THE IMPACT OF SOCIAL SUPPORT ON CAREER DECISION-MAKING:

THE ROLE OF RELATIONAL SELF-CONCEPT

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Yaoshan Ivy Li

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The dissertation of Yaoshan Ivy Li was reviewed and approved* by the following:

Richard J. Hazler
Professor of Counselor Education
Dissertation Adviser
Chair of Committee
Counselor Education Program Coordinator

Jerry G. Trusty
Professor of Counselor Education

Jeffrey W. Garis
Adjunct Professor of Counselor Education

Emily K. Greenman
Assistant Professor of Sociology and Demography

*Signatures are on file in the Graduate School.
ABSTRACT

The study examined how individual's relational self-concept impacts the influence of social support on career decision-making difficulties. Career decision-making difficulties were categorized into Lack of Readiness, Lack of Information, and Inconsistent Information using Gati and colleagues' classification. Participants are 352 undergraduate students who completed the research surveys in-class or online. Regression models of Lack of Readiness and Lack of Information supported the hypothesis that relational self-concept moderates the influence of social support on career decision-making difficulties. For those with high relational self-concept, the more social support they perceived, the less career decision-making difficulties they encountered. On the other hand, social support was not related to career decision-making difficulties for those with low relational self-concept. Regression model of Lack of Readiness was not supported as hypothesized, which may due to low reliability of the instrumental and the nature of Lack of Readiness. The study offers evidence of the significant impact of social support on career decision-making and the crucial role of relational self-concept that regulates the relationship. Implications of how to assist young adults' career decision-making from the relational and contextual perspectives are discussed, along with suggestions for future research.
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CHAPTER 1
INTRODUCTION

Background

Career decision is one of the most important decisions people make regardless of the stages of their lives (Amir, Gati, & Kleiman, 2008). It directly influences people’s mental and physical well-being in areas such as education attainment, psychological distress, academic performance, job satisfaction, and self-esteem (Feldman, 2003; Fouad et al., 2006; Savickas, 2002; Slaten & Baskin, 2013). The cost of career indecision is serious for young adults, especially college students as they may transfer back and forth from majors to majors or even dropping out of school. The long-term consequences of career indecision may lead to one’s negative self-image, low self-efficacy, and lost of career aspirations. In addition, the time, energy, and money spent in this process are added pressure for college students as they begin to develop their identity as adults.

Understanding the difficulties related to career decision-making therefore has gained much attention in the literature. Career decision-making is not only one of the most studied concepts in the career literature (Phillips & Blustein, 1994), in practice, counselors also have devoted greatly to this topic.

Researchers have invested much energy in understanding factors that contribute to career decision-making. Rich information has been accumulated on how self-knowledge such as interests, abilities, values, and motivations relate to one’s career decision-making (Rayman, 1993). Past studies mainly focused on the individual characteristics of self. However, self does not exist in a social vacuum (Lent et al., 2001). The work *know thyself* is not complete without understanding it in relation to others and the context it is
in. It is through the interactions and experience people have with others that they develop a sense of who they are (Kohut, 1977). Recent studies although have been putting more efforts in understanding contextual and relational influences on career decision-making, researchers claimed that this field of research is still in its early stages (Blustein, 2011; Phillips, 2011; Vondracek, 2011).

There are considerable number of studies that support contextual and relational influences on career decision-making (e.g., Fisher & Stafford, 1999; Fouad et al., 2010; Lapan et al., 1999; Lent et al., 2001; Lent et al., 2003; McWhirter, Hackett, & Bandalos, 1998; Schaefer, Epperson, & Nauta, 1997; Schultheiss Kress, & Manzi, 2001; Tang, Fouad, & Smith, 1999). However, researchers concluded from previous studies that the mechanism of how career decision is affected by contextual and relational factors requires further exploration (Lent et al., 2003; Lent, Brown, & Hackett, 2000; Swanson, Daniels, & Tokar, 1996; Swanson & Woitke, 1997). Studies have since then applied different theories, such as the Social Cognitive Career Theory (SCCT), to explain how contextual factors (e.g., social support and environmental barriers) impact career decision-making. The numbers of studies, however, are few and the results are inconsistent. Lent and colleagues reviewed past studies and concluded that the results showed conflicting results with what SCCT hypothesizes and there were mixed findings on the relationship between contextual factors and other variables (Lent et al., 2000).

Another important yet less examined question is what accounts for individual differences regarding how career decision-making is impacted by contextual influences, specifically social support? Blustein's study showed that some individuals’ career decision-making is more reflective of contextual influences (e.g., SES, environmental
barriers), while others are relatively impervious to them (Blustein, 2011). Relational self-concept may be able to answer this question, as studies showed that individuals with higher relational self-concept benefit more from social support regarding choice and goal implementation (Cross & Vick, 2001). Relational self-concept is defined as the way one views him or herself by incorporating other’s perspectives of him or her (Cross, Bacon, & Morris, 2000). Simon (1997) claimed that all aspects of self are socially influenced. People’s physical and psychological well-being, academic achievement, interpersonal relations, organizational commitment, civic and social engagement are all affected by their relational self-concept. This concept extends our knowledge of how individuals make decisions by incorporating the relational aspect of self. Theorists such as Super (1990) and Savickas (2002) placed strong emphasis on the perceptions people have for themselves as basis for their career choice. Super (1990) proposed that these perceptions are reflections of their roles, situations, positions, functions, and relationships with others.

Relational self-concept has seldom been explored in the field of vocational psychology. Past researchers focused primarily on personal characteristics that relate to career decision-making, such as decision-making styles, personality types, or information gathering strategies. Phillips and colleagues argued that this approach does not provide sufficient explanations to people’s career decision-making in real-life situations (Phillips, Christopher-Sisk, & Gravino, 2001). People do not make career decisions solely based on their personal attributes, or make decisions without considering others’ opinions. Significant others play crucial, if not central, roles in one’s career decision-making process (Phillips et al., 2001; Schultheiss, Kress, & Manzi, 2001). Recently, more theorists acknowledged that people construct their career trajectory in relation to their
roles through interacting with the multiple contexts they have contact with. Self is viewed as a reflection of the interaction between the context and the agency that the person constructs (Vondracek & Porfeli, 2011), which is “anchored in a social context in which individuals derive a sense of self from their own subjective experiences, their social roles, and from various constraining and fostering social conditions” (Blustein & Noumair, 1996, p.433). The roles they take on are within the multiple contexts they have contact with, such as culture, racial group, family, neighborhood, and schools (Savickas, 2002).

**Purpose of the Study**

This study intends to provide better clarity of how individuals make career decisions by examining how individual's relational self-concept impacts the influence of social support on career decision-making difficulties. This study applies the Social Cognitive Career Theory (SCCT) and the relational self-concept and to examine the relationship between career decision-making and social support. SCCT, proposed by Lent and colleagues, highlights the importance of contextual influence on career choices and actions (Lent, Brown, & Hackett, 1994; Lent et al., 2000, 2001, 2003). People grow up with different education and work opportunities, financial barriers, and significant others who support or disapprove of their goals. SCCT hypothesizes that contextual factors directly influence people’s career interests, goals, and actions. Contextual factors also moderate the process of whether career interests will translate into career choice and actions (Lent et al., 2001). Contradicting to what SCCT proposes, however, some studies showed that contextual factors indirectly influence career decision (e.g., Lent et al., 2003). This result implies that there may be others factors that mediate or moderate how career decisions are influenced by contextual factors. As this field of research is still at its
beginning, it is unsure whether the inconsistent results are due to undiscovered mediating or moderating variables or method limitations.

Relational self-concept is applied in this study to provide an explanation of the impact of social support on career decision-making. Self-concept is proposed by various theorists, such as Phillips, Super, and Savickas, as the foundation of career choice (Phillips, 2011; Super, 1990; Savickas, 2002). Self-concept can be viewed as a thermostat that controls how career decision is impacted by outside influences (specifically social support in this study). For individuals with higher levels of relational self-concept, the way they view themselves is more affected by other's perspectives. For those with lower levels of relational self-concept, others' support or discouragements may be less impactful. Few studies have applied self-concept in the field of vocational psychology, mainly because it is such a broad, inclusive, abstract term that bears “far more theoretical, empirical, and political weight than it can support” (Ashmore, Deaux, & MaLaughlin-Volpe, 2004, p.80). This study refines the concept of self from a relational perspective to examine how it related to social support and career decision-making.

Career decision-making difficulties are viewed from a career constructivist’s perspective in this study, which is evaluated by how much it reflects one’s self-concept (i.e. level of relational self-concept), as well as taking into account of social support. This study adopts Gati and colleagues’ categorization of career decision-making difficulties: lack of readiness, lack of information, and inconsistent information (Gati, Krausz, & Osipow, 1996). It is assumed that for those with high relational self-concept, they benefit more from social supports when making career decision comparing to those with lower relational self-concept. Past studies discovered that individuals with high relational self-
concept view themselves from a relational perspective, and are more affected by close others’ opinions when they are making decisions (Cross & Vick, 2001; Gore & Cross, 2006). They are likely to encounter fewer career decision-making difficulties when supported by close others. By synthesizing the concept of relational self-concept with career theories (such as SCCT, Super’s theory, and Savickas’s Career Constructivist Theory), this study intends to shed light on career decision-making from the relational and contextual perspective.

**Research Questions**

Research questions of this study are the expansion of the following one: *How does relational self-concept influence the effect of social support on career decision-making difficulties?* According to past literature, it is hypothesized that relational self-concept either mediates or moderates the effect of social support on career decision-making difficulties. Relational self-concept may mediate how social support impacts career decision-making difficulties, which the direct effect of social support becomes smaller when relational self-concept is predicting career decision-making difficulties. The moderation effect of relational self-concept means that the interaction between social support and relational self-concept has a direct effect on career decision-making difficulties. It indicates that relational self-concept impacts the direction and/or strength of the relationship between social support and career decision-making difficulties. See figure 1 for the conceptual model of this study.

Research questions of this study are as follows:
**Research Question 1**

To what extent do relational self-concept, social support, the interaction and mediation effects between relational self-concept and social support influence lack of readiness, while controlling for demographic variables?

**Research Question 2**

To what extent do relational self-concept, social support, the interaction and mediation effects between relational self-concept and social support influence lack of information, while controlling for demographic variables?

**Research Question 3**

To what extent do relational self-concept, social support, the interaction and mediation effects between relational self-concept and social support influence inconsistent information, while controlling for demographic variables?
Significance of the Problem

Career decision has significance influence on most aspects of our lives.

Consequences of career decision are more than survival; they impact people’s self-esteem, sense of achievement, belongingness, happiness, relationship with others, self-actualization, and much more (Feldman, 2003; Guerra & Braungart-Rieker, 1999;
Phillips, 1997; Slaten & Baskin, 2013). Three categories of career decision difficulties: lack of readiness, lack of information, and inconsistent information proposed by Gati and colleagues were explored in this study to describe the difficulties individuals encounter while making career decisions (Gati, 1996; Gati et al., 2011). Counselors could utilize the results of this study to better understand the career decision-making difficulties encountered by clients with different levels of relational self-concept. Counselor can also assist clients in identifying social support to cope with their career decision difficulties, which is beneficial for promoting their self-efficacy that further leads to effective career decision-making (Swanson & Woitke, 1997).

Another contribution of the study is to expand our understanding of relational self-concept, especially in the field of vocational psychology. It is valuable to study career and identity together as career development and identity formation is inseparable for many, especially for young adults (Kroger, 2007; Schwartz et al., 2006). Peers, education setting, work environment, partner, and family all contribute greatly to people’s career decision-making (Phillips et al., 2001). Lent and colleagues suggested that counselors should help clients develop strategies to cope with decision-making difficulties while using resources from their social networks (Lent et al., 2001). Results of this study are valuable to apply in educational and clinical settings regarding individuals’ career planning, decision-making, and identity development.

**Definition of Terms**

Followings are the definitions of the concepts in this study:
Social Support

Social support in this study is defined as people and interpersonal relationships that facilitate one’s career progress. It is measured by the Social Support Inventory (SSI, Brown et al., 1987), which assesses one's satisfaction of social support regarding major and/or career choice in the past month. Social support includes acceptance and belonging, appraisal and coping assistance, behavioral and cognitive guidance, tangible assistance and material aid, as well as modeling.

Relational Self-Concept

Relational self-concept is defined as the way one views him or herself by incorporating other’s perspectives of him or her. For example, "how significant others think of me as an important part of who I am." This variable is measured by the Relational-Interdependent Self-Construal (RISC; Cross et al., 2000).

Career Decision-Making Difficulties

Career decision-making difficulties are defined as challenges that keep individuals from making a career decision, or lead them to make a less than optimal career decision (Gati, Krausz, & Osipow, 1996; Gati, Krausz, Osipow, & Saka, 2000). It is measured by the Career Decision-making Difficulties Questionnaire (CDDQ), using three subscales: Lack of Readiness, Lack of Information, and Inconsistent Information.

Demographic Variables

Demographic variables gathered in this study include participant’s age, gender, field of study, parental education, and race/ethnicity. These information are collected using the demographic questionnaire developed for this study.
**Age.** Participants self-reported their age on the demographic questionnaire. Those who are under age 18 or above 23 are not included in this study.

**Gender.** Participants self-reported their gender on the demographic questionnaire.

**Field of study.** Participants selected a college that they identify the most from the following: Agricultural Sciences, Arts and Architecture, Business, Communications, Earth and Mineral Sciences, Education, Engineering, Health & Human Development, IST, Liberal Arts, Nursing, Science, DUS or Undecided, and Schreyer Honors College.

**Parental education level.** Participants selected the highest level of their parent’s education from the following categories: no school, eighth grade or less, more than eighth grade but less than high school, high school equivalent, some college, 4-Year college degree, or graduate/professional training.

**Race/ethnicity.** Participants selected the following race/ethnicity from the following: White (non-Hispanic), Black/African American, Hispanic/Latino, Asian American, Native American, Pacific Islander, or other.
CHAPTER 2
LITERATURE REVIEW

Introduction

Career Decision-Making Theories: History and Current Trends

A century ago when Frank Parson proposed what is now called the trait and factor approach, he claimed that there are three steps that individuals need to take to make career decisions: understanding of self, developing knowledge in the occupations, and the use of true reasoning (Niles & Harris-Bowlsbey, 2009). Career theorists such as Holland and Krumboltz expanded on Parson’s ideas and claim that individuals make better career choices when they are objective scientists who are ‘methodical, systematic, independent, and unimpulsive throughout the decision-making process” (Phillips, 1997, p. 276). One of the most well-known examples of the traditional trait and factor approach: Holland’s hexagon theory claims that individuals are most satisfied when they are working in environment that matches their personality types (Holland, 1997; Nauta & Kahn, 2007). Holland believed that people have difficulties making career decisions when their interests are undifferentiated because many occupations are classified on differentiated characteristics. Career interventions, therefore, should target towards helping individuals achieve greater differentiation among interest types (Niles & Harris-Bowlsbey, 2009). Holland further noted that the more one is able to differentiate his or her inertest, the better s/he is able to make career decisions.

In contrast with traditional career theorists, recent researchers suggested that people do not encounter career decision difficulties solely because of problems of clarity (Phillips, 2011). A clear and well-defined interest profile does not guarantee satisfying
career decisions (Phillips & Imhoff, 1997). The impact of context, relationship, and the interactive nature between one’s characteristics moves researchers beyond the traditional view of how individuals make career decisions as the world of work becomes less predictable and more complex. Simon (1955, 1957) proposed the idea of *bounded rationality*, which views individual’s behaviors as restricted by the limitations of human capacity (as cited in Phillips, 1997). Individuals do not always have the ability to make decisions even if they developed differentiated interest profiles. For example, there are people who do not believe they can be successful in what they are interested in because of the lack of role-models in their lives, or the occupations are non-traditional for their gender.

**Implementing Identity in Career Decision-Making: A Contextual Perspective**

Phillips and colleagues claimed that the core concern of career indecision is not about strategies individuals use to make decisions nor how to develop a clear and well-defined interest profile; but the implementation of identity (Phillips, 2011; Phillips & Imhoff, 1997). Identity is people’s possession of “a clear and stable picture of one’s goals, interests, and talents” (as cited in Holland, 1985, p. 5) that guides them to satisfy needs and values, as well as to interact with the environment (Lofquist & Dawis, 1991). Savickas also suggested that individuals actively construct meanings on their vocational behaviors to implement their vocational self-concepts (Savickas, 2005; Savickas, 2005). A leading focus of research on identity and career in the past was the application of Marcia’s identity status model to various career outcomes. A study on college students found that individual with a coherent identity (i.e., clear sense of ego identity) tends to engage in more career exploratory activities (Blustein, Devenis, & Kidney, 1989). Other
research on adolescents discovered that those who successfully resolve identity crisis exhibit significantly higher levels of career maturity (Wallace-Broscious, Serafica, & Osipow, 1994). Adolescents who are identity-achieved also perceive work more as a viable vehicle for satisfying their future career aspirations (Vondracek, Lerner, & Schulenberg, 1986). In recent years, however, studies on career and identity have shifted their focus from the individual perspective to the contextual and relational aspects of identity (Phillips, 2011; Savickas, 2011; Vondracek & Porfeli, 2011).

SCCT is a theory that emphasizes the importance of self in context regarding career interest, career choice, and career outcomes (Lent & Fouad, 2011). Lent and colleagues stated that contextual influences are those such as education opportunities, presence of role models, sense of belongingness, financial barriers, self-efficacy, and family supports (Lent et al., 2001; Lent et al., 2003; Lent & Fouad, 2011). Barriers in the environmental impede one from developing and acting on career choice, and inhibit one’s career inspirations. Supports, on the contrary, provide stress release, guidance, and mental encouragements in one’s career decision-making process (Phillips, Christopher-Sisk, & Gravino, 2001; Schultheiss, Kress, & Manzi, 2001). This study focuses on social support's impact on career decision-making, specifically through relational self-concept. Relational self-concept is how people view themselves from a relational perspective, which is part of an important dimension of identity. Even though no research has directly studied relational self-concept with career decision-making, studies have found the vital role of it with goal pursuit, goal persistence, goal coherence, decision-making, and self-concept (e.g., Cross et al., 2002; Cross et al., 2003; Cross & Vick, 2001; Gore & Cross, 2006; Gore & Cross, 2010; Gore & Cross, 2011). Devoting to the maintenance and
nurturance of relationship is the reflection of self for those with strong relational self-concept, which makes them more persistence in their goals when they receive supports from others (Cross & Vick, 2001). This literature review focuses on introducing three concepts: relational self-concept, career decision-making difficulties, and contextual influences. The connections between them are also elaborated.

**Relational Self-Concept**

Self is a concept with a variety of meanings. The sense of self is what directs one’s attention, filters information, manages impressions, and selects appropriate behaviors (Adams & Marshall, 1996). In psychology literature, self is often used interchangeably with the concept of identity. Erikson defined identity as a dynamic interplay between the individual and the context; it is a synthesis of personal, social, and cultural self-conceptions (Schwartz et al., 2006). Researchers suggested that there are two distinct concepts of identity: personal identity and social identity (e.g., Tajfel, 1981). Personal identity is one’s goals, values, and beliefs that are related to various psychological outcomes of the individual (for a review see Crocker, Luhtanen, Blaine, & Broadnax, 1994). Social identity, on the others hand, is “the part of an individual’s self-concept which derives from his knowledge of his membership in a social group together with the value and emotional significance attached to that membership” as suggested by Tajfel (1981, p.255). In the early stages of identity work, researchers were more focused on the personal aspects of identity (for a review, see Hammack, 2008). However, personal values and beliefs are only part of our self-concept. Other factors, such as the need to belong, that derive from collective aspects of self contribute greatly to our sense
of who we are (Crocker et al., 1994). Increasing attention has shifted to the social aspects of identity as identity theories advance.

**Theoretical Foundation**

**Social identity theory.** Social identity was first introduced by Tajfel as he proposed that people have a need to preserve, maintain, or achieve a positive distinctiveness of their own group versus other groups (Turner & Reynolds, 2010). Turner joined Tajfel later on to refine the idea of self-evaluation that is obtained from identifying with being a member of a group (Turner, 1975). Tajfel and Turner’s perspective has drawn significant attention of their time because of how they viewed self-evaluation from an interpersonal context. Their view rejected the dominant individualistic concept of human minds, which focused on personal pathologies and motivations (Haslam et al., 2010). They argued that people’s individual self and group self interact collaboratively to contribute to how they behave and define themselves. Their theory set the ground for social psychology later on, as it proposes that human behaviors and minds should be understood from the self, the group, and its context instead of from solely individualistic characteristics (Turner & Reynolds, 2010).

The definition of social identity, however, is not without controversy. Many researchers have extended the concept to the degree that derives social identity from its original meaning after Tajfel and Turner introduced their work of group membership and categorization (Haslam et al., 2010; Turner & Reynolds, 2010). Tajfel himself did not like using the term social identity because of how it misleads others of its meaning (Turner & Reynolds, 2010). Ashmore and colleagues argued that the term bears “far more theoretical, empirical, and political weight than it can support” (Ashmore et al.,
Researchers have studied this concept from various perspectives, such as psychology, sociology, anthropology, and political practice, which collectively contribute to the multi-dimensionality of the concept. Viewpoints from distinct angels, unfortunately, led to inconsistency and confusion of what exactly social identity represents (Jackson & Smith, 1999). For example, some scholars differentiated it with *categorical membership*, which is the identity shared with a group of others who have certain characteristics in common (e.g., ethnicity, gender, occupation, or political party); while others view them as the same. A problem derives from inconsistent definitions is the mixed findings that contradict the hypotheses proposed by social identity theory (for a review, see Jackson & Smith, 1999). Due to various perspectives drawn from Tajfel and colleagues’ definition of social identity, there is a need to clarify what frame of reference researchers are using when studying this term (Ashmore et al., 2004; Jackson & Smith, 1999). This study operates from a social psychological perspective and agrees that all aspects of self are socially influenced (Simon, 1997). The operation of social identity thus is focused on how one views him or herself by incorporating other’s perspectives of him or her. This perspective will be elaborated in the next paragraph by applying the concept *Relational Self-construal* that was proposed by Cross and her colleagues.

**Cross’ theory of Relational Self-construal.** Cross was the first to propose the term *relational self-construal*, which refers to how individuals define themselves in terms of close relationships. The mainstream idea of a healthy self in western psychology is someone who is independent, self-sufficient, persistent in pursuing their own interests, and mentally separated from others. As more evidence on human behavior, cognitions, and emotions in diverse contexts emerge, researchers found that the dominating view of
self is problematic: not everyone’s self-view is separated from others (Gore & Cross, 2011; Markus & Kitayama, 1991). Studies showed that not just individuals in eastern cultures are more likely to define themselves in groups and their social roles, those in western cultures also include others in their self-view (Cross et al., 2002). The difference is that in western culture, others refer to close relationships instead of groups. Cross and colleagues used the term relational self-construal to illustrate this phenomena and conducted a series of studies to describe how close relationships are important facets of one’s self-definition.

Recognizing that people view themselves from a relational perspective is a critical standpoint to understand how individuals think, feel, act, and interact with others (Cross et al., 2002). For those with high relational self-concept, close relationships serve as the foundation of self-definition. Close others’ needs and wishes are important to them, and maintaining a harmonious relationship can be more significant than their personal interests (Cross et al., 2000; Gore & Cross, 2011). Cross and colleagues examined the level of relational self-construal of 2,374 college students and found that those with higher relational self-concept are more likely to take into account of the needs and wishes of others when making decisions (Cross et al., 2000). Their partners also view them as more open and responsive to their needs in comparison to those with lower relational self-concept. Another study by Gore and Cross (2006) investigated the goal pursuit of 343 college students. Their results showed that those with higher relational self-construal take into account of close relationships when pursuing goals for relationally autonomous reasons. These relationally autonomous reasons later predicted the goals attainment of those high relational individuals. Gore and Cross (2006) concluded that for those with
higher relational self-construal, considering others is an effective motivator for their goals pursuit and attainment. It is assumed in this study that those with higher relational self-concept are more likely to consider the needs and wishes of close others when they make decisions about their careers.

An important point to clarify is that high relational individuals should not be viewed as being controlled or restricted by others to sacrifice their own intents; instead, they are including close others in their decisions because that is how their self-view is implemented. In the past, individuals who do not pursue their individual interests are being viewed as shying away from their authentic selves that likely damages their well-being (for a review, see Gore & Cross, 2011). From a relational self-concept standpoint, however, if close relationships are vital to those individuals, they are truly expressing themselves by devoting to the maintenance and nurturance of important relationships. Gore and Cross’ research also supported that defining oneself in terms of close relationships is positively related to one's psychological well-being (Gore & Cross, 2010).

The question this study intends to explore is how individuals make career decisions based on their levels of relational self-concept. Very few studies have studied the association between relational self-concept and career related concepts, although many studies have applied relational self-concept to explore goal pursuit, well-being, goal persistence, goal coherence, decision-making, social cognition, and self-concept (e.g., Cross et al., 2002; Corss et al., 2003; Cross & Vick, 2001; Gore & Cross, 2006; Gore & Cross, 2010; Gore & Cross, 2011). One of the few studies examining the relationship between relational self-concept and career decision was conducted among Chinese American youths. Ma and Yeh (2005) investigated Chinese American youths
ages 14 to 21 years on their career decision status, relational self-construal, and intergenerational conflict. Results of the study discovered that those with high relational self-construal have better career certainty, which may due to close relationships they have with their parents that led to acceptance of their parents' wishes. Results also showed that those with higher intergenerational conflicts are less decisive. The researchers assumed that the inconsistency between personal desire and family concerns is what led to career indecision among Chinese American youths (Ma & Yeh, 2005).

The assumptions of this study are based on few relevant studies, because no study up to date has directly examined the general population in the U.S. on the connections between relational self-concept and career decision-making. A study on motivations for goal pursuit showed that people work harder and longer on goals that reflect their true selves (Sheldon & Elliot, 1999). For those with high relational self-concept, relationship-maintaining is what motivates them to pursue their goals, to seek supports from others, and to benefit from them (Gore & Cross, 2006). This study assumed that the impact of social support is stronger for those with high relational self-concept, which lead to be more assertive when making career decisions. The assurance of worth and guidance they gain from others crucial for them as they make decision about their goals (Cross & Vick, 2001). Research showed that for students in engineering with higher relational self-construal, perceived support is more predictive of having fewer thoughts about leaving the program than these with low relational self-construal (Cross & Vick, 2001). Cross and Vick concluded that the supports they received affirmed their competence in their study, that in turns led to persistence in their program. This study proposed that when the
perceived social support is high, individuals with high relational self-concept are less likely to encounter career decision-making difficulties.

**Demographic Differences**

Research consistently showed that women are more likely to define themselves from a relational perspective than men (Cross, Bacon, & Morris, 2000; Gabriel & Gardner, 1999). Cross and colleagues argued that this can be explained by the socialization of women to attend to relationships and needs of others (Cross & Madson, 1997; Cross et al., 2002). A study of life satisfaction also showed that women with high relational self-construal showed better life satisfaction when they have positive interpersonal relationships, while men’s life satisfaction is more related to self-esteem (Reid, 2004).

Ethnic group differences provide an explanation on why some are more inclined to define themselves in relation to others. Crocker and colleagues examined individual’s collective self-esteem on four sub-concepts: membership self-esteem (i.e., how well one believes that him or her function as a member of the group), public self-esteem (i.e., how one believes others evaluate the group), private self-esteem (i.e., how one privately evaluates the group), and importance to identity (i.e., how much one identifies with the group) (Crocker, Luhtanen, Blaine, & Broadnax, 1994). Results showed that Blacks, Whites, and Asians responded differently to these concepts. Crocker and colleagues (1994) recommended future studies to continue exploring the collective aspects of self among diverse social groups.
Career Decision-Making

Theoretical Foundation

Super’s *Life-Span, Life-Space Theory*. Donald Super was the first to apply self-concept in the career development literature (Savickas, 2011). Self-concept refers to perceptions we have for ourselves that are reflected in our roles, situations, positions, functions, and relationships with others (Super, 1990). Career development is seen as the implementation of individual’s self-concept, and career choices are the reflections of these concepts. Super’s Archway Model and Life-Career Rainbow theories suggest self-concept is reflected in both the longitudinal career development process and situation-specific career decision-making. Longitudinally, self-concept develops over time and is implemented in different life stages; under specific situations, self-concept is used to identify appropriate career goals (Niles & Harris-Bowlsbey, 2009).

Super’s emphasis of one’s role in the life-span, life-space approach was unique to other career theories of his time. Traditional career theories centered more on individual’s characteristics (e.g., skills and interests) in career decision-making with a short-term focus. Super broadened this viewpoint by emphasizing the roles one holds, which place the individual *in relation* as they make decisions. For example, the role as a full-time mother places the individual in relation with family members, which in turns provides definition to the person. Super suggested that “individuals make career decisions before and at the time of taking on a new role, of giving up an old role, and of making significant changes in the nature of an existing role” (Super, 1980, pp. 10). Individuals are embedded in relational networks while they are making career decisions. Although
Super did not discuss much about the self-in-relation, his ideas laid the foundation of how career decision is a reflection of self-concept within relations and context.

**Career Construction Theory.** Career construction theory has its roots in Super’s career development theory; it elaborates on his ideas on self-concept, life-role, and the developmental perspective on career. Career construction theory emphasizes the “interpretive and interpersonal processes through which individuals impose meaning and direction on their vocational behavior” (Savickas, 2005). Individuals actively construct meanings on their vocational behaviors (such as career choice and vocational personality type) to implement their vocational self-concepts (Savickas, 2005; Savickas, 2005). According to Savickas, instead of feeling restricted by the limited choices in the environment, individuals should be encouraged to pursue work roles that promote their vocational characteristics.

Self-concept is seen as a premise for effective career decision-making in career construction theory. Without a clear sense of who we are, it is difficult to translate our self-concept into fitting career choices (Savickas, 2002). One of the unique perspectives of career construction theory is on individual’s active definition of career decision. Unlike other theories that focus on the decision itself, career constructionists view career decisions-making based on individual’s subjective experiences (Savickas, 1995). Savickas proposed that the center of attention should be on the person and of how s/he constructs his or her interpretation of the decision. For example, counselors should understand how clients interpret their experience in the decision-making process, instead of directly treat their indecision. Indecision is viewed as an opportunity for individuals to make meaning of their life stories. Savickas encourages counselors to help individuals
“connecting today’s indecision to yesterday’s experiences and tomorrow’s possibilities,” which “makes meaning, allows comprehension, and creates new possibilities” (Savickas, 1995, pp. 43).

**Gottfredson’s Circumscription and Compromise Theory.** Gottfredson’s Circumscription and Compromise Theory also identifies self-concept as a core theme across career development stages. This theory specifically focuses on illustrating the factors that contribute to one’s compromise of career decision. Gottfredson claimed that people make career decisions based on the compatibility of the occupation with their self-concept. Compatibility is determined mostly by sex type (i.e., masculiniary-femininity) and prestige (social standing). People develop their perceptions of race, prestige, and gender through their experience in context (Gottfredson, 2002). Individuals begin eliminating occupations that they view are conflicting with their self-concept starting from early childhood. The term *circumscription* is used to describe the process of how individuals eliminate unacceptable alternatives. Size and power, gender roles, social evaluations, and internal uniqueness are the main criteria for occupational aspirations in different developmental stages.

*Compromise* refers to the process when individuals recognize that they cannot always implement their preferred choices, and have to reconsider their choices. Contrary to circumscription which individuals eliminate their choices, compromise is an adjustment process that individuals consider their choices in a realistic way. Accessibility to education and career, family obligations, and hiring practices are some examples of what individuals compromise for. Gottfredson (2002) proposed four principles of compromise. Principle one is developing conditionals priorities. Existing threats to one’s
self-concept have relative importance. For example, sex type is usually people’s first consideration of an occupation because of its greater threat to self-concept. Principle two is opting for the good enough. This principle suggests that individuals do not always go for the best choice, but settled for the choice that is good enough. Identifying the best choice usually is too difficult and demanding to achieve. Principle three is saving off the not good enough. This principle describes how individuals avoid committing to choices s/he is not satisfied by searching for other options or delaying the decision-making process. Lastly, principle four is accommodating to compromise. It refers to individual’s satisfaction in their career choice depends on how much the person is implementing his or her social self.

**Cognitive Information Processing Theory (CIP).** Sampson and colleagues proposed an information-processing approach to illustrate how career decision is made. They proposed three domains in their model of *pyramid of information processing*:
knowledge domains, decision-making skills domain, and executive processing domain (Sampson et al., 1996). The knowledge domain is the foundation for decision-making. It is comprised of one’s self-knowledge and occupational knowledge. The second level is the skills used in decision-making. These skills are furthered broken down into five stages, and the cycle of these stages are called the CASVE cycle (Sampson et al., 1996). The CASVE cycle includes a series of activities: communication, analysis, synthesis, valuing and execution. The highest level of the pyramid is the executive processing domain, which is the metacognitions of decision-making. This domain requires more advanced cognitions such as self-talk, self-awareness, control and monitoring.
CIP has a strong emphasis on the influence of cognitions. This approach is based on ideas of theorists such as Bandura and Keller, who claimed that people’s ideas about choices are major contributors to their decision-making (Sampson et al., 1996). Sampson and colleagues noted that “dysfunctional thought” are cognitions (e.g., misconceptions, self-defeating, myths, irrational expectations, and dysfunctional beliefs) that impede one’s career decisions and problem solving, (Sampson et al., 1996). Career thoughts inventory (CTI) is an inventory based on the ideas of CIP. CTI is designed to help individual become aware of their dysfunctional career thinking in order to effectively process career information and problem solving, eventually to achieve better career decision-making.

CTI identifies three empirically derived factors of dysfunctional career thoughts: decision-making confusion, commitment anxiety, and external conflict (Sampson et al., 1996). Decision-making confusion is the inability to initiate or sustain the decision-making process. It is often a result of distress (e.g., overwhelmed by the decision-making process) or a lack of understanding or clarity of the decision-making process. Commitment anxiety refers to the inability to make a commitment to a career choice, and is often accompanied by anxiety of the process. The possible cause of it may be one’s inability to prioritize career options, inability to let go of other options, inability to commit, and inability to engage in the process as a whole. Finally, the external conflict is one’s inability to balance information or career choices of one’s own with ideas or information from significant others. The causes of this thought may come from confusion about how to balance one’s own ideas with other’s, or inability to differentiate self-perceptions with other’s perception of self in the career decision-making process.
**Self-efficacy.** Self-efficacy has received significant attention in the field of vocational psychology in the past 30 years (Betz, 2004). Studies found that self-efficacy is positively related to individual’s career decidedness, commitment, and vocational identity (Betz & Luzzo, 1996; Mau, 2000). Bandura first defined self-efficacy in his social learning theory as people's judgments of their capabilities to plan and execute actions required to achieve expected performances (Bandura, 1986). He proposed that there are three types of behavior consequences based on one’s level of self-efficacy: approach versus avoidance, quality of performance, and persistence in the task. The higher the self-efficacy, the more willing is the individual to approach the task, to perform better, and to be persistent when there are difficulties involves in pursuing the task (Bandura, 1997). A series of study conducted by Lent and colleagues found that self-efficacy is the most important factor that shapes one’s outcome expectations, career interests, intention for activity involvement, activity selections, and performance attainments (Lent, Brown, & Hackett, 1994).

Later theorists Taylor and Betz expanded on Bandura’s self-efficacy theory and proposed the concept *Career Decision Self-Efficacy* (CDSE). CDSE refers to individual’s belief that he or she can successfully complete tasks to making career decisions (Taylor & Betz, 1983). Studies showed that CDSE is related to people’s career decision attitudes and skills, career beliefs, vocational identity, career commitment, career exploration, and career adjustment (for a review see Betz, Hammond, & Multon, 2005; Choi et al., 2012). CDSE was also found to have a significant impact on the career development of diverse populations, such as women, ethnic-minorities, and people with disabilities.
Krumboltz’s Social Learning Theory of Career Decision-Making. Krumboltz developed his ideas of the origins of career choice and interventions for career-related issues based on Bandura’s social learning theory. He adopted Bandura’s theory that people’s skills and preference are the results of their past learning experience. Krumboltz and colleagues further described the influential factors of career decision-making, and how these factors contribute to people’s beliefs and actions of career decision. They proposed two theories to explain the antecedents and consequences of career decision-making: the social learning theory of career decision-making (SLTCDM), which emphasizes the rationale of career choice; and the learning theory of career counseling (LTCC), which provides practical applications for career counseling (Mitchell & Krumboltz, 1996). This section focuses on reviewing the SLTCDM because of its relevance to career decision-making.

SLTCDM identifies four categories of factors that influence one’s career decision: Genetic Endowment and Special Abilities, Environmental Conditions and Events, Learning Experiences, and Task Approach Skills (Mitchell & Krumboltz, 1996). First, genetic endowment and special abilities refers to inherited qualities or traits that impact how people benefit or impede by environmental learning experience. These characteristics include race, gender, physical appearance and disabilities. Second, environmental conditions and events are things that are outside of the individual’s control, such as social, cultural, political, economic, and natural forces. Job opportunities, educational resources, and social support are all affected by this factor. Third, learning experiences indicate people’s past experience that reinforced or inhibited them to pursue certain career activities. SLTCDM suggests that there are two types of learning
experiences: instrumental learning experience, which offers people to act on the environment to receive positive consequences; and associative learning experience, which people form stereotypes about occupations by making connections between certain jobs and positive or negative characteristics. Last but not least, task approach skills serve as a factor as well as an outcome of career decision. They are the result of the interactions among learning experiences, genetic characterizes, and environmental influences. These skills, such as personal standards, work habits, and emotional responses are learned cognitive and performance abilities that are used in career decision-making. Task approach skills not only affect the outcome of a task, but can also be modified in order to meet new tasks require by the occupation. In addition, people use task approach skills to make prediction about future events.

Krumboltz and Mitchell further stated that the complex interactions of the influencing factors of career decision result in people’s beliefs and actions of career choice (Mitchell & Krumboltz, 1996). People form beliefs and take on actions in reactions to these influencing factors. Self-Observation Generalizations and World-View Generalizations are used to illustrate the mechanism of how people form their career beliefs (Mitchell & Krumboltz, 1996). Self-observation generalizations are the beliefs people have about their abilities and interests according to the observations they have about themselves. World-view generalizations are their beliefs about the environment based on generalization about their living experience. Both of these beliefs may be accurate or inaccurate, and they influence the outcome of people’s learning experience. Finally, people engage in career activities as a result of their beliefs and learning experience (Mitchell & Krumboltz, 1996). SLRDM suggests that people’s beliefs are not
always accurate and their learning experience may not reflect the true ability and interests
that they have. Practitioners therefore need to help client develop accurate beliefs and
skills to make appropriate career decision.

To sum up this section, all of the above theories provide important explanations
on the cause and consequences of career decision-making. Super’s and Savickas’
perspectives are especially relevant to the current study as this study is interested in
individuals’ relational self-concept and how it applies in career decision-making. These
two theories offer the rationale for connecting self-concept and career decision-making
within the individual’s context.

**Types of Career Decision-Making Difficulties**

Gati and colleagues (2011) defined career decision-making difficulties as career-
related problems and challenges one encounters prior to or during the decision-making
process. Individuals face different challenges as they make career decisions, which are
also affected by their personal characteristics. Lucas and Epperson (1988) described five
types of college students who encounter difficulties in making career decisions: (a) those
who have difficulties integrating plans and priorities, (b) those who have difficulties
deciding whether to concentrate on work, relationship, or leisure activities; (c) those with
undecided and limited interests; (d) those who feel distressed and unclear about goals;
and (e) those who have little interests in work or relationship activities. Individuals
approach career decision-making in unique ways and encounter challenges differently.
Studies found connections between career decision-making with certain personality traits,
such as extroversion, neuroticism, perfectionism, pessimism, etc. (Feldman, 2003; Gati et
al., 2011; Saka, Gati, & Kelly, 2008).
Researchers have proposed various taxonomies to understand the nature of career decision-making difficulties and how individuals encounter them. Feldman (2003) suggested two components of career decision-making difficulties: cognitive and affective. The cognitive component involves ideas and information about self or the environment that impede one from making career decisions. For example, lack of career goals or directions and lack of information about self or the occupation. The affective component, which has drawn less attention than the cognitive component, refers to feelings such as anxiety or lack of control that often appears as one encounters decision-making difficulties.

Lack of readiness, lack of information, and inconsistent information. A taxonomy proposed by Gati and his colleagues has been one of the most comprehensive classifications of career decision-making difficulties so far (Gati, Krausz, & Osipow, 1996; Gati, Osipow, Krausz, & Saka, 2000). They proposed three major categories of difficulties: lack of readiness, lack of information, and inconsistent information, which are further divided into 10 sub-categories. The first main category Lack of Readiness refers to level of engagement in making career decisions. It is further divided into three sub-categories: (a) lack of motivation to engage in the career decision-making process, (b) general indecisiveness regarding all types of decision-making, and (c) dysfunctional beliefs, such as irrational expectations about career decision-making. The second main category, Lack of Information, refers to the extent to which information are needed for making career decisions about: (a) the decision-making process, (b) the self, (c) the occupations, and (d) the ways of obtaining information. The third main category, Inconsistent Information, refers to information between two systems that are
incompatible. It is further divided into three categories: (a) *unreliable information*, (b) *internal conflicts*, which are conflicts within the individual (e.g., contradictory preferences), and (c) *external conflicts* that involves the influence of significant others. Past studies discovered that the career decision-making difficulties are related to cognitive characteristics, emotional intelligence, career decision self-efficacy, perceived social support, and dimensions of personality (Amir et al., 2008; Osipow & Gati, 1998; Di Fabio1, Palazzeschi, Lisa Asulin-Peretz, & Gati, 2013).

This study uses Gati and colleagues’ conceptualization of career decision-making difficulties due to its comprehensiveness and solid theoretical foundation. This study, however, differs from Gati’s perspective of how individual’s decision-making should be evaluated. Gati and colleagues noted that an *ideal career decision maker* is “capable of making the right decision, i.e., a decision which is based on an appropriate process and is compatible with the individual’s goals and resources” (Gati et al., 2000, p. 100). This study, on the contrary, views decision-making difficulties from the career constructivist’s perspective that decision-making should be evaluated based on how much it reflects one’s self-concept (i.e., level of relational self-concept), as well as taking into account of contextual influences. This study assumed that for those with high relational-self, they benefit more from social support because they are more affected by close others’ opinions when they are making decisions. They are likely to encounter fewer career decision-making difficulties when they are supported by close others in the areas of lack of readiness, lack of information, and inconsistent information. For example, they are more prepared to make career decisions because the assurance and guidance they gain from close others supports them to make a decision and implement a choice (Cross &
Vick, 2001; Lent et al., 2002). They are more likely to possess information about
themselves and the world of work because they value close other’s inputs (Phillips et al.,
2001). They are also assumed to have a more consistent perception of themselves when
they perceive high support from close others because it corresponds with their self-view
(Cross et al., 2002).

**Demographic Differences**

**Age.** Super proposed the concept *career maturity* which assumes that people are
more able to make informed, age-appropriate career decisions as they get older (Savickas,
1984; Vondracek, & Reitzle, 1998). Age has shown to be related to career decision-
making difficulties in previous studies, although the direction of how they correlate is
debatable. Some studies found that younger cohorts experience more career indecision
than older cohorts (Guerra & Braungart-Rieker, 1999; Kinnier, Brigman, & Noble, 1990);
other studies found that age does not relate to career indecision (Nauta, 2012; Vondracek,

**Gender.** Literature has shown conflicting results of the relationship between
gender and career decision-making. Many studies found that women express less career
indecision than men (e.g., Betz, 1994; Osipow, 1987; Wallace-Broscious, Serafica, &
Osipow, 1994). Researchers of these studies claimed that it is because women are
developmentally more vocationally mature, thus they are able to identify career goals
earlier than men (Post-Kammer & Smith, 1985). Other studies found that there are no
correlations between gender on career decision-making (e.g., Guay, Sene`cal, Gauthier, &
Fernet, 2003; Guerra & Braungart-Rieker, 1999). Another study found that girls had
higher indecision scores than boys across ages 12 to 18-year-old (Patton & Creed, 2001).
Patton and Creed (2001) stated that although girls showed greater maturity in career development, they may perceive greater complexity of women's career path as balancing family and career, which leads to less certainty of career choice.

**Race.** There are many factors that contribute to the challenges racial minorities face regarding career decision-making, such as limited exposure to mentors, racism, discrimination, educational and socioeconomic barriers (Hughes, Stenhjem, & Newkirk, 2007; Lease, 2004; Owens, Lacey, Rawls, & Holbert-Quince, 2010). Past studies found that racial minorities have lower career decision-making self-efficacy and higher career decision-making difficulties (Gloria & Hird, 1999; Mau, 2004). Researchers have identified factors that facilitate minorities' career decision-making, such as networking and community resources (Owens et al., 2010).

**Field of study.** College students' field of study is relevant to their career decision. Feldman (2003) proposed that young adults studying in fields that are more vocationally oriented may encounter less career decision-making difficulties, such as health-related programs that aim toward assisting students to enter certain occupations. Students enrolled in fields that are more general and less instrumental, on the contrary, may encounter more decision-making difficulties as they are less prepared to enter specific occupations. Studies showed that students in social sciences expressed more career indecision than pre-professional majors (e.g., pre-health majors), and students who were undecided in a major showed significantly more career indecision than others (Guerra & Braungart-Rieker, 1999; Orndorff & Herr, 1996).
SES. The impact of socioeconomic status (SES) and social class have not gained much attention in the vocational psychology literature until recent years (Ali, McWhirter, & Chronister, 2005; Blustein, 2001). From the SCCT perspective, researchers claimed that those with lower SES background may lack opportunities, resources, confidence, and support from family and peers with their college education comparing with others (Blustein et al., 2011; Liu & Ali, 2005). A study on children showed that those who grew up in higher SES backgrounds benefited from parent’s involvement in their career planning and encounter less career indecision (Pautler & Lewko, 1985). For young adults, higher SES household provides financial stability that affects their devotion to career planning (Barling, Zacharatos, & Hepburn, 1999). Studies also showed that SES is related to the type of career individuals are interested in or plan on pursuing (Blustein et al., 2002; Tang, Fouad, & Smith., 1999).

Although SCCT suggests that individual's career development is affected by SES, not all studies showed significant results on aspects of career concepts. For example, regarding individual's career decidedness or decision-making self-efficacy, several studies found no significant differences between students with different SES backgrounds (Patel, 2008; Tang et al., 1999). Researchers claimed that the results may be caused by methodological issues such as little variance in socioeconomic status (e.g., Patel, 2008), and more research is needed for this field.

**Contextual Influences and Career Decision-Making**

The world of work has become less predictable and more complex. Impacts of context, relationship, and the interactive nature between characteristics are taking on more important roles in people’s career decisions (Phillips, 1997; Phillips et al., 2001).
Traditional career approaches no longer provide sufficient explanations on how people make decisions in real life. Starting from the late 80s, various career theorists applied contextual perspective to study career decisions-making and found that there are various ways through which contextual factors influence career decision-making. For example, through education opportunities, presence of role models, sense of belongingness, financial barriers, self-efficacy, and family support (Lent et al., 2001; Lent et al., 2003).

**Theoretical foundation: Social Cognitive Career Theory (SCCT)**

Among the existing studies of contextual influences on career decision, Lent and colleagues’ series of research are the most comprehensive. Their studies were based on the *Social Cognitive Career Theory* (SCCT), which claims that people’s career interests, choices, and performances are related to their self-efficacy, outcome expectations, and personal goals (Lent et al., 2000). SCCT originally focused on how cognitive-person variables (e.g., self-efficacy, outcome expectations, and goals) relate to career behaviors. It hypothesizes that career interests, actions, and goals are reflective of people’s self-efficacy beliefs and outcome expectations (Lent et al., 1994; 2000; see figure 1). The relationship between career interests and career choice is strong when people’s perceived supports are high. When there are less supports and more barriers, however, people are more reluctant to choose careers of their interests. SCCT has received numerous support for its proposed relationships between career variables to date (e.g., Byars-Winston & Fouad, 2008; Fisher & Stafford, 1999; Fouad et al., 2010; Garcia et al., 2012; Lapan et al., 1999; McWhirter et al., 1998; Restubog, Florentino, & Garcia, 2010; Schultheiss et al., 2001; Tang et al., 1999).
SCCT has expanded significantly to incorporate contextual influences into its model in recent years (Fouad, 2007; Lent et al., 2000). Lent and his colleagues used SCCT to explain how person, contextual factors, and behavior affect one another through reciprocal and complex mechanism (Lent et al., 1994). Contextual factors are defined as “environmental factors that persons perceive as having the potential, respectively, to aid or hinder their efforts to implement a particular educational or occupational goal” (Lent et al., 2001). They provide people with resources, barriers, opportunities, and socialization starting from childhood, (e.g., “girls can never become pilots”). People grow up with different education and work opportunities, financial barriers, and significant others who support or disapprove of their goals. Lent and colleagues suggested that

*Figure 2-1. A Social Cognitive View of Contextual Influences on Career Choice*

contextual factors moderate the process of whether career interests will translate into career choice and actions (Lent et al., 2001). Distal and proximal factors are the two types of factors that impact our career choice and actions. Distal factors are long-term background variables that influence one’s career-learning experiences, such as parent’s social economic status and education opportunities. Proximal factors, such as significant other’s mental support toward one’s goal, directly affect people as they pursue career choices (Lent et al., 1994, 2000, 2001, 2003). SCCT is especially concerned about factors such as economic pressure, educational limitations, lack of familial support, and discrimination that keep people from forming and implementing optimal career decisions (Albert & Luzzon, 1999; Lent et al., 2000).

Recent researchers examined the SCCT model in different fields while testing different concepts, and found a good amount of support of SCCT. Restubog and colleagues (2010) assessed the persistence of 146 nursing students in relation to two types of supports: parental support and career counseling. Their findings provided evidence that both types of support are associated with persistence. This result is consistent with what SCCT proposes that contextual variables predict later goal persistence (Lent et al., 1994). Byars-Winston and Fouad (2008) tested the relationship between self-efficacy, perceived career barriers, subject interest, and goals of 227 college students. Their results supported the relationship between variables suggested by the SCCT model that there is an indirect relationship between perceived career barriers and goals, which is mediated by the path of self-efficacy and interests. They also found a direct and indirect relationship between parental involvement and goals, which is mediated by outcome expectations. Garcia and colleagues (2012) conducted a 6-month
study of 141 undergraduate students and their parents. They discovered that student’s learning goal orientation was positively related to career decision-making self-efficacy. Parental support was found to serve as a moderator. Both student rating and parent ratings of parental support moderated the relationship between learning goal orientation and career decision-making self-efficacy. The study discovered that students and parents have different interpretations of what constitutes supportive behavior, which supports SCCT’s suggestion of the importance to attend to individual’s active phenomenology of the impact of contextual influences.

It should be noted that although individuals are affected by contextual factors, they are also active creators of their career trajectory, as proposed by SCCT. Personal agency that involves one’s self-efficacy beliefs, expectations, and appraisal, accounts for individual differences in how they react to contextual factors (Lent et al., 2000). For example, those with privileged backgrounds do not always end up implementing their career interests. Many of those with disadvantaged upbringing, on the other hand, overcome severe obstacles to pursue their career goals.

Social Support

Social support, comparing to career barriers, receives less attention in vocational literature (Lent et al., 2000). In the past, some researchers viewed support as merely the opposite of barriers from a deficit perspective (i.e., the view that focuses on factors that impeded career development). Lent and colleagues, however, suggested that support and barriers are distinct concepts; in other words, support is not only the mirror image of barriers (Lent et al., 2001). They claimed that exploring the influence of support helps us identify what facilitates and enhances individual’s career choices, goals, and actions.
Instead of focusing on barriers, counselors can assist clients in identifying new resources, support network, and opportunities to promote their career behaviors.

Biano and Eklund (2001) defined social support as “social interaction aimed at inducing positive outcomes” (p. 85). It is a multi-construct that comprises interconnected structural, functional, and perceptual components (Vaux, 1988). Social support provides stress release, guidance, and mental encouragements when people are in the career decision-making process (Phillips, Christopher-Sisk, & Gravino, 2001; Schultheiss, Kress, & Manzi, 2001). Cutrona (1996) proposed that there are various functions of social support, such as emotional supports, social integration or network support, esteem support, information support, and tangible assistance. Schultheiss and colleagues (2001) interviewed 40 college students and found evidence of social support functions proposed by Cutrona during individuals’ decision-making process. An example for emotional support is having someone to help them reduce stress. Social integration or network support is having someone to talk things over with. Esteem support can be having someone to encourage the exploration and commitment to their decisions. Information support and tangible assistance can be having their parents to assist in career-oriented and educational tasks or financial support (Schultheiss et al., 2001). Phillips and colleagues also concluded from the narratives of 58 young adults that social support provides individuals with information and perspectives, helps them expand options, and assures them the viability of their choices during the decision-making process (Phillips et al., 2001).

Quantitative data also demonstrated that social support is positively related to various career concepts, such as career decision and career self-efficacy (Restubog et al.,
A study by Rodriguez assessed the relationships between social support and thoughts related to career decision-making among college students (Rodriguez, 2012). The study analyzed data from 272 students and found that students benefited from different types of social support depending on their status (i.e., student athlete or non-student athlete) and year of study. Appraisal-coping assistance and modeling social support were more beneficial for non-student-athletes who are experiencing anxiety related to the career decision-making difficulties. Appraisal-coping assistance and behavioral-cognitive guidance social support, on the other hand, were more beneficial to upperclassmen during their career decision-making process (Rodriguez, 2012). Another study collected data from 146 nursing students in a Philippines (Restubog et al., 2010). The results showed that parental support was positively related to career decidedness, which was medicated by career self-efficacy. The authors suggested that the results are consistent with previous research on parental supports on student’s career outcomes in various U.S. ethnic minorities. In conclusion, results of various studies indicate that social support is positively related to individual’s career-related constructs. Individual differences, such as age or student status, exist in the amount of impact that social support has on career-related constructs.

**Conclusion**

SCCT hypothesizes that contextual factors directly influence people’s career interests, goals, and actions. Contextual factors further moderate the process of whether career interests will translate into career choice and actions (Lent et al., 2001). Contradicting to what SCCT proposes, however, a series of studies showed that contextual factors indirectly, instead of directly, influence career goals (Lent et al., 2001,
The indirect effect of contextual factors to career goals is in accordance with Bandura’s hypotheses. Bandura noted that the path from contextual influences to career goals is mediated by self-efficacy beliefs. Career goals in turns impact career actions, which is further moderated by contextual factors. People are more able to translate their career interests into goals, and goals into actions when supports are strong, (Bandura, 1999, 2000). Career goals, which is defined by Lent and his colleagues as “one’s determination or intention to pursue a particular course of action” (Lent et al., 2003), represent similar meaning to the concept of career decision-making. The current study adopts Bandura’s hypothesis that the path from social support to career decision-making is indirect. It is further assumed that relational self-concept is an important factor that mediates or moderates the relationships between social support and career decision-making difficulties.
CHAPTER 3

METHODODOLOGY

Research Design

The study used a correlational design to examine the relationships among relational self-concept, social support, and career decision-making difficulties. Based on theoretical and empirical evidence of the potential relationship between these concepts, multiple regression was selected as the main analysis for this study. According to Wampold and Freund (1987), multiple regression allows the researcher to study the separate and combined contributions of the independent variables (i.e., relational self-concept and social support in this study) on the dependent variables (i.e., three types of decision-making difficulties). Hierarchical multiple regression, specifically, was used to control the order of variables entered in the prediction model.

The study intends to examine how individual's relational self-concept impacts the influence of social support on career decision-making difficulties. Very few studies up to date have applied relational self-concept in the field of vocational psychology, thus how relational self-concept affects career decision-making is less known. This study proposed that relational self-concept moderates and/or mediates the influence of social support on career decision-making difficulties. According to Baron and Kenny (1986), moderation effect indicates that relational self-concept impacts the direction and/or strength of the relationship between social support and career decision-making difficulties; whereas mediation effect implies that the direct effect of social support on career decision-making difficulties becomes smaller when relational self-concept is also predicting career
decision-making difficulties. Moderation and mediation effects were tested using hierarchical regression analysis in this study. (See figure 3-1 for research design)

Figure 3-1. Research Design

Participants

Three-hundred and fifty-two participants' data were analyzed in this study, in which 313 participants took the paper-format survey and 39 took the online-format survey. Thirty-one participants' data were excluded in the analyses because the data either
have: (1) at least all items of a scale unanswered, (2) important demographics unanswered, or (3) too many items missing to generate total scores for at least one scale.

Among the participants, 65% are female, 35% are male. The majority of the participants (75%) are between ages 19-21. Sixty-three percent of the participants are White, 18% are Asian, 7% are Black, and 5% are Hispanic. Regarding participants' fields of study, 27% have majors in science, 19% in education, 19% in liberal arts, 12% in engineering and information science, and 12% in health. Over half of the participants (61%) have parents with at least a college degree. (See demographic frequencies of the participants in table 3-1)

Several considerations were taken into account for deciding the participants based on the purpose of the study and statistical considerations. First, the study targets toward college students. College students are in a critical period of making career choices as well as experiencing the parallel process of identity formation (Kroger, 2007; Schwartz et al., 2006). The impact of contextual influences is significant to young adults as they negotiate individuality and connectedness with others. Peers, education setting, work environment, partner, and family collectively contribute to how they make career decisions. The feedback they gain from others on their decisions provide important message about their skills, interests, and abilities that fosters or impedes their identity development (Kroger, 2007). Specifically, for young adults who are enrolled in college, they are shaped by the unique environment that fosters their cognitive and social development. Previous studies provided evidence that there are identity status differences between young adults who attends college and who do not (for a review, see Danielsen, Lorem, & Kroger, 2000). The separation-individuation process allows the individual to develop their own ideas
Table 3-1

*Demographic Frequencies (N = 352)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
<td>229</td>
<td>65.1</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>123</td>
<td>34.9</td>
</tr>
<tr>
<td>Age</td>
<td>18</td>
<td>53</td>
<td>15.1</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>99</td>
<td>28.1</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>99</td>
<td>28.1</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>65</td>
<td>18.5</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>28</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>8</td>
<td>2.3</td>
</tr>
<tr>
<td>Field of Study</td>
<td>Science</td>
<td>94</td>
<td>26.7</td>
</tr>
<tr>
<td></td>
<td>Liberal Arts</td>
<td>66</td>
<td>18.8</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>65</td>
<td>18.5</td>
</tr>
<tr>
<td></td>
<td>Engineering and Information Science</td>
<td>43</td>
<td>12.2</td>
</tr>
<tr>
<td></td>
<td>Health</td>
<td>41</td>
<td>11.6</td>
</tr>
<tr>
<td></td>
<td>Undecided</td>
<td>21</td>
<td>6.0</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>22</td>
<td>6.3</td>
</tr>
<tr>
<td>Race</td>
<td>White</td>
<td>222</td>
<td>63.1</td>
</tr>
<tr>
<td></td>
<td>Black</td>
<td>25</td>
<td>7.1</td>
</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td>17</td>
<td>4.8</td>
</tr>
<tr>
<td></td>
<td>Asian</td>
<td>62</td>
<td>17.6</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>26</td>
<td>7.4</td>
</tr>
<tr>
<td>Parental Education</td>
<td>No school</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td></td>
<td>8th grade or less</td>
<td>3</td>
<td>0.9</td>
</tr>
<tr>
<td></td>
<td>More than 8th grade, less than high school</td>
<td>4</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>High school equivalent</td>
<td>38</td>
<td>10.8</td>
</tr>
<tr>
<td></td>
<td>Some college</td>
<td>90</td>
<td>25.6</td>
</tr>
<tr>
<td></td>
<td>4-year college degree</td>
<td>111</td>
<td>31.5</td>
</tr>
<tr>
<td></td>
<td>Graduate/professional training</td>
<td>105</td>
<td>29.8</td>
</tr>
</tbody>
</table>
about work, relationship, and meaning of life while being away from home (Kroger, 2007). While most college students are not fully employed, this is a time for them to explore and make decisions about their future careers. Second, for statistical considerations in order to achieve a medium effect size to reach power of .80 at the $\alpha = .05$ level, 153 participants are needed (calculated by G*Power; Faul, Erdfelder, Buchner, & Lang, 2009). The study recruited more participants than suggested because all measurements in the study used self-reports. The lack of method variance requires stricter alpha levels, thus more participants are needed to achieve the same effect size.

**Instruments**

This study used both online and paper-format surveys to collect participants' data. Questionnaires included in the surveys are: the *Relational-Interdependent Self-Construal Scale* (RISC), *Social Support Inventory* (SSI), *Career Decision-Making Difficulties Questionnaire* (CDDQ), and a demographic questionnaire. They are used to collect information of participants' relational self-concept, social support, career decision-making difficulties, and demographic information, respectively.

**Measurement of Relational Self-Concept**

The *Relational-Interdependent Self-Construal Scale* (RISC; Cross et al, 2000) was selected to assess participants' relational self-concept. Various researchers have developed measurements to evaluate how people view themselves in terms of others, which most of them assess individual’s perception in concordance to their social groups or ethnic groups (e.g., the *Collective Self-esteem Scale* by Luhtanen & Crocker, 1992). Among the existing measurements, RISC best captures how individuals define
themselves by their close relationship (Cross et al., 2011), which is in accordance to the purpose of this study. Individuals rate themselves on 11 items on a 5-point scale, ranging from 1 (strongly disagree) to 5 (strongly agree). A sample item of RISC is “My close relationships are an important reflection of who I am.” See Appendix A for the items of the *Relational-Interdependent Self- Construal Scale*.

Past studies showed internal consistency alphas of RISC ranged from .85 to .90, with .76 test-retest reliability (Cross et al., 2000; Cross, 2009). In terms of validity, Cross and colleagues (2000) established the construct, convergent, and discriminant validities of RISC with 2,374 American college students. Concurrent validities with other measurements, such as the *Communal Orientation Scale*, the *Interdependent Self-Construal Scale*, and the *Empathic Concern Scale* were reported in a study by Gore and Cross (2011). Although many studies have used RISC to explore concepts such as goal pursuit, well-being, goal persistence, goal coherence, decision-making, social cognition, and self-concept (e.g., Cross et al., 2002; Corss et al., 2003; Cross & Vick, 2001; Gore & Cross, 2006; Gore & Cross, 2010a; Gore & Cross, 2010b), very few researchers have studied relational self-concept with career related constructs. A rare exception is a study conducted by Ma and Yeh (2005) that uses RISC to examine the relationship between relational self-construal and career certainty. They studied how intergenerational family conflict and relational self-construal influence career decision certainty among 129 Chinese American youths. Results reported internal consistency alpha of .84 of RISC, and the correlation between RISC and career certainty. In this study, participants’ Cronbach’s alpha for RISC was .86.
Measurement of Social Support

The Social Support Inventory (SSI, Brown et al., 1987) was selected to measure participants' perceived satisfaction of social support regarding major and/or career choice. Various social support measurements with strong psychometrics have been developed in the past. Many of them, however, were criticized for their lack of theoretical foundations and vague definition of social support (Brown, Brady, Lent, Wolfert, & Hall, 1987; Winemiller, Mitchell, Sutliff, & Cline, 1993). Winemiller and colleagues (1993) claimed that this is a reflection of the complex as well as multi-dimensional nature of social support, and suggested researchers to select measurements that best matches the functional, structural, and perceptual need of the study. Based on their suggestions, the research selected the SSI because of its solid theoretical basis that particularly derived from the field of vocational research. SSI was developed based on 40 years of research on job satisfaction and theoretical foundation of the person-environment fit model (Brown et al., 1987). Person-environment fit model proposes that one’s satisfaction is the fit between one’s needs, personality, abilities and the environment (Brown et al., 1987). Brown and colleagues (1987) noted that one’s satisfaction derives from perceiving social support as meeting his or her interpersonal needs. Another strength of SSI is that it was developed based on college students, which is the target population of this study. SSI’s emphases on contextual influence on one’s satisfaction and its vocational foundation make it an ideal instrument for this study. See Appendix B for the items of the Social Support Inventory.

SSI is a 39-item scale that individuals rate themselves on a 7-point scale, ranging from 1 (none) to 7 (very much). Social Support Inventory-Subjective Satisfaction (SSI-SS)
is the score that represents one’s subjective satisfaction of social support. Brown and colleagues reported split-half reliability of .94 as well as internal reliability of .96, and provided validity evidence including concurrent validity (positively related to the Qualitative Social Support Index) and criterion validity (negatively related to depression, anxiety, and psychosomatic symptoms) (Brown et al., 1987). Rodriguez (2012) used SSI-SS to assess the relationships between social support and career thoughts of 272 non-student-athletes and student-athletes. The study reported inter-reliability from .70 to .90, and .90 for the total score. Significant correlation of -.37 and -.38 between two subscales of SSI-SS and Career Thought Inventory provided evidence for concurrent validity of SSI-SS. Results of Rodriguez’s study (2012) showed that appraisal-coping assistance and modeling are more beneficial for non-student-athletes who are experiencing anxiety related to the career decision-making difficulties. Appraisal-coping assistance and behavioral-cognitive guidance are more beneficial to upperclassmen during their career decision-making process (Rodriguez, 2012).

In this study, the SSI-SS was used to assess participants' perceived satisfaction of social support regarding major and/or career choice in the past month. Satisfaction is defined as one's positive affect resulting from perceiving that the social supports received are meeting one's needs (Brown et al, 1987). This study aims to understand the overall social support that individuals perceived during their career decision-making process. By including all facets of social support, such as mental, materialistic, guidance supports proposed by Brown and colleagues (1987), we are able to assess one's general satisfaction of their social support in relation to their career decision-making. In this study, participants' Cronbach's alpha for SSI-SS was .97.
Measurement of Career Decision-Making Difficulties

The operational definition of career decision-making before the 1970s was dominated by dichotomous classification, i.e., decided versus undecided (for a review, see Savickas, 1995); while later researchers view career decisions-making more from a continuum. Many existing instruments nowadays were developed to assess career decision-making from a continuum point of view- from undecided to decided. A review by Gati, Krausz, and Osipow (1996) provided a comprehensive list of existing measurements for career decision-making.

The current study chose the Career Decision-Making Difficulties Questionnaire (CDDQ; Gati et al., 1996) to assess participants’ career decision-making difficulties. CDDQ was developed based on a robust theoretical background and supported by empirical studies with career counseling professionals and clients (Gati et al., 1996). CDDQ consists of three major categories, which are further divided into 10 sub-categories. The categorization of career decision-making difficulties allows the exploration of individual differences (i.e., different level of relational self-concept in this study) regarding career decision-making. See Appendix C for items of the Career Decision-Making Difficulties Questionnaire.

CDDQ is a 44-item scale that assesses individual’s perceived difficulties related to career decision-making. Individuals rate themselves on a 9-point scale, ranging from 1 (does not describe me) to 9 (describe me well). The first main category of career decision-making difficulties of CDDQ, Lack of Readiness, refers to level of engagement in making career decisions. It is further divided into three sub-categories: (a) lack of motivation to engage in the career decision-making process, (b) general indecisiveness
regarding all types of decision-making, and (c) dysfunctional beliefs, such as irrational expectations about career decision-making (Gati et al., 1996). The second main category, Lack of Information, refers to the extent to which information are needed for making career decisions about: (a) the decision-making process, (b) the self, (c) the occupations, and (d) the ways of obtaining information (Gati et al., 1996). The third main category, Inconsistent Information, refers to information between two systems that are incompatible. It is further divided into three categories: (a) unreliable information, (b) internal conflicts, which are conflicts within the individual (e.g., contradictory preferences), and (c) external conflicts that involves influence of significant others (Gati et al., 1996).

Various studies reported quality psychometrics of CDDQ. Internal consistency alphas ranged from .88 to .96, with .79 to .80 test–retest reliability (for a review, see Amir et al., 2008; CDDQ.org, 2013). In terms of validity, CDDQ has shown construct validity (Amir et al., 2008), concurrent validity with Career Decision Scale and Career Decision-Making Self-Efficacy Questionnaire (Osipow & Gati, 1998), and criterion validity of career decision-making (Gati & Saka, 2001). A recent research of 361 university students showed that social support is related to career indecision, in addition to individual personality and cognitive characteristics (Di Fabio1, Palazzeschi, Lisa Asulin-Peretz, & Gati, 2013). The study also showed that CDDQ was significantly correlated with emotional intelligence, career decision self-efficacy, perceived social support, and dimensions of personality (Di Fabio1 et al., 2013). In the current study, participants' Cronbach’s alpha of Lack of Readiness, Lack of Information, and
Inconsistent Information are .64, .95, and .92, respectively. Table 3-2 shows the reliability of all scales examined in this study.

Table 3-2  
**Reliability of Scales**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Cronbach's alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relational Self-Concept</td>
<td>.86</td>
</tr>
<tr>
<td>Social Support</td>
<td>.97</td>
</tr>
<tr>
<td>Lack of Readiness</td>
<td>.64</td>
</tr>
<tr>
<td>Lack of Information</td>
<td>.95</td>
</tr>
<tr>
<td>Inconsistent Information</td>
<td>.92</td>
</tr>
</tbody>
</table>

**Demographic Questionnaire**

The researcher developed a demographic questionnaire to gather information on participants’ age, gender, field of study, parental education level, and race/ethnicity. Each variable in the demographic questionnaire is selected based on past studies that showed individual differences in relational self-concept or career decision-making difficulties. Participants answered the questions (e.g., age) or selected an option from the list of alternatives (e.g., White, Black, Asian...for race/ethnicity) as they respond to each question. See Appendix D for the items of the demographic questionnaire.

It is important to note that parental education level has been frequently used as an indicator for the socio-economic status (SES) of the household (e.g., Kalil, Ryan, & Corey, 2012; McLanahan, 2004). For example, sociologist Kalil and colleagues (2012) used maternal education level as an index of children’s long-term achievements and attainment. They analyzed 12,765 mothers from the American Time Use Survey (ATUS),
and found an education gradient effect, which showed that highly-educated mothers spent more time than poorly-educated mothers with child that promotes good child development. They also discovered a developmental-efficiency gradient effect, that highly-educated mothers shifted the focus of their time with child according to the developmental stages of child. For example, highly-educated mothers spent more time playing and providing basic care when their child is young, which is what children need the most at that developmental period.

**Data Collection Procedures**

Participants of this study were recruited at a large, Mid-Atlantic university from two sources: (1) 17 undergraduate classes which participants took the paper-format surveys in-class, and (2) online through www.psychdata.com which participants took the online-format surveys. The paper-format survey and the online-format survey have the same content. After gaining permission from the Institutional Review Board (IRB), the researcher seek approval from administrators of the career center as well as instructors across disciplines to recruit participants. Administrators of the career center agreed to email invitations of the survey to students who participated in four of their career programs that targeted toward undergraduate students. Purpose of the study, confidentiality, information of the researcher, and potential benefits and rewards (i.e., participants are eligible to enter a random drawing for ten $20 gift cards if they complete the survey) were stated in the invitation email, along with a web link to the online questionnaires.

For the paper-format surveys, 12 instructors from various disciplines agreed to have the paper-format surveys administer in their classes, and two instructors agreed to
email the online survey link to their students. The researcher administered the paper-format surveys in 10 classes, while the other classes were administered by the instructors of the class due to schedule or conflict of interests (e.g., one class was administered by a counselor education master's student because it was the researcher's own class). All of those who administered the surveys have had training or experience in administering surveys. Purpose of the study, confidentiality, information of the researcher, and potential benefits and rewards were explained at the beginning of administration. Students were told that participation in the survey is anonymous, voluntary, and does not affect their grades in anyway. The response rate were 99% for the in-class surveys.

**Data Analyses**

The study intends to understand the multi-relationships among sets of variables (i.e., multivariate relationships). Hartwig and Dearings (1979) proposed a four-step approach to conduct multivariate analysis: univariate, bivariate, multivariate, and causal analysis. Based on the purpose of the study, univariate, bivariate, and multivariate analyses were used

**Pre-Analysis**

Data of the paper and online-format surveys were entered on SPSS 22. Items with reverse scoring were recoded (i.e., item 8 and 9 of RISC). Nominal data were coded, with field of study categorized into seven categories: Science (which includes majors in agricultural, earth and mineral sciences, and general science), Liberal Arts (which includes majors in arts, architecture, and general liberal arts), Engineering & Informational Science and Technology, Health, Education, Others (which includes other majors and those with more than two majors across categories), and Undecided. Race
was categorized into five categories: White, Black, Hispanic, Asian, and Others (which includes other races not listed and those with mixed races). Nominal data were further coded as dummy variables for the use of regression analysis.

Range, mean, and standard deviation were examined for input accuracy. Composite score for each scale was created using the responses of participants who answered more than 60% of the items in each scale. Those scores were later transformed using power transform or square-root transform based on the type of skewness of the scores.

**Missing data.** After analyzing the missing data of five main variables and four demographics (parental education was excluded because it was not significantly related to any main variables), results showed that no variable has more than 5% data missing. Except for one participant who had 6.8% data missing, all participants had less than 5% data missing. Based on the pattern of missing data, listwise deletion was used.

**Outliers.** Standardized scores and histogram were used to examine if there are any outliers. Results showed that there was no case with standardized scores in excess of 3.29, based on the criteria suggested by Tabachnick and Fidell (2013). When inspecting the histograms of each scale, extreme scores on RISC and the subscales of CDDQ were found from a participant's data. The participant scored the lowest on RISC among all participants and relatively low on *Lack of Readiness*, but scored fairly average on other scales. Further examining the original scores of the participant, the participant did not seem to answer questions randomly or answer all questions the same way. Thus, this participant's data was retained without any changes.
Univariate Analysis

Analysis began with describing the distribution of each variable and examining if variables meet the assumptions of multivariate analysis. Tabachnick and Fidell (2013) suggested testing normality, linearity, and homoscedasticity to examine if each variable is normally distributed, the relationships between pairs of variables are linear, and the variance of each variable is the same at all levels of independent variables.

**Normality.** Skewness and kurtosis were used to examine if variables are normally distributed. Skewness represents the symmetry of the distribution. George and Mallory (2001) recommended that if the ratio of skewness to its standard error is less than the absolute value of two, normality of the variable is accepted. Kurtosis indicates the peakedness of the distribution. Kline (2000) suggested that if the value of kurtosis is less than the absolute value of four, normality is accepted. Graphic methods such as frequency histograms and normal probability plots were taken into account when testing for normality. Transformation of variables was considered when nonnormality was found.

**Linearity.** The relationships between pairs of variables need to be linear in order to conduct Pearson’s correlation analysis. Residual plots and bivariate scatterplots were used to diagnose linearity (Tabachnick & Fidell, 2013). Transformation of variables was considered when nonlinearity was found.

**Homoscedasticity.** The researcher examined if the variability of each variable can be viewed as the same across all levels of the other variables. Bivariate scatterplots between two variables were used to examine homoscedasticity. Failure of homoscedasticity indicates nonnormality, collinearity, or measurement error of variable(s).
**Bivariate Analysis**

Bivariate analysis was used to examine the strength and direction of relationships between pairs of variables using Pearson’s correlation matrix. Cohen (1988) suggested that correlations larger than the absolute value of .50 are considered large, .30 to .49 are considered moderate, and .10 to .29 are considered small correlations.

**Multivariate Analysis**

Multivariate analysis was the main analysis of this study. The researcher is interested in examining how individual's relational self-concept impacts the influence of social support on different aspects of decision-making difficulties. Multivariate regression analysis was selected to examine the relationships between sets of dependent variables and multiple independent variables.

Residuals scatterplots were used to test the assumptions of normality, linearity, and homoscedasticity of the variables before the main analysis begins. If the residuals are normally distributed among the dependent variables (i.e., three types of career decision-making difficulties) and the variance of the residuals is the same for all independent variables (i.e., social support, relational self-concept, and demographic variables), it can be claimed that the basic assumptions are met and no further screening is needed (Tabachnick & Fidell, 2013).

**Hierarchical regression.** Hierarchical regression is a type of multiple regression that allows researcher to control the order of variables entered into the regression model. Researcher determines the sequence of variables entered into the model according to theoretical suggestions (Tabachnick & Fidell, 2013). The independent variables in this study are social support, relational self-concept, and demographic variables. Based on
causal and theoretical inferences, demographic variables are believed to have prior impact on career decision-making difficulties than other independent variables. Thus, demographic variables with considerable squared semi-partial correlation (i.e., the amount of variance added to squared multiple correlation coefficient, $R^2$, by each independent variable) were entered into the regression model first. Social support was entered the second as it was assumed to have greater impact than relational self-concept on career decision-making difficulties. Relational self-concept was entered the third. Finally, the interaction between relational self-concept and social support was entered the last.

**Regression models.** Three models were designed to answer the research questions of this study. The study intends to examine the relationship between three dependent variables (i.e., three types of career decision-making difficulties), two independent variables (relational self-concept and social support), an interaction between independent variables, and demographic variables (i.e., gender, field of study, parental education, and race/ethnicity). The number of model needed are three (three dependent variables times one interaction effect). Each model is described as follows.

**Model 1.** Hierarchical regression model 1 was used to answer research question 1: *To what extent do relational self-concept, social support, the interaction and mediation effects between relational self-concept and social support influence lack of readiness, while controlling for demographic variables?* Dependent variable *lack of readiness* was predicted by independent variables in the following order: *demographic variables* (Block 1), *social support* (Block 2), *relational self-concept* (Block 3), *relational self-concept x social support* (Block 4).
**Model 2.** Hierarchical regression model 2 was used to answer research question 2:

*To what extent do relational self-concept, social support, the interaction and mediation effects between relational self-concept and social support influence lack of information, while controlling for demographic variables?* Dependent variable *lack of information* was predicted by independent variables in the following order: *demographic variables* (Block 1), *social support* (Block 2), *relational self-concept* (Block 3), *relational self-concept x social support* (Block 4).

**Model 3.** Hierarchical regression model 3 was used to answer research question 3:

*To what extent do relational self-concept, social support, the interaction and mediation effects between relational self-concept and social support influence inconsistent information, while controlling for demographic variables?* Dependent variable *inconsistent information* was predicted by independent variables in the following order: *demographic variables* (Block 1), *social support* (Block 2), *relational self-concept* (Block 3), *relational self-concept x social support* (Block 4).

**Mediation and moderation analyses.** This study hypothesized that relational self-concept either mediates or moderates the effect of social support on career decision-making difficulties. Barron and Kenny (1986) stated that there are four steps to ensure that mediation effect exists: first, social support has a direct effect on the type of career decision-making difficulties. Second, social support has a direct effect on relational self-concept. Third, relational self-concept has a direct effect on career decision-making difficulties. Finally, the effect of social support on decision-making difficulties is smaller when both social support and relational self-concept are predicting career decision-making difficulties.
For moderation effect to exist, the interaction between social support and relational self-concept need to have a direct effect on career decision-making difficulties (Barron & Kenny, 1986). After confirming the existence of moderation effects, simple-effects analysis was used to examine how career decision-making difficulties of those with different level of relational self-concept are affected by social support. Individuals were categorized into two groups based on their scores on relational self-concept. An independent variable (social support), a dependent variable (a type of career decision-making difficulties), and a moderator (relational self-concept) were plotted to illustrate how individuals with different level of relational self-concept are affected by social support.
CHAPTER 4

RESULTS

The chapter illustrates the findings of this study, which includes descriptive statistics, bivariate analysis, hierarchical multiple regression, and tests of moderation as well as mediation effects.

Univariate Analysis

Descriptive

Descriptive statistics of the main variables such as mean, standard deviation, skewness, standard error of skewness, kurtosis, and standard error of kurtosis are presented in table 4-1. The mean and standard deviations of Relational Self-Concept ($M = 3.73, SD = .59$), Social Support ($M = 4.71, SD = 1.01$), Lack of Readiness ($M = 4.45, SD = 1.13$), Lack of Information ($M = 3.87, SD = 1.94$), and Inconsistent Information ($M = 3.21, SD = 1.74$) are similar to the results from previous studies targeting toward undergraduate students in the United States (e.g., Brown et al., 1988; Gati, Krausz, & Osipow, 1996; Gore & Cross, 2006).
Table 4-1

*Descriptive Statistics of Main Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>Sta. Error of Skewness</th>
<th>Kurtosis</th>
<th>Sta. Error of Kurtosis</th>
</tr>
</thead>
<tbody>
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<td>Relational Self-concept</td>
<td>3.73</td>
<td>0.59</td>
<td>-0.52</td>
<td>0.13</td>
<td>0.58</td>
<td>0.26</td>
</tr>
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<td>0.13</td>
<td>-0.05</td>
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<td>Lack of Readiness</td>
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<td>1.13</td>
<td>0.38</td>
<td>0.13</td>
<td>0.25</td>
<td>0.26</td>
</tr>
<tr>
<td>Lack of Information</td>
<td>3.87</td>
<td>1.94</td>
<td>0.25</td>
<td>0.13</td>
<td>-0.79</td>
<td>0.26</td>
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<tr>
<td>Inconsistent Information</td>
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<td>1.74</td>
<td>0.67</td>
<td>0.13</td>
<td>-0.26</td>
<td>0.26</td>
</tr>
</tbody>
</table>

N = 352

Analysis of Variance (ANOVA) was used to compare between participants who took the online surveys and those who took the paper surveys. Results showed no difference between their scores in Relational Self-Concept and three dependent variables (p > .05). The only significant difference is in Social Support (p = .017), but the difference is small (mean for those who took the paper survey = 4.71; mean for those who took the paper survey = 4.35). Because the difference is small, and participants who took different formats of surveys represent individuals from different sources, which enrich the diversity of the participants in this study; the researcher decided to analyze participants' data together regardless of the formats they took.

**Testing Assumptions**

Normality, linearity, and homoscedasticity were examined to test if each variable is normally distributed, the relationships between pairs of variables are linear, and the variance of each variable is the same at all levels of other independent variables (Tabachnick & Fidell, 2013).
**Normality.** Skewness and kurtosis were two indexes to indicate if the variables are normally distributed. Descriptive statistics showed that the kurtosis of all main variables was less than the absolute number of four, which meets the normality criteria (Kline, 2000). Another indicator - the ratio of skewness to its standard error (George & Mallory, 2001) - was greater than the absolute value of two in Relational Self-Concept, Social Support, Lack of Readiness, and Inconsistent Information. Relational Self-Concept and Social Support were negatively skewed; Lack of Readiness and Inconsistent Information were positively skewed, thus transformation of these variables are needed in order to meet the normality assumption.

**Linearity.** The relationships between pairs of variables need to be linear in order to conduct Pearson’s correlation analysis. Residual plots and bivariate scatterplots showed no curvilinear relationship between the variables. Therefore, the linearity assumption was met.

**Homoscedasticity.** Bivariate correlation matrix and bivariate scatterplots were used to examine homoscedasticity. No correlations among the variables were greater than the absolute number of .9, as shown in the bivariate correlation matrix (see Table 4-2). Thus, no multicollinearity relationship among the predictive variables or between the predictive and dependent variables exist (Tabachnick & Fidell, 2013). Bivariate scatterplots showed that the distributions of Relational Self-Concept and Lack of Information, Social Support and Lack of Information, Relational Self-Concept and Inconsistent Information, Social Support and Inconsistent Information were slightly aggregated towards the left side of the plots. Thus, transformation were needed in order to achieve the homoscedasticity assumption of these variables.
Data Transformation

Results of descriptive statistics suggested that data transformation is needed for Relational Self-Concept, Social Support, Lack of Readiness, and Inconsistent Information. Relational Self-Concept and Social Support were transformed using power transformation because they were negatively skewed; Lack of Readiness and Inconsistent Information were transformed using square-root transformation because they were positively skewed.

Results of the transformations showed that Relational Self-Concept, Lack of Readiness, and Inconsistent Information were successfully transformed to normal distributions. However, Social Support was not successfully transformed into normal distribution, instead became positively skewed after the transformation. This may be due to Social Support being only slightly skewed in its original form. Thus, the researcher decided to keep Social Support in its original form without transformation. Another normality test, the Shapiro-Wilk test of normality, showed that Social Support was normally distributed ($p > .05$), which supports the decision for Social Support to be kept in its original form.

Bivariate Analysis

Bivariate analysis was used to examine the strength and direction of relationships between pairs of variables. Two types of analyses were used: Pearson’s correlation matrix was used to examine the relationship between continuous variables or dichotomous variables; Analysis of Variance (ANOVA) was used to test if there are any differences among the categories of demographic variables with more than two categories on the dependent variable.
**Pearson’s Correlation Analysis.**

Pearson’s correlation matrix was used to examine the relationship between continuous or dichotomous variables. The correlation coefficients of the main variables and the demographics (i.e., participants' age, gender, and parental education) are presented in Table 4-2. (Note: variables Relational Self-Concept, Lack of Readiness, and Inconsistent Information used here have been transformed)

Results of correlation analysis showed that three dependent variables: Lack of Readiness, Lack of Information, and Inconsistent Information correlated significantly with each other ($r = .521, .474, .794$; all $p < .01$), with medium to large correlations (Cohen, 1988). Relational Self-Concept and Social Support had a medium correlation ($r = .306, p < .01$). Relational Self-Concept had a small correlation with Lack of Readiness ($r = .114, p < .05$), whereas Social Support had a small correlation with Lack of Information ($r = -.122, p < .05$). As for the correlations between the main variables and the demographics, age had a small correlation with Lack of Readiness ($r = .114, p < .05$). Gender had small relationships with Relational Self-Concept ($r = -.107, p < .05$), Social Support ($r = -.120, p < .05$), and Lack of Readiness ($r = -.118, p < .05$). Parental education had a small relationship with Relational Self-Concept ($r = .106, p < .05$), but no correlation with any of the dependent variable. Based on the correlation significance, age and gender were included in the hierarchical regression analysis, and parental education was excluded from the analysis.
Table 4-2

Correlation Matrix of Variables (N = 352)

<table>
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<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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</thead>
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<td>-</td>
<td>.048</td>
<td>-.103</td>
<td>.022</td>
<td>-.114*</td>
<td>-.072</td>
<td>-.056</td>
<td></td>
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<tr>
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<td>-</td>
<td></td>
<td>.056</td>
<td>-.107*</td>
<td>-.120*</td>
<td>-.118*</td>
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<td>-.040</td>
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<td>.106*</td>
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<td>4 Relational Self-concept</td>
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<td></td>
<td></td>
<td>.306**</td>
<td>.114*</td>
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<tr>
<td>5 Social Support</td>
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<td></td>
<td></td>
<td>.010</td>
<td>-.122*</td>
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</tr>
<tr>
<td>6 Lack of Readiness</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.521**</td>
<td>.474**</td>
<td></td>
</tr>
<tr>
<td>7 Lack of Information</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.794**</td>
<td></td>
</tr>
<tr>
<td>8 Inconsistent Information</td>
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<td></td>
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</table>

* p < .05; ** p < .01

Analysis of Variance (ANOVA)

For demographic variables with more than two categories (i.e., race and field of study), ANOVA was used to analyze if there are any differences between the categories of the demographics on the dependent variable. After passing the Box's test and Levene's Test of Equality of Error Variance that suggested homogeneity of the variance, tests of field of study and race both showed significant differences between categories on the dependent variables (F = 2.07, 3.16; both p = .000). Based on the significant differences, field of study and race were included in the hierarchical regression analysis. See Table 4-3 for ANOVA results.
Hierarchical Multiple Regression

Multivariate analysis was the main analysis of this study to answer the research questions. Before the regression analysis, assumptions of normality, linearity, and homoscedasticity of the variables were tested using residuals scatterplots. After transforming Relational Self-Concept, Lack of Readiness, and Inconsistent Information, results showed that the basic assumptions are met and no further screening was needed. Categorical variables such as field of study and race were recoded into dummy variables. In addition, Social Support and Relational Self-Concept were centered to avoid multicollinearity, and a product term of Social Support times Relational Self-Concept was created to test the interaction effect between the two variables.

Regression Model 1

Hierarchical regression Model 1 was used to answer Research Question 1: To what extent do Relational Self-Concept, Social Support, the interaction and mediation effects between Relational Self-Concept and Social Support influence Lack of Readiness, while controlling for demographic variables? Demographic variables with considerable correlation with Lack of Readiness were entered into the regression model first. Social Support was entered the second as it was assumed to have prior impact on the dependent
variable than Relational Self-Concept. Relational Self-Concept was entered third. The interaction between Relational Self-Concept and Social Support was entered the last. See Table 4-4 for unstandardized and standardized coefficients of the predictors, total R-square, adjusted R-square, and F value for change in R-square.

Results of the regression analysis showed that only Relational Self-Concept, race, and field of study significantly predicted Lack of Readiness. Together, they accounted for 15.1% of the total variance in Lack of Readiness ($R^2 = .151$, adjusted $R^2 = .115$, $F (1, 337) = 4.266, p < .0005$), with a small effect size (Cohen's $f^2 = .13$). The difference between total R-square and adjusted R-square indicates that there are spurious relationships between the predictors that inflated the explained power of the model.

Relational Self-Concept positively predicted Lack of Readiness ($\beta = .139$, $t = 2.528, p = .012$), which indicates that individuals with higher Relational Self-Concept encounter more Lack of Readiness when making career decisions. Race significantly predicted Lack of Readiness, as Asians ($\beta = .240$, $t = 4.317, p < .0005$) and Blacks ($\beta = .136$, $t = 2.618, p = .009$) encounter more Lack of Readiness than Whites. Field of study significantly predicted Lack of Readiness, as students who are undecided encounter more Lack of Readiness than students in other fields ($\beta = .202$, $t = 2.874, p = .005$).

The predicative effect of gender was significant when Relational Self-Concept was not yet entered into the regression equation ($\beta = -.120$, $t = -2.006, p = .046$). Men reported less Lack of Readiness compared to women. However, there were no gender differences once Relational Self-Concept was added to the equation due to shared variability between gender and Relational Self-Concept on Lack of Readiness. Because
the interaction between Social Support and Relational Self-Concept was not significant, no moderation effect exists in Model 1.

Residual analysis demonstrated that the regression model met the assumptions of normality, linearity, and homoscedasticity. Residuals were examined after data were transformed to evaluate if they are normally distributed, the relationships between the residuals and the predictors are linear, and the variance of the residuals was the same at all levels of the predictors (Tabachnick & Fidell, 2013). Scatterplots of the residuals and each of the predictors showed that the loess line generally follows the 0-line, suggesting that the relationship between Relational Self-concept and Lack of Readiness, Social Support and Lack of Readiness, were both linear. Scatterplots also illustrated constant variance of residuals across values of Relational Self-concept and Social Support, as residuals scattered randomly around zero, which supported the Homoscedasticity assumption. Normal probability plot showed that residuals were closely scattered around the 45º straight line, which indicates that the residuals formed a normal distribution. Histogram also supported that residuals were normally distributed.
Table 4-4
Hierarchical Regression Analysis of Model 1: Predicting Lack of Readiness (N = 352)

<table>
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<tr>
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<th></th>
<th>Block 3</th>
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<td>.127*</td>
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<td>.136**</td>
<td>.140*</td>
<td>.133*</td>
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<td>.139*</td>
<td>.009*</td>
<td>.134*</td>
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</tr>
</tbody>
</table>

**Total R²** = .134  .134  .151  .153

Adjusted **R²** = .104  .101  .115  .116

F for change in **R²** = 4.387***  .000  6.392*  1.102

* p < .05; ** p < .01; *** p < .001
Regression Model 2

Hierarchical regression Model 2 was used to answer Research Question 2: To what extent do Relational Self-Concept, Social Support, the interaction and mediation effects between Relational Self-Concept and Social Support influence Lack of Information, while controlling for demographic variables? Demographics with considerable correlation with Lack of Information were entered into the regression model first. Social support was entered the second. Relational self-Concept was entered the third. The interaction between Relational Self-Concept and Social Support was entered the last. See Table 4-5 for unstandardized and standardized coefficients of the predictors, total R-square, adjusted R-square, and F value for change in R-square.

Results showed that the interaction between Social Support and Relational Self-Concept, race, and field of study significantly predicted Lack of Information. Together, they accounted for 13.9% of the total variance in Lack of Information ($R^2 = .139$, adjusted $R^2 = .101$, $F (1, 336) = 3.624$, $p < .0005$), with a medium effect size (Cohen's $f^2 = .16$). The difference between total R-square and adjusted R-square indicates that there are spurious relationships between the predictors that inflated the explained power of the model.

The interaction between Social Support and Relational Self-Concept negatively predicted Lack of Information ($\beta = -.176$, $t = -3.378$, $p = .001$), which showed that the effect of Social Support on Lack of Information depends on the level of Relational Self-Concept. Thus, Relational Self-Concept serves as a moderator of Social Support on Lack of Information. Race significantly predicted
<table>
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<th></th>
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*p < .05; ** p < .01; *** p < .001
Lack of Information, as Asians ($\beta = .183, t = 3.268, p = .001$) and other races
($\beta = .124, t = 2.343, p = .020$) encounter more Lack of Information than Whites. Field of
study significantly predicted Lack of Information, as students who are undecided
encounter more Lack of Information than students in other fields ($\beta = .258, t = 3.608, p$
$< .0005$).

The predicative effect of Social Support was significant when the interaction term
was not yet entered into the regression equation ($\beta = -.119, t = -2.130, p = .034$).
Individuals with higher Social Support scored lower on Lack of Information. However,
the effect of Social Support disappeared once the interaction term was also predicting
Lack of Information due to shared variability between Social Support and the interaction
term.

Residual analysis demonstrated that the regression model met the assumptions of
normality, linearity, and homoscedasticity. Scatterplots of the residuals and each of the
predictors showed that the loess line generally follows the 0-line, suggesting that the
relationship between Relational Self-concept and Lack of Information, Social Support
and Lack of Information, were both linear. Scatterplots also illustrated constant variance
of residuals across values of Relational Self-concept and Social Support, as residuals
scattered randomly around zero, which supported the Homoscedasticity assumption.
Normal probability plot showed that although residuals were slightly positively skewed
with more residuals concentrated on the left of the distribution, they still scattered around
the 45° straight line, which indicates that the residuals formed a normal distribution.
Histogram also supported that residuals were normally distributed.
**Examining Moderation Effect.** The significant effect of the interaction between Social Support and Relational Self-Concept shows that there is a moderation effect of Relational Self-Concept on the relationship between Social Support on Lack of Information. The interaction term explained 2.9% of the total variance in Lack of Information ($R^2$ change = .029, $F$ change = 11.412, $p = .001$). In order to further examine the moderation effect, simple-effects analysis was used to examine how Social Support predicts Lack of Information of those with different levels of Relational Self-Concept. Individuals were categorized into two groups based on their Relational Self-Concept scores. Those who scored above the median of the original Relational Self-Concept scale were classified as the high Relational Self-Concept group; those who scored below the median were classified as the low Relational Self-Concept group.

The effect of Social Support on Lack of Information was examined separately for high and low Relational Self-Concept groups using simple regression analysis. Results showed that for the high Relational Self-Concept group, Social Support significantly predicted Lack of Information ($\beta = -.222$, $t = -2.964$, $p = .003$). However, for the low Relational Self-Concept group, the predictive power of Social Support on Lack of Information was non-significant ($\beta = -.004$, $t = -.052$, $p = .959$). Social Support, Relational Self-Concept, and Lack of Information were plotted to illustrate how individuals with different levels of Relational Self-Concept are affected by Social Support on Lack of Information. Figure 4-1 demonstrates that among those with high Relational Self-Concept, there was a negative relationship between Social Support and Lack of Information; which indicates that those with high Relational Self-Concept reported less difficulties in Lack of information as their Social Support increases.
However, among those with low Relational Self-Concept, there was no significant relationship between Social Support and Lack of Information; which indicates that their Social Support is unrelated to Lack of Information.

*Figure 4-1. Interaction between Social Support and Lack of Information*

Regression Model 3

Hierarchical regression Model 3 was used to answer Research Question 3: *To what extent do Relational Self-Concept, Social Support, the interaction and mediation effects between Relational Self-Concept and Social Support influence Inconsistent Information, while controlling for demographic variables?* Demographics with considerable correlation with Inconsistent Information were entered into the regression
model first. Social support was entered the second. Relational Self-Concept was entered the third. The interaction between Relational Self-Concept and Social Support was entered the last. See Table 4-6 for unstandardized and standardized coefficients of the predictors, total R-square, adjusted R-square, and F value for change in R-square.

Results showed that the interaction between Social Support and Relational Self-Concept, race, and field of study significantly predicted Inconsistent Information. Together, they accounted for 11% of the total variance in Inconsistent Information ($R^2 = .110$, adjusted $R^2 = .071$, $F (1, 336) = 2.780, p = .000$), with a small effect size (Cohen's $f^2 = .12$). The difference between total R-square and adjusted R-square indicates that there are spurious relationships between the predictors that inflated the explained power of the model.

The interaction between Social Support and Relational Self-Concept negatively predicted Inconsistent Information ($\beta = -.146, t = -2.755, p = .006$), which implies that the effect of Social Support on Inconsistent Information depends on the level of Relational Self-Concept. Thus, Relational Self-Concept serves as a moderator of Social Support on Inconsistent Information. Race significantly predicted Inconsistent Information, as other races ($\beta = .122, t = 2.265, p = .024$) encounter more Inconsistent Information than all other groups. Field of study significantly predicted Inconsistent Information, as students who are undecided encounter more Inconsistent Information than students in other fields ($\beta = .219, t = 3.007, p = .003$).

Social Support and Relational Self-Concept did not show any significant effect on Inconsistent Information, which indicates that neither Social Support nor Relational Self-Concept has direct predictive power on Inconsistent Information.
Table 4-6
Hierarchical Regression Analysis of Model 3: Predicting Inconsistent Information (N = 352)

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<th>F for change in $R^2$</th>
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* $p < .05$; ** $p < .01$
Residual analysis demonstrated that the regression model met the assumptions of normality, linearity, and homoscedasticity. Scatterplots of the residuals and each of the predictors showed that the loess line generally follows the 0-line, suggesting that the relationship between Relational Self-concept and Inconsistent Information, Social Support and Inconsistent Information, were both linear. Scatterplots also illustrated constant variance of residuals across values of Relational Self-concept and Social Support, as residuals scattered randomly around zero, which supported the Homoscedasticity assumption. Normal probability plot showed that although residuals were slightly positively skewed with more residuals concentrated on the left of the distribution, they still scattered around the 45° straight line, which indicates that the residuals formed a normal distribution. Histogram also supported that residuals were normally distributed.

**Examining Moderation Effect.** The significant effect of the interaction between Social Support and Relational Self-Concept showed that there is a moderation effect of Relational Self-Concept on the relationship between Social Support on Inconsistent Information. The interaction term explained 2% of the total variance in Inconsistent Information ($R^2$ change = .020, $F$ change = 7.590, $p = .006$). In order to further examine the moderation effect, simple-effects analysis was used to examine how Social Support predicts Inconsistent Information of those with different levels of Relational Self-Concept. Individuals were categorized into two groups based on their Relational Self-Concept scores. Those who scored above the median of the original Relational Self-Concept scale were classified as the high Relational Self-Concept group; those who scored below the median were classified as the low Relational Self-Concept group.
The effect of Social Support on Inconsistent Information was examined separately for high and low Relational Self-Concept groups using simple regression analysis. Results showed that for the high Relational Self-Concept group, Social Support significantly predicted Inconsistent Information ($\beta = -.181, t = -2.403, p = .017$). However, for the low Relational Self-Concept group, the predictive power of Social Support on Inconsistent Information was non-significant ($\beta = .102, t = 1.368, p = .173$). Social Support, Relational Self-Concept, and Inconsistent Information were plotted to illustrate how individuals with different levels of Relational Self-Concept are affected by Social Support on Inconsistent Information. Figure 4-2 demonstrates that among those with high Relational Self-Concept; there was a negative relationship between Social Support and Inconsistent Information, which indicates that those with high Relational Self-Concept reported less difficulties in Inconsistent information as their Social Support increases. However, among those with low Relational Self-Concept, there was no significant relationship between Social Support and Inconsistent Information; which indicates that their Social Support is unrelated to Inconsistent Information.
Mediation Effect

Mediation effect was examined using the four-step procedure suggested by Barron and Kenny (1986): (1) Testing the direct effect of Social Support on the dependent variable; (2) Testing the direct effect of Social Support on Relational Self-Concept; (3) Testing the direct effect of Relational Self-Concept on the dependent variable; and (4) Comparing the predictive power of Social Support on the dependent variable and the predictive power of both Social Support and Relational Self-Concept on the dependent variable.
Results showed that there was no significant mediation effect on any of the dependent variables. Both Lack of Readiness and Inconsistent Information were non-significant at the first step. The examination of Lack of Information stopped at the third step when Relational Self-Concept failed to have a significant effect on Lack of Information. Therefore, no mediation effect was found in the models.
CHAPTER 5

DISCUSSION

The main purpose of the study is to examine how individual's relational self-concept impacts the influence of social support on career decision-making difficulties. Based on the Social Cognitive Career Theory and Cross' proposed concept of relational self-construal (Cross et al., 2000), it was hypothesized that relational self-concept moderates and/or mediates the effect of social support on career decision-making difficulties. Regression analysis results showed that relational self-concept moderates the effect of social support on two types of career decision-making difficulties: Lack of Information and Inconsistent Information, but not on Lack of Readiness. This chapter presents discussions on the findings, implications for practice, limitations of the study, and recommendations for future research.

Discussion of Findings

People grow up with different education and work opportunities, financial barriers, and significant others who support or disapprove of their career decisions. SCCT hypothesizes that contextual factors (e.g., social support) directly influence people’s career interests, goals, and actions; while some studies showed that contextual factors indirectly influence career decision (e.g., Lent et al., 2003). The inconsistent results of contextual influences on career decision imply that there may be others factors that mediate or moderate how career decisions are influenced by contextual factors.

Relational self-concept is hypothesized in this study to provide an explanation of the impact of social support on career decision-making. Self-concept is proposed by various theorists as the foundation of career choice (Phillips, 2011; Super, 1990; Savickas,
2002). For individuals with self-concepts that are more inclusive of other's perspectives, the way they view themselves is more relational. On the contrary, for those whose self-concepts are more individualistic-based, other's support or discouragements are less impactful. Past studies discovered that individuals with high relational self-construal viewed themselves from a relational perspective, and were more affected by close others’ opinions when they are making decisions (Cross & Vick, 2001; Gore & Cross, 2006). In the current study, it was hypothesized that those with higher relational self-concept benefit more from social supports when making career decisions comparing to those with lower relational self-concept. In other words, those with higher relational self-concept are more likely to encounter fewer career decision-making difficulties when they perceive support from important others.

Three types of career decision-making difficulties examined in this study are Lack of Readiness, Lack of Information, and Inconsistent Information (Gati et al., 1996). Results of this study found that social support, relational self-concept, and demographic variables demonstrated different patterns of predicting career decision-making difficulties, which reflects the diverse nature of the types of career decision-making difficulties. The hypothesis that relational self-concept moderates the effect of social support on career decision-making difficulties was supported by Lack of Information and Inconsistent Information, but not by Lack of Readiness. Discussion on the results of hierarchical regression analysis and how they reflect the nature of career decision-making difficulties are elaborated in the following paragraphs.
Predicting Lack of Readiness

Results of the regression analysis did not support the hypothesis that relational self-concept moderates and/or mediates the effect of social support on Lack of Readiness. The interaction effect between social support and relational self-concept was not significant, neither was social support on Lack of Readiness. The only significant predictors are relational self-concept, race, and field of study significantly. The nature of Lack of Readiness and reliability issue of the scale are possible explanations of the non-significant result.

Nature of Lack of Readiness. Lack of Readiness refers to individual's engagement in career-decision making that happens prior to the decision-making process, unlike the other two career decision-making difficulties that happen during the process (Gati et al., 1996; Gati et al., 2000). Lack of Readiness is comprised of three subscales: (a) lack of motivation to engage in the career decision-making process, (b) general indecisiveness regarding all types of decision-making, and (c) dysfunctional beliefs, such as irrational expectations about career decision-making (Gati et al., 1996). The key concepts defining this scale, such as motivation, indecisiveness, and beliefs, are individual aspects of decision making; which suggests that Lack of Readiness is more internal and less external in nature. Regression result that social support was unrelated to Lack of Readiness support the assumption that Lack of Readiness is more internal. A study by Gati and colleagues confirmed that Lack of Readiness is internal in nature. They found that all the subscales of Lack of Readiness were appraised by 28 career counseling experts as having internal causes (Gati, Amir, & Landman, 2010).

Results also demonstrated that age significantly related to Lack of Readiness but
not with the other two career decision-making difficulties. In the current study, younger students scored higher on Lack of Readiness than older students. This phenomena echo Super's concept of career maturity. In Super's career development theory, career maturity refers to individual's "readiness to make informed, age-appropriate career decisions and cope with career development tasks" (Savickas, 1984). It explains individual differences in readiness to make career decisions as how they engage in behaviors that facilitate entrance and adjustment into the world of work (Vondracek, & Reitzle, 1998).

Other result of regression analysis showed that relational self-concept significantly predicted Lack of Readiness, that those with higher relational self-concept have higher Lack of Readiness. This result implies that for those with higher relational self-concept, important others are part of their decision-making on top of their motivation, decisiveness, and beliefs. They may be less ready to decide due to having others to consider comparing to those with low relational self-concept.

**Reliability concern.** Internal inconsistency of the Lack of Readiness scale may be another cause of the non-significance of the results. Relatively low internal reliability of the scale (Cronbach's alpha = .64) indicates that the scale may comprised of items that assess different constructs within the scale. Other studies also found similar inconsistency of the scale in their studies with American college students (e.g., Gati et al., 1996; Mau, 2001; Lancaster, Rudolph, Perkins, & Patten, 1999). The inconsistency may result from the distinct constructs that the subscales represent. For example, Lancaster and colleagues (1999) found that the dysfunctional beliefs subscale in Lack of Readiness had a very low reliability (Cronbach's alpha = .64), which accounts for much of the low reliability in the total scale. Researchers concluded that it is likely that other factors, such as family
influences, social desirability, cultural differences, and personal beliefs, also account for the dysfunctional beliefs subscale that confound with what Lack of Readiness aims to measure (Lancaster, et al, 1999).

**Predicting Lack of Information**

The hypothesis that relational self-concept moderates the effect of social support on Lack of Information was supported. The interaction between social support and relational self-concept, race, as well as field of study significantly predicted Lack of Information. Further examination of the interaction effect shows that those with high relational self-concept reported less difficulties in Lack of information as their social support increases. On the other hand, among those with low relational self-concept, their social support is unrelated to Lack of Information.

**Support of theories.** The result that Lack of Information was predicted by the interaction between social support and relational self-concept supports both SCCT and the concept of relational self-construal. SCCT proposes that contextual factors are crucial to individual's career behaviors and outcomes; in turn, individual's reaction to contextual factors depends on their personal traits such as beliefs and expectations. (Lent et al., 2000; 2003). Self-concept serves as a foundation that guides individual's beliefs, expectations, and motivations (e.g., Super, 1990; Savickas, 2005; 2011). Relational self-construal is a category of self-concept that illustrates close relationships as important facets of one's self-definition (Cross et al., 2002). A study found that for those with high relational self-construal, considering important others are essential for them when they make decisions (Cross et al., 2000). Result of the current study shows that those with high relational self-concept benefit from social support during their career decision-making process, as high
social support predicted lower Lack of Information. On the contrary, for those with lower relational self-concept, social support does not influence the degree of Lack of Information.

**Nature of Lack of Information.** Lack of Information refers to lacking the information on: (a) the decision-making process, (b) the self, (c) the occupations, and (d) the ways of obtaining information (Gati et al., 1996). Regression analysis of the current study shows that social support was a significant predictor of Lack of Information when the interaction between social support and relational self-concept was not yet entered into the regression equation. The result that Lack of Information is affected by social support implies an external nature of Lack of Information. The external nature of Lack of Information was also supported in a study that found three subscales of Lack of Information were appraised by career counseling experts as having external causes (Gati, Amir, & Landman, 2010).

**Predicting Inconsistent Information**

The hypothesis that relational self-concept moderates the effect of social support on Inconsistent Information was supported. The interaction between social support and relational self-concept, race, as well as field of study significantly predicted Inconsistent Information. Further examination of the interaction effect shows that those with high relational self-concept reported less difficulties in Inconsistent Information as their social support increases. Among those with low relational self-concept, their social support is unrelated to Inconsistent Information.

**Support of theories.** Similar to the result of Lack of Information, individuals with high relational self-concept benefit from social support during their career decision-
making process, as higher social support predicted less difficulties in Inconsistent Information. On the contrary, for those with low relational self-concept, social support does not influence their degree of Inconsistent Information. The result that Lack of Information was predicted by the interaction between social support and relational self-concept supports both SCCT and the concept of relational self-construal.

**Nature of Inconsistent Information.** Unlike Lack of Readiness or Lack of Information, Inconsistent Information was not related to social support or relational self-concept alone, but is purely predicted by the interaction between social support and relational self-concept. This unique feature of Inconsistent Information suggests that it consists both internal and external aspects. Inconsistent Information refers to having information between two systems that are incompatible. It is further divided into three categories: (a) *unreliable information*, (b) *internal conflicts*, which is conflicts within the individual (e.g., contradictory preferences), and (c) *external conflicts* that involves the influence of significant others (Gati et al., 1996). Further examination of the subscales of Inconsistent Information indicates that *unreliable information* is more external in nature, *internal conflicts* is more internal, and *external conflicts* can be both internal and external because individuals often draw to their self-concept when dealing with external conflicts (Gati et al., 2010). A study confirmed that the sources of Inconsistent Information are both external and internal (Gati et al., 2010). The result that Inconsistent Information was predicted by the interaction between social support and relational self-concept is likely due to the internal and external nature of it.
Demographics and Career Decision-making Difficulties

Age. Age significantly related to Lack of Readiness, with younger students having more Lack of Readiness than older students. This result reflects Super's concept of career maturity, which refers to individual's "readiness to make informed, age-appropriate career decisions and cope with career development tasks" (Savickas, 1984). Other studies also found that younger cohorts experience more career indecision than older cohorts (Guerra & Braungart-Rieker, 1999; Kinnier, Brigman, & Noble, 1990). However, age had no effect on Lack of Readiness when it was entered with other demographics in the regression models. This is due to shared variability between age and other demographics on Lack of Readiness, especially with the variable "undecided," as those who are undecided are more likely to be younger students. Being undecided had larger predictive power than being younger on Lack of Readiness, thus the effect of age was not significant when the variable undecided was also predicting Lack of Readiness.

A possible explanation of why Lack of Information and Inconsistent Information were not related to age may due to their chronic characteristics comparing to Lack of Readiness. Nauta (2012) noted that distinctions should be made between trait-like indecisiveness and developmental indecision. The results of this study suggest that Lack of Readiness may be a developmental indecision because it is inversely related to age, while Lack of Information and Inconsistent Information may be trait-like indecisiveness that are irrelevant to age.

Gender. Gender significantly related to Lack of Readiness, with men reported less Lack of Readiness than women. This result is consistent with a previous study that found girls have higher indecision scores than boys ages 12 to 18-year-old (Patton &
Creed, 2001). Researchers proposed that the less certainty of career decision girls have may come from the perception of greater complexity of women's career path as balancing family and career, although girls are shown to have greater maturity in career development than boys (Patton & Creed, 2001; Post-Kammer & Smith, 1985).

**Race.** Race was a significantly predictor of Lack of Readiness, Lack of Information, and Inconsistent Information. Asians, Blacks, and students of other races had higher scores comparing to Whites in at least one of the career decision-making difficulties. This result is consistent with previous studies that found racial minorities have higher career decision-making difficulties, which are relevant to their lower career decision-making self-efficacy (Gloria & Hird, 1999; Mau, 2004). Literature suggests that racial minorities face more challenges regarding career decision-making, such as limited exposure to mentors, racism, discrimination, educational and socioeconomic barriers (Hughes, Stenhjem, & Newkirk, 2007; Lease, 2004; Owens, Lacey, Rawls, & Holbert-Quince, 2010). It is also important to note that Asians in this study consisted of a considerable number of international students from Asia countries, which was a phenomena observed by the researcher when she was collecting surveys in classes. Comparing to their American peers, international students are likely to experience more stressors when they are making career decisions, such as cross-cultural transition and lacking resources (Arthur & Popadiuk, 2010; Leong, Hardin, & Gupta, 2010). It is likely that part of the reasons that Asians reported more career decision-making difficulties in this study was due to the struggles that international students encounter in the career-decision making process.
**Field of study.** Field of study was a significantly predictor of Lack of Readiness, Lack of Information, and Inconsistent Information. Students who are undecided had more career decision-making difficulties in all areas. This result is consistent with previous studies that found students who were undecided in a major were more undecided with their majors or careers (Guerra & Braungart-Rieker, 1999; Orndorff & Herr, 1996).

**Parental education.** Parental education is an indicator for individual's SES background in this study, and was hypothesized to be related to career decision-making difficulties. Results of this study showed that parental education was unrelated to career decision-making difficulties. This result is opposite to what previous researchers have proposed that SES interacts with contextual factors to influence individual's career behaviors, interests, and goals (Ali et al., 2005; Lent et al., 2000).

There are two possible explanations of why parental education was not related to career decision-making difficulties in this study. First, the non-significance results may due to sample bias, as participants in the study have parents with high education attainments (i.e., 86.9% of the participant's parent have at least some college education, with 61% having at least a college degree). Thus, the true impact of parental education is difficult to detect. Secondly, SES may have prominent impact on one's career choice, but not on career decidedness. Although SCCT suggests that contextual impact (e.g., SES) is the foundation of career behaviors, interests, and goals, it does not imply that those with lower SES tends to be less decided on their careers. On the contrary, individuals with lower SES backgrounds may be more determined to avoid pursuing certain careers. For example, a study of Asian American college students found that comparing students who aspire to become psychologists with those who want to become lawyers, students who
aspire to become psychologists have higher SES backgrounds than those who want to become lawyers (Tang et al., 1999). Individuals with low SES may consider career choices based on stability, income, and familiarity of the career, which may not be the priorities individuals with high SES would consider. It does not imply that individuals with low SES are more undecided, instead, they may be more determined to pursue certain careers. More research is needed to clarify whether the current result was caused by sample bias, methodology limitations, or true reflection of the phenomena of those with lower SES backgrounds.

**Implications**

Results of this study offer insights for career counselors to better understand career decision-making difficulties of young adults. The current study found that career decision-making difficulties of Lack of Readiness, Lack of Information, and Inconsistent Information have different patterns of relationship with social support and relational self-concept. Strategies of how to assist young adult's career decision-making by addressing their social support and relational self-concept are discussed in the following paragraphs.

**Working With Those Lacking Readiness to Make Career Decision**

The relationship between Lack of Readiness and relational self-concept suggests that important others are key to the engagement in making career decisions for those with higher levels of relational self-concept. Those with higher relational self-concept are more likely to have less motivation to engage in the career decision-making process, more general indecisiveness regarding decision-making, and more dysfunctional beliefs (e.g., irrational expectations about career decision-making) (Gati et al., 1996). The career decision-making process is more complex for them because they desire to take important
others' wishes, besides their own, into account as they make decisions. Gathering information about what others wish for them and negotiating between what they want and what others want are challenging. Especially young adults are in the process of establishing independence and refining their identity, which are complicated tasks themselves; navigating the wishes of others on top of these tasks requires a lot of efforts.

It is crucial in the counseling process to help young adults explore how and to what extent are they willing to incorporate important others' wishes into their decision. To begin with, counselors should be aware of their own values in helping clients make career decisions. The traditional career approaches overestimate individualistic features as the foundation for career decision (Blustein 2006; 2008), and often fail to address the needs of those who perceives important others' wishes as equally, if not more important. Instead of solely encouraging the implementation of individual characteristics (e.g., interest, abilities, and skills), the decision-making process should be understood within the framework of how clients view themselves in relations to others. Career construction theory is a way to engage clients in articulating the importance of others in their decision by telling their own stories (Savickas, 2002). Counselors can utilize narratives, formal and informal assessments, and activities to address questions such as: "What are some important relationships in your life?" "What do these relational roles (e.g., daughter, friend...) mean to you?" "How do your important others (e.g., family and friends) think about your decision?" "What are the aspects of your decision that you agree/disagree with your important others?" "How do you feel when they agree/disagree with your decision?" to assist clients in exploring their view of incorporating important others into their decision-making process.
**Working With Those Lacking Information**

This study demonstrates that those with higher relational self-concept encounter less Lack of Information when they perceive satisfying social support. When those with higher relational self-concept perceive satisfying social support, they are able to gain more information about the decision-making process, themselves, occupations, and the ways of obtaining information (Gati et al., 1996). Besides addressing the importance of relational self-concept as discussed earlier, it is necessary to help individuals identify and utilize social support to help them gain the information needed to make career decisions.

Based on the *Social Support Inventory* used in this study, the functions of social support include: acceptance and belonging, appraisal and coping assistance, behavioral and cognitive guidance, tangible assistance and material aid, and modeling (Brown et al., 1987). Counselors could help clients assess the availability and quality of their social support that benefit their career decision-making (Schultheiss et al, 2001), such as using networking to expand their understanding of certain majors or careers. Counselors could assist clients in identifying alumni, mentor, or professionals to connect with, and coach them effective ways of seeking career information. Often times the counselor need to advocate for clients to create resources for them. It is important for counselors to acknowledge that clients are not always aware that they are lacking information nor do they always understand the importance of seeking support (Owens et al., 2010). For some clients, they need guidance to acknowledge the importance of utilizing resources in college when making career decisions. It is crucial for counselors to provide such support to clients, especially when working with women, racial minorities, younger clients, and
clients who are undecided on a major. These clients often encounter more challenges as they navigate the career decision-making process.

**Working With Those With Inconsistent Information**

This study found that those with higher relational self-concept encounter less Inconsistent Information when they perceive satisfying social support. When those with higher relational self-concept perceive satisfying social support, they have less unreliable information, less internal conflicts (e.g., incompatible career interests and values), and less external conflicts (e.g., significant others do not support their career interest) (Gati et al., 1996). Satisfying social support provides individuals with mental, materialistic, and guidance resources to cope with potential conflicts during the decision-making process. For example, individuals who are unsure about whether they should pursue a career based on their interests or abilities would benefit from guidance that help them explore careers that may integrate both of their interests and abilities.

Counselors, when working with clients who are experiencing inconsistent information, are recommended to first help clients identify the source of information that are conflicting for them. For instance, when working with clients who lack materialist support to pursue a certain major (e.g., arts), counselors could explore potential alternatives for them and encourage them to seek resources (e.g., scholarships or part-times jobs). Counselors should equip themselves to provide resources and connections to clients in areas that they are lacking. For clients who do not have models they can seek guidance from, counselors can utilize alumni database to connect them with individuals that are willing to serve as mentors to them (Owens et al., 2010). Matching clients with mentors from similar backgrounds, especially those in careers that are non-traditional of
their population, is empowering to the clients. In addition, counselor could initiate support groups for clients to share their concerns with peers who are encountering similar situations. These support groups are believed to install the sense of belonging, acceptance, and hope for clients as they navigate through the decision-making process.

**Limitations**

There are several limitations to this study. First, the low internal reliability of Lack of Readiness (Cronbach's alpha = .64) indicates that the scale is comprised of items that assess different constructs. The inconsistency of the scale may be why Lack of Readiness was not predicted by the interaction between relational self-concept and social support as hypothesized.

Second, all measurements in the study are self-reports, which is a threat to validity. Lack of method variance may inflate the relationship among variables because the relationship is reflective of how variables are measured using the same method (Heppner et al., 2008). Another threat of using self-report is that participants may respond to questions based on social desirability instead of reporting their true perceptions.

Third, participants of this study lack diversity in some aspects, as they were recruited from a predominately white higher education institution. Participants were shown to have parents with education level higher than average, with 86.9% of the participants' parents have at least some college education. This may be the cause of the non-significant correlation between parental education and career decision-making difficulties found in this study.

The study uses biological definition of young adults by age (18 to 23), which may overlook individual developmental differences. Individuals over age 23 or under 18 who
are at the same developmental stages as the participants in this study were excluded. In addition, young adults in this study refer to those enrolled in a higher education institution as undergraduate students. Results of the study may not be generalizable to young adults who are not attending higher education institutions.

Finally, the small to medium effect size of the regression models show that there are other predictive variables that account for career decision-making difficulties. For example, SCCT proposes that self-efficacy, outcome expectations, and other variables contribute to the relationship between contextual factors and career choice. It is possible that the relatively small R-squares of the regression models were due to predictive variables that were not examined in the study.

**Recommendations for Future Research**

The current study found evidence for the moderation effect of relational self-concept on the relationship between social support and career decision-making difficulties. This result serves as a foundation for future research, given that very few studies have examined career decision-making difficulties from the relational perspective. Replication of the study with diverse populations (e.g., racial minorities, individuals from lower SES backgrounds, working adults...) could shed more light on the relationship between career decision-making difficulties, relational self-concept, and social support.

It is recommended for future researchers to use multiple ways to assess one's career decision-making difficulties in order to offer context and accuracy of the construct. For example, instruments with higher reliability can be used to replace the current measure of Lack of Readiness. Further, it is ideal to use several instruments (e.g., the *Career Decision Scale, CDS*) to analyze the similarities and differences among measures.
of career decision-making. Incorporating counselor's view of the client's career decision-making difficulties offers subjective and objective perspective of the construct. In addition, qualitative methods such as interviewing the client about his or her career decision-making difficulties could enrich the context and depth of this topic.

Future research can benefit from utilizing other analytical methods to establish the overall causal relationships between career decision-making difficulties and relevant variables. In the current study, the small R-squares of the regression models show that other variables that are not included in this study also contribute to career decision-making difficulties. Analytical methods such as structural equation modeling (SEM) could be used to structure the causal relations between career decision-making difficulties, relational self-concept, social support, demographics, and other latent variables to illustrate a comprehensive mechanism between the variables.

**Conclusion**

The study is the first research to examine how individual's relational self-concept impacts the influence of social support on career decision-making difficulties. The findings support the hypothesis based on SCCT and the concept of relational self-construal that relational self-concept moderates the relationship of social support on two types of career decision-making difficulties: lacking information to make decision and having inconsistent information. For those with high relational self-concept, the more social support they perceive, the less career decision-making difficulties they encounter. On the other hand, social support was not related to career decision-making difficulties for those with low relational self-concept. The result not only offers evidence of the significant impact of social support on career decision-making, it also demonstrates the
crucial role of relational self-concept that regulates this relationship. In addition, the positive relationship between relational self-concept and the career decision-making difficulty of lack of readiness suggests that important others are key to career decision-making for those with higher levels of relational self-concept. Implications are drawn from the results on how to work with young adults’ career decision-making while taking into account of their relational self-concept and social support. The study also serves as a foundation for future research to explore the concept of career decision-making from the relational and contextual perspectives.

To sum up, the impact of social support on career decision-making should not be focused on individual characteristics alone, but the crucial role of relational self-concept and its interaction with social support. Attention should especially be paid to individuals with higher relational self-concept, as they desire to take important others’ wishes into account, besides their own, as they make career decisions.
References


college students on career uncertainty and involvement in career development activities. *Journal of Counseling & Development, 74*, 632-639.


Appendices

Appendix A

*Relational-Interdependent Self-Construal Scale*

(RISC; Cross et al, 2000)

**Instruction:**
Please circle a number, from a scale 1 to 5 (1 = strongly disagree; 5 = strongly agree), to indicate how much you agree or disagree with each of these statements.

1. My close relationships are an important reflection of who I am.
2. When I feel very close to someone, it often feels to me like that person is an important part of who I am.
3. I usually feel a strong sense of pride when someone close to me has an important accomplishment.
4. I think one of the most important parts of who I am can be captured by looking at my close friends and understanding who they are.
5. When I think of myself, I often think of my close friends or family also.
6. If a person hurts someone close to me, I feel personally hurt as well.
7. In general, my close relationships are an important part of my self-image.
8. Overall, my close relationships have very little to do with how I feel about myself.
9. My close relationships are unimportant to my sense of what kind of person I am.
10. My sense of pride comes from knowing who I have as close friends.
11. When I establish a close friendship with someone, I usually develop a strong sense of identification with that person.
Appendix B

Social Support Inventory

(SSI, Brown et al., 1987)

Instruction:
Please circle a number, from a scale 1 to 7 (1 = Not at all satisfied; 7 = very satisfied), to indicate how much of this type of help or support regarding your major/career choice have you received in the past month.

1. Encouragement to face reality, no matter how difficult.
2. Information about how others handled a situation similar to the one you are experiencing.
3. Information about how others felt when confronted by a situation similar to one you are experiencing.
4. A model or example for you to follow.
5. Knowledge that others are comfortable and willing to talk with you about the good feelings you have about yourself.
6. Knowledge that others are comfortable and willing to talk with you about your hopes and plans for the future.
7. Financial support to deal with emergency situations.
8. Non-financial aid or services to reestablish or maintain an acceptable standard of living.
9. Reassurance that it is quite normal to feel down about your situation.
10. Information and guidance about how to cope with your situation.
11. Information and guidance about how to change your negative feelings about yourself.
12. Reassurance that it is okay to feel good about yourself even when things are not going well.
13. Non-financial aid or service to deal with emergency situations.
14. Assurance that you belong to a group of caring people.
15. Encouragement to talk about your feelings when you are feeling down and blue.
16. Information and guidance about how to change some of your self-defeating attitudes and behavior.
17. Assistance in realizing when you are thinking or acting in self-defeating ways.
18. Assurance that you are loved and cared about.
19. Encouragement to talk about your future hopes and plans in a positive way.
20. Help to feel a sense of optimism about the future.
21. Information on sources of financial assistance.
22. Reassurance that your fears and anxieties about the future are quite normal.
23. Help in seeing positive things about your life no matter how bad things are going now.
24. Knowledge that others are comfortable and willing to talk with you about your feelings of insecurity and/or fear.
25. Information about how someone else handled a situation similar to yours.
26. Assurance that you are respected and valued no matter what is happening in your life.
27. Reassurance that it is not unusual to feel hopeful about your future even when things are not going well.
28. Information about services that might be helpful to you.
29. Reassurance that it is quite normal to feel down and blue when thinking about your situation.
30. Encouragement to talk about good aspects of yourself and your life.
31. Assurance that you are needed by others.
32. Financial assistance to reestablish or maintain an acceptable standard of living.
33. Assurance that you are accepted no matter what is happening in your life.
34. Encouragement to talk about your fears and insecurities.
35. Knowledge that others are comfortable and willing to talk with you about the good things that are happening in your life.
36. Help and assistance in setting realistic goals for yourself.
37. Knowledge that others are comfortable and willing to talk about anything with you.
38. Help and assistance with your efforts to change self-defeating attitudes and behavior.
39. Knowledge that others are comfortable and willing to talk with you when you are feeling down and blue.
Appendix C

Career Decision-Making Difficulties Questionnaire
(CDDQ; Gati et al., 1996)

Instruction:
Please circle a number, from a scale 1 to 9 (1 = does no describe me; 9 = describe me well), to indicate how much the statement describes you.

1. I know that I have to choose a career, but I don't have the motivation to make the decision now ("I don't feel like it").
2. Work is not the most important thing in one’s life and therefore the issue of choosing a career doesn't worry me much.
3. I believe that I do not have to choose a career now because time will lead me to the "right" career choice.
4. It is usually difficult for me to make decisions.
5. I usually feel that I need confirmation and support for my decisions from a professional person or somebody else I trust.
6. I am usually afraid of failure.
7. I like to do things my own way.
8. I expect that entering the career I choose will also solve my personal problems.
9. I believe there is only one career that suits me.
10. I expect that through the career I choose I will fulfill all my aspirations.
11. I believe that a career choice is a one-time choice and a life-long commitment.
12. I always do what I am told to do, even if it goes against my own will.
13. I find it difficult to make a career decision because I do not know what steps I have to take.
14. I find it difficult to make a career decision because I do not know what factors to take into consideration.
15. I find it difficult to make a career decision because I don't know how to combine the information I have about myself with the information I have about the different
careers.

16. I find it difficult to make a career decision because I still do not know which occupations interest me.

17. I find it difficult to make a career decision because I am not sure about my career preferences yet (for example, what kind of a relationship I want with people, which working environment I prefer).

18. I find it difficult to make a career decision because I do not have enough information about my competencies (for example, numerical ability, verbal skills) and/or about my personality traits (for example, persistence, initiative, patience).

19. I find it difficult to make a career decision because I do not know what my abilities and/or personality traits will be like in the future.

20. I find it difficult to make a career decision because I do not have enough information about the variety of occupations or training programs that exist.

21. I find it difficult to make a career decision because I do not have enough information about the characteristics of the occupations and/or training programs that interest me (for example, the market demand, typical income, possibilities of advancement, or a training program’s perquisites).

22. I find it difficult to make a career decision because I don't know what careers will look like in the future.

23. I find it difficult to make a career decision because I do not know how to obtain additional information about myself (for example, about my abilities or my personality traits).

24. I find it difficult to make a career decision because I do not know how to obtain accurate and updated information about the existing occupations and training programs, or about their characteristics.

25. I find it difficult to make a career decision because I constantly change my career preferences (for example, sometimes I want to be self-employed and sometimes I want to be an employee).

26. I find it difficult to make a career decision because I have contradictory data about my abilities and/or personality traits (for example, I believe I am patient with other
people but others say I am impatient).

27. I find it difficult to make a career decision because I have contradictory data about the existence or the characteristics of a particular occupation or training program.

28. I find it difficult to make a career decision because I’m equally attracted by a number of careers and it is difficult for me to choose among them.

29. I find it difficult to make a career decision because I do not like any of the occupation or training programs to which I can be admitted.

30. I find it difficult to make a career decision because the occupation I am interested in involves a certain characteristic that bothers me (for example, I am interested in medicine, but I do not want to study for so many years).

31. I find it difficult to make a career decision because my preferences can not be combined in one career, and I do not want to give any of them up (e.g., I’d like to work as a free-lancer, but I also wish to have a steady income).

32. I find it difficult to make a career decision because my skills and abilities do not match those required by the occupation I am interested in.

33. I find it difficult to make a career decision because people who are important to me (such as parents or friends) do not agree with the career options I am considering and/or the career characteristics I desire.

34. I find it difficult to make a career decision because there are contradictions between the recommendations made by different people who are important to me about the career that suits me or about what career characteristics should guide my decisions.
Appendix D
Demographic Questionnaire

1. Your age _______ *(You must be between 18-23 years old to take part in this survey)*
2. Your gender _______

3. Your college (check the college that you identify the most)
   1) _____ Agricultural Sciences
   2) _____ Arts and Architecture
   3) _____ Business
   4) _____ Communications
   5) _____ Earth and Mineral Sciences
   6) _____ Education
   7) _____ Engineering
   8) _____ Health & Human Development
   9) _____ IST
   10) _____ Liberal Arts
   11) _____ Nursing
   12) _____ Science
   13) _____ DUS or Undecided
   14) _____ Schreyer Honors College

4. Highest level of education of your most educated guardian/parent (check one)
   1) _____ No school
   2) _____ 8th grade or less
   3) _____ More than 8th grade, less than high school
   4) _____ High school equivalent
   5) _____ Some college
   6) _____ 4-Year college degree
   7) _____ Graduate/professional training
5. Your race/ethnicity (check all that apply)
   1) _____White (non-Hispanic)
   2) _____Black/African American
   3) _____Hispanic/Latino
   4) _____Asian/Asian American
   5) _____Native American
   6) _____Pacific Islander
   7) _____Other: please specify____________________
Appendix E

Informed Consent Form

Title of Project: Social support, relational self-concept, and career decision-making

Principle Investigator: Yaoshan Ivy Li, M.Ed.
Advisor: Richard J. Hazler, Ph.D.
Doctoral Candidate in Counselor Education
Advisor: Professor of Counselor Education
Penn State University
Advisor: hazler@psu.edu
yil101@psu.edu

If you have already taken the online format of this study, please do not take this survey.

- Purpose of the Study: The purpose of this survey is to understand career decision-making, social support, and relational self-concept of college students.
- Procedures to be followed: You will be asked to answer 89 questions on this survey.
- Duration: It will take about 15-20 minutes to complete the survey.
- Statement of Confidentiality: Your participation in this research is confidential. The survey does not ask for any information that would identify who the responses belong to. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared because your name is in no way linked to your responses.
- Right to Ask Questions: Please contact Ivy Li at yil101@psu.edu with questions or concerns about this study.
- Compensation/Cost/Benefits: After completing this survey, you can chose if you want to be entered in a drawing to win one of five $20 and ten $10 Amazon gift cards.
- Voluntary Participation: Your decision to participate in this research is voluntary. You can stop at anytime and you do not have to answer any questions you do not want to answer. However, lack of completion of the survey will make you ineligible to participate in the random drawing for gift cards.

You must be between 18-23 years old to take part in this survey. Completion and return of the survey implies that you have read the informed consent, understand the informed consent and this survey, and agree to participate in this survey.
Appendix F

Permissions to Use SSI, RISC, and CDDQ

Permission granted by Dr. Brown to use SSI

From "Brown, Steven" <Sbrown@luc.edu> ⊕
To Ivy Li <yil101@psu.edu> ⊕
Subject RE: Seeking permission to use the Social Support Inventory
Date Sun, Nov 24, 2013 06:15 PM

Yaoshan,
You have my permission to use the SSI in your dissertation.

Dr. Brown

From: Ivy Li <yil101@psu.edu>
Sent: Thursday, November 21, 2013 8:56 PM
To: Brown, Steven
Subject: Seeking permission to use the Social Support Inventory

Dear Dr. Brown,

Hello, my name is Yaoshan Ivy Li, I'm currently a doctoral candidate in Counselor Education and Supervision at Penn State. I'm writing this email to seek your permission to use the Social Support Inventory (SSI) for my doctoral dissertation. The main purpose of my study is to understand how individuals make career decisions by examining the effect of relational self (i.e., how one views him/herself by incorporating other's perspectives of him/her) on social supports and career decision-making difficulties. SII’s emphases on contextual influence on one’s satisfaction and its vocational foundation along with its quality have convinced my dissertation advisor, Dr. Richard Hazler, and me that it is the ideal instrument for this study. I'm planning on using the Internet to collect data from around 200 college students. I sincerely hope to obtain your permission to use the SII. I'll be happy to provide any further information on my dissertation. I look forward to hearing from you!

sincerely,
Ivy

Ivy Li, M.Ed.
Doctoral Candidate in Counselor Education and Supervision
Instructor and Counseling Graduate Assistant at the Career Services
The Pennsylvania State University
Permission granted by Dr. Cross to use RISC

From "Cross, Susan E [PSYCH]" <scross@iastate.edu> ⊕
To Ivy Li <yil101@psu.edu> ⊕
Subject RE: Seeking permission to use the RISS

Date Mon, Dec 2, 2013 11:32 AM

Ms. Li,
Feel free to use the measure. The complete items and psychometric properties are in the Cross, Bacon, and Morris, 2000, Journal of Personality and Social Psychology paper. Let me know if you need a copy.

Please send me a copy of your manuscript when you have completed your research. Good luck!

Susan Cross
Professor of Psychology
Iowa State University

---------------------------------------------

From: Ivy Li [yil101@psu.edu]
Sent: Monday, December 02, 2013 8:15 AM
To: Cross, Susan E [PSYCH]
Subject: Seeking permission to use the RISS

Dear Dr. Cross,

Hello, my name is Yaoshan Ivy Li, I'm currently a doctoral candidate in Counselor Education and Supervision at Penn State. I'm writing this email to seek your permission to use the Relational-Interdependent Self-Construal Scale (RISS) for my doctoral dissertation.

The main purpose of my study is to understand how individuals make career decisions by examining the effect of relational self-construal on social supports and career decision-making difficulties. Very few studies have applied relational self-construal in the field of vocational psychology, and I believe this concept will provide us better understanding of how individuals make career decisions. The relevance and quality of RISS have convinced my dissertation advisor, Dr. Richard Hazler, and me that it is the ideal instrument for this study. I'm planning on using the Internet to collect data from around 200 college students.

I sincerely hope to obtain your permission to use the RISS. I'll be happy to provide any further information on my dissertation. I look forward to hearing from you!

sincerely,
Ivy
Permission granted by Dr. Gati to use CDDQ

From "Ivy Li" <yil101@psu.edu> ⊕
To Itamar Gati <itamar.gati@mail.huji.ac.il> ⊕
Subject RE: Seeking permission to use the CDDQ
Date Mon, Dec 2, 2013 10:11 PM

Dear Dr. Gati,

Thank you once again for your generous permission. Please see the attached file for the signed permission. I'm planning on using online survey to collect data, thus will not be using any paper copy of the CDDQ.

Best,
Yaoshan Ivy Li

On Sun, Nov 24, 2013 02:02 AM, Itamar Gati <itamar.gati@mail.huji.ac.il> wrote:

Dear Ivy,

Enclosed are the relevant files.
See also www.cddq.org
If you decide to use the CDDQ then please return the permission form for my signature.

Itamar

******************************************
Itamar Gati, Ph.D.
Samuel and Esther Melton Professor
Depts. of Education and Psychology
Hebrew University, Jerusalem 91905, ISRAEL
tel: +972-2-5882170 fax: +972-2-5882084
itamar.gati@huji.ac.il
www.cddq.org www.kivunim.com/gati
******************************************

From: Ivy Li [mailto:yil101@psu.edu]
Sent: Friday, November 22, 2013 4:58 AM
To: itamar.gati@huji.ac.il
Subject: Seeking permission to use the CDDQ

Dear Dr. Gati,

Hello, my name is Yaoshan Ivy Li, I'm currently a doctoral candidate in Counselor Education and Supervision at Penn State, U.S.A. I'm writing this email to seek your
permission to use the Career Decision-Making Difficulties Questionnaire (CDDQ) for my doctoral dissertation.

The main purpose of my study is to understand how individuals make career decisions by examining the effect of relational self (i.e., how one views him/herself by incorporating other's perspectives of him/her) on social supports and career decision-making difficulties. The relevance and quality of CDDQ have convinced my dissertation advisor, Dr. Richard Hazler, and me that it is the ideal instrument for this study. I'm planning on using the Internet to collect data from around 200 college students.

I sincerely hope to obtain your permission to use the CDDQ. I'll be happy to provide any further information on my dissertation. I look forward to hearing from you!

sincerely,
Ivy

Ivy Li, M.Ed.
Doctoral Candidate in Counselor Education and Supervision
Instructor and Counseling Graduate Assistant at the Career Services
The Pennsylvania State University
VITA
Yaoshan Ivy Li, M.Ed., NCC
yaoshanl@gmail.com

EDUCATION
Ph.D. in Counselor Education and Supervision December 2014
The Pennsylvania State University, University Park, PA
M.Ed. in Counselor Education May 2011
The Pennsylvania State University, University Park, PA
M.Ed. in Human Development and Family Studies June 2007
National Taiwan Normal University, Taipei, Taiwan
B.S. in Psychology June 2004
National Chung Cheng University, Chiayi, Taiwan

RELEVANT WORK EXPERIENCE
Instructor August 2014- December 2014
Human Development and Family Studies, The Pennsylvania State University, University Park, PA
Career Counseling Graduate Assistant August 2012 - May 2013 & August 2013 - May 2014
Career Services, The Pennsylvania State University, University Park, PA
Clinic Supervisor August 2011- May 2012
CEDAR Clinic, The Pennsylvania State University, University Park, PA
Full-time Research Assistant August 2007 – April 2009
Inst. of Education, National Chiao Tung University, Hsinchu, Taiwan

COLLEGE TEACHING EXPERIENCE
• HDFS 414 Resolving Human Development and Family Problems (instructor) Fall 2014
• CN ED 100 Effective Career Decision Making (instructor) Spring 2013 & Spring 2014
• CNED 523 Counseling Children (co-instructor) Summer 2012

ADDITIONAL COUNSELING EXPERIENCE
Doctoral Level Practicum Counselor January 2012 - May 2012
Career Services, The Pennsylvania State University, University Park, PA
CEDAR Clinic, The Pennsylvania State University, University Park, PA August 2011 - December 2011
School Counseling Intern January 2010 - May 2011
Ferguson Township Elementary, Pine Grove Mills, PA
Hotline Counseling Trainee September 2006 - July 2007
Teacher Chang Foundation, Taipei, Taiwan

CERTIFICATION
• National Certified Counselor (NCC)
• Certified Pennsylvania Elementary School Counselor
• Certified Career Development Facilitator (CDF)

PUBLICATIONS
Garis, J. W., Li, Y. I. (in press). Using the Strong Interest Inventory to assist college students with their career