skills. Thus it is evident that the confidence people develop in decision making skills through positive experience could stimulate their self-efficacy. Similarly, such individuals would confidently make the right choice in career decision making. Hence the existing research findings were further proved by this research, which showed results of a significant negative impact of conscientiousness with career indecision.

Openness to experience involves dimensions such as active imagination, aesthetic sensitivity, attentiveness to inner feelings, preference for variety, and intellectual curiosity. Chartrand et al (1993) claimed that individuals with this characteristic are positively associated with problem approach and their self-reported coping skills would benefit for exploring career options. In practical knowledge people with this characteristic are tend to be adventurous

hence they develop a good locus of control and autonomy in making their own decisions. They might perceive career barriers as challenges which would eliminate anxiety in them. Gottfredson (1996) also found that these type of people have the ability to compromise or adjust their ambitions to market capability. Hence the inverse relationship with career indecision is proved by this research. Furthermore, the objectives of the research as in finding positive or negative impacts of determinants on career indecision could be achieved through findings.

6. Conclusion

Career indecision of undergraduates is a crucial problem, which leads negative impact to the labor market in Sri Lanka. The aim of this study was to identify the determinants on career indecision in agriculture undergraduates of University of Peradeniya. The sample considered including 150 undergraduates. In conclusion, self-efficacy, career counseling opportunities, family support and big five personality traits which include extraversion, agreeableness, conscientiousness, neuroticism are openness to experiences are proved as the most important factors influencing career indecision in Sri Lankan agriculture undergraduates. This research has provided strong evidence to prove their impact. The research model has been reconstructed according to the findings. In addition, the results emphasize that self-efficacy, career counseling opportunities and family support negatively affect career indecision while extraversion, agreeableness, conscientiousness and openness to experience too negatively affect career indecision except neuroticism, which positively affects the career indecision. Therefore, future research could be done on investigating above factors to find more evidence in different contexts. In addition, this study only focused on agriculture undergraduates of University of Peradeniya. Thus, more studies could be done by covering agriculture undergraduates of other universities to test the generalizability or by applying the same model on undergraduates of different disciplines.

7. Implications and Limitations

Career indecision could be identified among undergraduates who study other subjects apart from agriculture. Hence, future researchers can apply the methodology, design, discussion of this research in finding the impact of the determinants of career indecision on different disciplines. The findings of this research could be used in policy making, decision making and improving career counselling in higher education. Personality development of undergraduates could be done to make them understand the nature of their personality and to make effective decisions including career related choices.

Time constraints, inability to select a large sample, inability to study other determinants that could have an impact on career indecision can be identified as some limitations of the research.

References

- Ackerman, C. (2017, June 23). Big five personality traits: The ocean model explained. Retrieved August 11, 2019, from <https://positivepsychology.com/big-five-personality-theory/>
- Bandura, A. (1997). Self-efficacy. *Harvard Mental Health Letter*, 13(9), 4. https://doi.org/10.1007/Springer Reference_223312
- Betz, N.E. & Vuyten, K.K. (1997). Efficacy and outcome expectations influence career exploration and decidedness. *The Career Development Quarterly*, 46, 179-189
- Borgen, W., & Hiebert, B. (2006). Career guidance and counselling for youth: What adolescents and young adults are telling us. *International Journal for the Advancement of Counselling*, 28(4), 389-400. <https://doi.org/10.1007/s10447-006-9022-5>
- Brown, D., Brooks, L., & A. (1996). (1996). *Career choice and development* (Thid). San Francisco: Jossey-Bass, Publishers.
- Callanan, G. A., & Greenhaus, J. H. (1992). The career indecision of managers and professionals: An examination of multiple subtypes. *Journal of Vocational Behavior*, 41(3), 212-231. [https://doi.org/10.1016/0001-8791\(92\)90023-S](https://doi.org/10.1016/0001-8791(92)90023-S)
- Chartrand, J.M., Rose, M.L., Elliott, T.R., Marmarosh, C., & Caldwell, S. (1993). Peeling back the onion: Personality, problem solving, and career decision-making style correlates of career indecision. *Journal of Career Assessment*, 1(1), 66-82.
- Chuang, N., Walker, K., & Caine-Bish, N. (2009). Student perceptions of Career choices: The impact of academic major. *Journal of Family & Consumer Sciences Education*, 27(2). Retrieved from <http://www.natefac.org/JFCSE/v27no2Chuang.pdf>
- During, P. E. J. (2010). Specific and diverse career exploration during adolescence. *Journal of Career Assessment*, 199-208.
- Esters, T. (2007). Career indecision levels enrolled of students in a college of agriculture and life science. *Journal of Agricultural Education*, 48, 130-141.
- Federation of families for children's mental health inc.(2015).1.Retrieved August 13, 2019, from <https://www.guidestar.org/profile/52-1671408>.

- Feldman, D.C. (2003). The antecedents and consequences of early career indecision among young adults. *Human Resource Management Review*, 13, 499-531.
- Fouad, N. A. (1994). Annual Review 1991-1993: Vocational Choice, Decision-Making, Assessment, and Intervention. *Journal of Vocational Behavior*.
<https://doi.org/10.1006/jvbe.1994.1029>
- Fuqua, D.R., Seaworth, T.B., & Newman, J.L. (1987). The relationship of career indecision and anxiety: A multivariate examination. *Journal of Vocational Behavior*, 30, 175-186.
- Funder, D. C. (2001). Personality. *Annual Review of Psychology*, 52, 197-221.
 doi:10.1146/annurev.psych.52.1.197
- Gaffner, D.C., & Hazler, R.J. (2002). Factors related to indecisiveness and career indecision in undecided college students. *Journal of College Student Development*, 43(3), 317-326.
- Gati, I., Krausz, M., & Osipow, S. H. (1996). A taxonomy of difficulties in career decision making. *Journal of Counseling Psychology*, 43(4), 510-526.
<https://doi.org/10.1037/0022-0167.43.4.510>
- Gati, I., Osipow, S. H., Krausz, M., & Saka, N. (2000). Validity of the Career Decision-Making Difficulties Questionnaire: Counselee versus Career Counselor Perceptions. *Journal of Vocational Behavior*, 56(1), 99-113. <https://doi.org/10.1006/jvbe.1999.1710>
- Gauy, F., Senécal, C., Gauthier, L., & Fernet, C. (2003). Predicting career indecision: A self-determination theory perspective. *Journal of Counseling Psychology*, 50(2), 165-177.
<http://dx.doi.org/10.1037/0022-0167.50.2.165>
- Germeijs, V., & De Boeck, P. (2003). Career indecision: Three factors from decision theory. *Journal of Vocational Behavior*, 62(1), 11-25. [https://doi.org/10.1016/S0001-8791\(02\)00055-6](https://doi.org/10.1016/S0001-8791(02)00055-6)
- Goliath, D. (2012). Career indecision amongst undergraduate university students. Mini-Thesis, University of Western Cape, Department of Industrial psychology. Retrieved 8 13, 2019, from <https://core.ac.uk/download/pdf/58915094.pdf>
- Gottfredson, L.S. (1981). Circumscription and compromise: A developmental theory of occupational aspirations. *Journal of Counselling Psychology*, 28, 545-579.

- Greenhaus, J.H., Callanan, G.A., & Kaplan, E. (1995). The role of goal setting in career management. *International Journal of Career Management*, 7, 3-12.
- Harriot, J.S., Ferrari, J.R., & Dovidio, J.F. (1996). Distractability, daydreaming and self-critical cognition as determinants of indecision. *Journal of Social Behaviour & Personality*, 11(2), 337-344.
- Herr, E. L., Cramer, S. H., & Niles, S. G. (2004). Career guidance and counseling through the lifespan: Systematic approaches (6th ed.). *Career Guidance and Counseling through the Lifespan: Systematic Approaches (6th Ed.)*
<http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=psyc4&NEWS=N&N=2003-88251-000>
- Hesketh, Beryl & Durant, Colleen & Pryor, Robert. (1990). Career compromise: A test of Gottfredson's (1981) theory using a policy-capturing procedure. *Journal of Vocational Behavior*. 36. 97-108. 10.1016/0001-8791(90)90017-V
- Hinkle, W. & J. (2003). Rule of Thumb for Interpreting the Size of a Correlation Coefficient. *Applied Statistics for the Behavioral Sciences*, 5, 792.
- Hoffman-Kipp, P., & Torres, L. (2001). Beyond reflection: Teacher learning as praxis. *Theory into Practice*, 42 (3), 248
- Holland, J. L. (1996). Exploring Careers with a Typology: What We Have Learned and Some New Directions. *American Psychologist*, 51(4), 397-406.
<https://doi.org/10.1037/0003-066X.51.4.397>
- Importance of Agricultural education in Sri Lanka. (2008, November 11). *The Island Online*. Retrieved August 13, 2019, from <http://www.island.lk/2008/11/11/features7.html>
- Jin, L., Watkins, D., & Yuen, M. (2009). Personality, career decision self-efficacy and commitment to the career choices among Chinese graduate students. *Journal of Vocational Behavior*, 74(1), 47-52.
- Johnson, N.M. (2007). The study and comparison of the level of motivation, attributional style, locus of control and career indecision between Black and White 9th grade suburban students (Unpublished doctoral thesis). University of Central Florida, Orlando, Florida. Retrieved from http://etd.fcla.edu/CF/CFE0001632/Johnson_Nicola_M_200705_PhD.pdf

- Jordaan, Y., Smithard, C., & Burger, E. (2009). Comparing levels of career indecision among selected honours degree students at the University of Pretoria. *Meditari Accountancy Research*, 17(2), 85–100. <https://doi.org/10.1108/10222529200900013>
- Kelly, K.R., & Lee, W. (2005). Relation of psychological type to career indecision amongst university students. *Journal of Psychological Type*, 64(2), 12-22.
- Lamborn, S. D., Mounts, N. S., Steinberg, L., & Dornbusch, S. M. (1991). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development*, 62(5), 1049-1065. <http://dx.doi.org/10.2307/1131151>
- Lee, K.H., (2005). Coping with Career Indecision: Differences between four career choice types. *Journal of Career Development*, 31, 279-289
- Lock, E. (2009). The relationship between individualistic and collectivistic value orientations and early career indecision (Unpublished master's thesis). University of South Africa, South Africa. Retrieved from <http://uir.unisa.ac.za/handle/10500/2690>
- Lofquist, L. H., & Dawis, R. V. (1991). *Essentials of person-environment-correspondence counseling*. Minneapolis, MN: University of Minnesota Press.
- Lopez, F.G., & Andrews, S. (1987). Career indecision: A family systems perspective. *Journal of Counseling and Development*, 65, 304-307.
- Lounsbury, J., Tatum, H., Chambers, W., Owens, K., & Gibson, L. (1999). An investigation of career decidedness in relation to “Big Five” personality constructs and life satisfaction. *College Student Journal*, 33(4), 646-652.
- Lounsbury, J. W., Hutchens, T., & Loveland, J. M. (2005). An investigation of big five personality traits and career decidedness among early and middle adolescents. *Journal of Career Assessment*, 13, 25–39. doi:10.1177/106907270427027
- Maduwanthi M.N. and Priyashantha K.G. (2018). Determinants of Career Indecision: With Special Reference to Management Undergraduates in Sri Lankan State Universities.
- McCrae, R.R., & Costa, P.T., Jr. (1999). *Personality in adulthood: A five-factor theory perspective* (2nd edition). New York: Guilford Press.

- Meyer, B.W., & Winer, J.L. (1993). The Career Decision Scale and Neuroticism. *Journal of Career Assessment*, 1(2), 171-180.
- Morgan, T., & Ness, D. (2003). Career decision making difficulties of students. *The Canadian Journal of Career Development*, 2, 33-39.
- Mouton, J. (1996). *Understanding social research*. Pretoria: Van Schaik.
- Mylonas, K., Argyropoulou, K., & Tampouri, S. (2012). Career decision- making difficulties, dysfunctional thinking and generalized self-efficacy of the university students in Greece. *World Journal of Education*, 2(1). doi:10.5430/wje. v2n1p117
- Newman, J.L., & Fuqua, D.R. (1990). Further evidence for the use of career subtypes in defining career status. *Career Development Quarterly*, 39(2), 176-188
- Newman, J., Gray, E., & Fuqua, R. (1999). The relation of career indecision to personality Dimensions of the California Psychological Inventory. *Journal of Vocational Behaviour*, 54, 174-187.
- Niles, S.G., & Bowsbey, J.H. (2009). *Career development interventions in the 21st Century*. New Jersey: Merrill.
- Nota, L., Ferrari, L., Solberg, V. S. H., & Soresi, S. (2007). Career Search Self-Efficacy, Family Support, and Career Indecision with Italian Youth. *Journal of Career Assessment*, 15(2), 181–193. <https://doi.org/10.1177/1069072706298019>
- Osipow, S. H. (1999). Assessing Career Indecision. *Journal of Vocational Behavior*, 55(1), 147–154. <https://doi.org/10.1006/jvbe.1999.1704>
- Parsons, F. (1909). *Choosing an occupation*. Boston: Houghton-Mufflin
- Pearson, C., & Dellman-Jenkins, M. (1997). Parental influence on a student's selection of a college major. *College Student Journal*, 31(3), 301-314.
- Raad, Boele. (2000). *The Big Five Personality traits: The psycholexical approach to personality*.
- Reece, E.J. (2011). *Stress and career indecision: A comparison of senior athletes and non-athletes* (Unpublished master's thesis). Texas State University-San Marcos, San Marcos, Texas. Retrieved from

<https://digital.library.txstate.edu/bitstream/handle/10877/4093/fulltext.pdf?sequence=1>

- Saunders, M., Lewis, P., & Thornhill, A. (2000). Research Methods for Business Students. In *Research methods for business* (p. 436).
- Savickas, M. L. (1993). Career Counseling in the Postmodern Era. *Journal of Cognitive Psychotherapy*, 7, 205–215(11)
- Schwarzer, R., Luszczynska, A., & Wiedemann, A. U. (1997). Perceived Self-Efficacy in Health Behaviour Change. *Psychological Inquiry*.
- Shafer, A.B. (2000). Mediation of the Big Five's effect on career decision making by life task dimensions and on money attitudes by materialism. *Personality and Individual Differences*, 28, 93-109.
- Schwarzer, R., Luszczynska, A., & Wiedemann, A. U. (1997). Perceived Self-Efficacy in Health Behaviour Change. *Psychological Inquiry*.
- Sharf, R. . (2002). Applying a career development theory to counselling.
- Solberg, V. S., Good, G. E., Nord, D., Holm, C., Hohner, R., Zima, N., ... Malen, A. (1994). Assessing Career Search Expectations: Development and Validation of the Career Search Efficacy Scale. *Journal of Career Assessment*, 2(2), 111–123. <https://doi.org/10.1177/106907279400200202>
- Stărică, E. C. (2012). Predictors for career indecision in adolescence. In *Procedia - Social and Behavioral Sciences* (Vol. 33, pp. 168–172).
- Super, D.E. (1984). *A life span, life-piece approach to career development*. San Francisco: Jossey-Brass.
- Talib, A.M., & Aun, T.k. (2009). Predictors of career indecision amongst Malaysian undergraduate students. *European Journal of Social Sciences*, 8(2), 215-224. Retrieved from <http://psasir.upm.edu.my/7024/>
- Tango, R.A., & Dziuban, C.D. (1984). The use of personality components in the interpretation of career indecision. *Journal of College Student Personnel*, 25, 509-512.

- Taylor and Betz. (1983). The impact that career guidance counselling has on the level of career indecision in the career decision-making process of late adolescents in Cape Town (Unpublished honours thesis). University of Cape Town, Cape Town, South Africa.
- Taylor, K.M., & Betz, N.E. (1983). Applications of self-efficacy theory to the understanding and treatment of career indecision. *Journal of Vocational Behavior*, 22, 63-81.
- Trusty, J. and S.G., Niles, 2004. "Realized Potential or Lost Talent: High School Variables and Bachelor's Degree Completion". *The Career Development Quarterly*, 53, pp. 2-15
- Van Reenen, S. (2010). Career indecision amongst prospective university students.
- Wanberg, C. R., & Muchinsky, P. M. (1992). A Typology of Career Decision Status: Validity Extension of the Vocational Decision Status Model. *Journal of Counseling Psychology*, 39(1), 71-80. <https://doi.org/10.1037/0022-0167.39.1.71>
- Zimmerman, A. L., & Kontosh, L. G. (2007). A systems theory approach to career decision making. *Work* (Reading, Mass.), 29(4), 287-293.

