The Role of Future Time Perspective in Career Development: An Examination

of a Structural Model

by

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ABSTRACT

The present study of two hundred and seven university students examined the structural relation of future-orientation (both valence and instrumentality), career decision-making self-efficacy and career indecision (choice/commitment anxiety and lack of readiness). Structural equation modeling results indicated that while the overall proposed model fit the data well, my hypotheses were partially supported. Valence was not significantly related to career decision-making self-efficacy, choice/commitment anxiety and lack of readiness. However, instrumentality completely mediated the relation between valence and career decision-making self-efficacy, choice/commitment anxiety and lack of readiness. Instrumentality was significantly related to career decision-making self-efficacy and lack of readiness. Career decision-making self-efficacy completely mediated the relation between instrumentality and choice/commitment anxiety; however, it only partially mediated the relation between instrumentality and lack of readiness. Although the proposed model was invariant across gender, the findings indicate that women reported higher instrumentality and lower lack of readiness than did men. No differences were found for career decision-making self-efficacy and choice/commitment anxiety across gender. The findings suggest that psychologists, counselors, teachers, and career interventionists should consider the role future time perspective in university students' career development.

Keywords: future time perspective, valence, instrumentality, career decision-making self-efficacy, career indecision

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Chapter 1

THE PROBLEM IN PERSPECTIVE

"Without motivation what does one have to work toward? What does a person look forward to in the future? I am sure 'living in the now' is great but I just hope that living *for* the future will be so much more rewarding." Joshua Sung, undergraduate student. 2010

Collegiate-career choice involves the pursuit of benefits to be attained in a varyingly distant future, such as being able to access a desired occupation, earn well, achieve independence and improve one's competencies (Saunders & Fogarty, 2001). The decisions college students make can lead to important future outcomes. Hence, the perceived time that passes between moment of choice and the moment of reaching career goals can greatly influence career decision-making processes (Hesketh, 2000; Hesketh, Watkins-Brown, & Whiteley, 1998).

According to Ruble and Seidman (1996), the different ways in which people view themselves, particularly as it relates to proximal or distal future goals, might become salient during major life transitions (e.g., finishing college and looking for employment). And as individuals approach these life transitions, their perceptions about meeting the demands of multiple novel expectations can vary for a couple of reasons. First, young adults are constantly faced with other normative age-specific tasks, many of which come from their parents, friends, and teachers. Second, the future-oriented decisions that young adults make, such as those related to careers, crucially influence their adult life which, potentially can be daunting (Nurmi, 1992).

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When searching for an occupation, for example, many of the requirements and standards of the occupation do not always align with long-held self-images or beliefs about one's abilities. This could result in the emergence of dissonance for undergraduates. However, the beneficial aspects of exploring one's occupational future in the context of future time perspective include awareness of valence and instrumentality of career-related choices to present behavior, incentives to be planful, and an explicit focus on the future (Meara, Day, Chalk, & Phelps, 1995). Comprehensive review articles by Nurmi (1991) and by Wallace and Rabin (1960) adequately integrate the empirical findings from dozens of studies that have examined how time perspective relates to social class, achievement, motivation, school and job performance, mental health, juvenile delinquency, delay of gratification, and goal setting and planning. As such, the scope of the present study evaluated the relationship between individuals' perceptions of the future and the importance of present tasks and various aspects of career development. However, before one can fully understand the relationship between these variables, the concept of future time perspective must be discussed.

Future Time Perspective

Time perspective has been defined as an individual's ability to move into the past through the use of memory and/or to imagine the future (Leondari, 2007; Savickas, 1991a). Different theories have conceptualized this concept in several ways, including future time perspective (Fung, Carstensen, & Lutz, 1999; Husman & Lens, 1999; Shell & Husman, 2008; Zimbardo & Boyd, 1999) and possible selves (Markus & Nurius, 1986). According to Markus and Nurius

(1986), possible selves are defined as cognitive representations of enduring goals, aspirations, motives, fears, and threats. Similarly, future time perspective has been conceptually understood as the individuals' mental representation of the future. The two aforementioned notions share a similar conceptual base in that they regulate behavior, establish goals and expectations, motivate and monitor performance on different tasks, and evaluate whether the performance fulfilled the goals (Leondari, Syngollitou, & Kiosseoglou, 1998; Markus & Wurf, 1987); however, future time perspective takes a step beyond the sole act of thinking about the future by examining the degree to which one places importance on goals and the degree to which one's present behavior connects to future goals.

Implicit in this notion of future time perspective is the concept of time. Time, in this case, is not perceived as a physical thing people share, but rather as an individual phenomenon. More specifically, future time perspective looks at people's perception of time rather than things dated on a calendar or recorded by a clock (Husman & Shell, 2008). The idea of time has been historically regarded as an orientation toward future goals (Frank, 1939; Lewin, 1935). Some individuals might be able to foresee the future implications of their present behaviors. Simon, Vansteenkiste, Lens, and Lacante (2004) noted that these individuals typically understand how their present task-oriented behaviors are meaningfully related to their desired future goals, and how their current behavior serves a direct role in attaining those future goals.

There are other individuals, however, who would prefer to live in the present. They tend not to place a strong emphasis on future consequences of their

present behaviors and tend to pursue goals in the near future (e.g., practicing the piano to appease the instructor rather than thinking of being a pianist; Husman & Lens, 1999). This suggests, then, that the degree to which people have the ability to look into the future and foresee the usefulness of their present behavior varies. That is, "the temporal distance to goals (both subgoals and final goals) can vary from short (e.g., to go for a swim this afternoon) to long (e.g., preparing an entrance examination for college in order to become a surgeon) each having different consequences" (Simons et al., 2004, p. 122). For example, Zaleski (1994) compared short and long future time perspective and found that the individuals with long future time perspective are more persistent in working towards a goal and have more satisfaction from their present goal-oriented tasks. It is plausible to suggest, then, that the motivational importance of the differences in length or depth of the future time perspective has implications for the way in which individuals pursue their desired occupation.

Future Time Perspective and Motivation

According to Greene and DeBacker (2004), future time perspective can be a strong motivator of current behavior. Furthermore, attributing a sense of purpose for the future "is an important factor in moving individuals to engage in activities perceived to be instrumental" (Leondari, 2007, p.19). Two important aspects of future time perspective that have been found to be of particular relevance are perceived *Instrumentality and Valence* (Volder & Lens, 1982; Husman & Lens, 1999). Valence is largely seen as the dynamic aspect of future time perspective. It has been described as the importance people place on goals

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attainable in the future (De Volder & Lens, 1982). The concept of valence has

also been operationalized as delay discounting or delay of gratification (Husman

& Shell, 2008). Proponents of future time perspective have noted that all things

being equal, goals that are more distant in the future are going to be perceived as

less valuable than goals that are more immediate. However, for individuals who

endorse the importance of the future, the value or valence of goals that are within

their time frame will be less impacted by the lack of proximity. In order words,

valence can be described as the importance students place on attaining future

goals or rewards. However, it is important to note that valence does not

necessarily mean that students understand the importance of how their present

behaviors connect with their future goals.

According to De Volder and Lens (1982), present tasks or responsibilities

students have are also important components of future time perspective because

they lead directly to future goals. These present-oriented tasks are conceptualized

as having perceived instrumentality.   Simmons et al. (2004) described

instrumentality as the following:

> "The *cognitive* aspect [perceived instrumentality] of future time
>
> perspective makes it possible to anticipate the more distant future; to
>
> dispose of longer time intervals in which one can situate motivational
>
> goals, plans, and projects; and to direct present actions toward goals in the
>
> more distant future. As a consequence, those actions acquire a higher
>
> utility value (Eccles & Wigfield, 2002), and the present activities are

perceived as more instrumental (Miller *et al.*, 1999; Simons, 2001)"
(Simons et al., 2004, p. 123).

In essence, perceived instrumentality is an individual's understanding of the value of present behavior. To illustrate the point, take the following example: Some people might do well in college not only to receive good grades but also to gain the skills necessary to be successful in their chosen career field. Moreover, the process of learning is not simply to pass a test, but to incorporate and implement the skills learned to achieve future goals. To reiterate, however, it has been described anecdotally and demonstrated empirically that this might not be the case for every individual. That is, individuals who do not anticipate future goals, in effect, might perceive their present actions as less valuable or instrumental. This is problematic because evidence supports the importance of perceived instrumentality of present behavior for valued future goals. Specifically, instrumentality has been shown to influence self-regulation (Husman & Lens, 1997), cognitive engagement (Brickman, Miller, & Roedel, 1997), and educational achievement (Husman & Lens, 1999).

In addition, other researchers in the field of educational psychology (DeVolder & Lens, 1982; Eccles & Wigfield 2002; Moreas & Lens, 1991) have used this reasoning and have predicted that students who understand the value of future goals (i.e. valence) would be more motivated to carry out their present tasks, put more effort into them, and perform better on subsequent tests. In evaluating the relationship between valence and instrumentality and motivation, DeVolder and Lens found that more motivated high school students attached

more value to goals in the distant future and attached more instrumental value to their schoolwork as a means to reach those goals than less motivated students. More recently, Lens (2001) found positive relationships among valence, perceived instrumentality, and student motivation. That is, students more aware of the importance of schoolwork and related tasks for later life were more motivated.

Given the empirical evidence for future time perspective for students in secondary education, it is equally plausible to suggest that future time perspective might be related to students' occupational goals, which has yet to be demonstrated. I proposed that future time perspective will be associated with career development. Specifically, valence (valuing future goals) and instrumentality (importance placed on the connection between present tasks and future goals) will be associated with career-decision-making self-efficacy and career indecision. Before proceeding, however, it is important to explore the ways in which future time perspective is theoretically and conceptually more appropriate than other theoretical frameworks, mainly outcome expectancy and goal theory.

Future Time Perspective versus Outcome Expectancy, and Goal Theory

The concept of outcome expectancies is the belief that present actions will lead to a specific outcomes (Pajares, 1996). In essence, this notion focuses on the way in which individuals look at present behavior. Bandura (1986) more specifically defined the notion of outcome expectations as a person's beliefs about the probable outcome of a particular action. He argued that individuals' actions

are dependent upon their judgments of what they can do (self-efficacy beliefs), as well as on their beliefs about the probable outcomes that may follow (outcome expectations). Social cognitive career theorists suggest that outcome expectations are important determinants of career interests and choice goals. This theory hypothesizes that individuals will have stronger interests in activities and occupations and will tend to choose activities and occupations for which they perceive positive outcome (Betz & Voyten, 1997; Fouad, Smith & Enochs, 1997).

There are two differences, however, that are associated with outcome expectations. First, there has not seemed to be consistent agreement on how to measure outcome expectations because previous researchers (Fouad, Smith & Enochs, 1997; Gore & Leuwerke, 2000; Lent et al., 2008) have tailored them to specific occupations (e.g. engineering, physics, chemistry). Although this approach seems to have served its purpose in the studies mentioned above, for the current study, it is important for individuals to think about outcomes and beliefs about their abilities and about the process by which those outcomes can be achieved. Further, in the context of the present study, I place a general emphasis on key features within the process of career development and not on specific occupations. Second, outcome expectations focus on the future but they do not assess nor do they incorporate how individuals value the instrumental tasks they are presently carrying out in order to achieve desired outcomes. As previously suggested, outcome expectancies only seem to focus on the end result and beliefs regarding their present abilities; yet, they do not necessarily emphasize the importance of both the end goal and perceived value and instrumental means to

obtain such a result. Thus, I used an alternative theoretical framework that assesses some of the reasons why individuals are motivated to pursue future goals. Future time perspective theorists emphasize the importance of valuing future outcomes (valence) and the requisite tasks individuals carry out in order to better attain their future goals (instrumentality).

Another theory that has been associated with motivation and positive outcomes is goal theory. Goals are often thought to represent somewhat stable orientations that individuals develop and use in achievement situations. These goals are categorized in two areas: task involvement/mastery goals and performance/ego goals (Ames, 1992; Ames & Archer, 1988). Tasks or mastery goals refer to a student's way of developing confidence by acquiring knowledge and skills. In contrast, a performance or ego goal focuses on an individual's ability and sense of self-worth. In effect, ability is evidenced by doing better than or "surpassing normative-based standards" (Ames, 1992, p. 262). It is not surprising then that researchers have used both the mastery and ego task goal constructs as motivating factors in their theoretical framework.

However, there is an important distinction that must be made between goal theory and future time perspective. First, goal theorists tend to focus on the development of individuals' present tasks (Simons, Dewitte, & Lens, 2004). In goal theory, the future does not play an important role. If the future is incorporated, it tends to be limited to immediate outcomes such as an upcoming test (Simons et al., 2004). In other words, goal theorists tend to focus on the value of tasks that have immediate outcomes, while future time perspective theorists not

only emphasize the importance of present tasks but also the value of what is learned for the distal future (Eccles & Wigfield, 1995; Husman & Lens, 1999; Lens, & Rand, 1997). In essence, goal theorists do not emphasize the connection between the present and the distal future, only the present. Therefore, using future time perspective makes more conceptual sense with regard to examining motivation as it incorporates both instrumentality (valuing present tasks)and valence (future goals for students pursuing occupations).

Future Time Perspective and Career Decision-Making Self-Efficacy

A plethora of research has concentrated on understanding how people's motivations are represented and how these representations impact thoughts, feelings, and actions (Little, 1983). Theorists have endeavored to link self representations to behavior. Social cognitive researchers, for example, speculated that individuals' self-efficacy (i.e., one's perception of his or her ability to perform given tasks) positively influences their performance (Bandura, 1986; Lent, Brown, & Hackett, 1994; Lent et al., 2000). This is of particular importance for individuals who are deciding on a career.

According to Betz, Klein, and Taylor (1996), career decision self-efficacy is defined as having confidence to make decisions based upon one's self-concept, goals, and career options. This, posited Stringer and Kerpelman (2010), requires individuals to give accurate self-appraisals regarding their abilities and strengths, planning, and gathering information. In the current study, I proposed that there is a positive relationship between how people value future goals and how they value their present-task behavior with respect to their career decision self-efficacy. This

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was expected because students who tend to be more future-oriented may not only be more focused on what they want in the future (valence), but they may also have taken necessary steps to achieve their desired occupational outcome (instrumentality). As a result, they more confident in their ability to make decisions and persist longer on relevant current tasks relative to those decisions (Markus, 1983; Markus, Cross, & Wurf, 1990; Markus & Wurf, 1987).

Future Time Perspective and Career Indecision

As previously noted, Saunders and Fogarty (2001) postulated that students deciding on an occupation involves the pursuit of benefits to be obtained in the future. This has great potential to be a daunting process, because for some individuals, career decisions have long-term consequences, as they can commit a student to various career choices (some of which might involve long periods of education and training before becoming employed; e.g., psychologists or medical doctor) (Creed, Patton, & Prideaux, 2006; Steven et al., 2011). Moreover, Brown et al. (2011) suggested that those who experience a lack of commitment might tend not to report high goal-directedness or planning skills.

Although this does appear to be intimidating, Crites (1978) and Savickas, Siling, and Schwartz (1984) posit that people's ability to think in terms of time perspective -looking beyond immediate tasks and obstacles- is a good indicator of level of career indecision. Thus, I proposed an inverse relation between the components of future time perspective and career indecision. Specifically, I hypothesized that individuals attributing importance to the future (valence) and taking steps presently in order to achieve future goals (instrumentality) will report

less levels of unpreparedness, uncertainty and anxiety about being committed to a career because they might have a better of idea what career they want to pursue. This is particularly important for college students who, according to Hesketh (2000), tend to seek immediate gratification and who tend to spend more time focusing on personal development and leisure activities than on career choices (Peetsma, Hascher, van de Veen, & Roede, 2005). Orienting oneself to the future by placing more importance on future goals and planning for them might play a fundamental role in his or her career development process (Simons et al., 2004; Tracey & Darcey, 2002).

Given this backdrop, the purpose of this study was to test the applicability of the theoretically proposed motivational properties of future time perspective with university students. This study was different from other research given that: a) the focus of future time perspective has largely been on examining academic motivation; and b) the extant literature has primarily targeted high school students. Thus, I evaluated the relation between future time perspective factors and several career-related variables. More specifically, I evaluated the relations between valence (i.e., how much importance is attributed to attainable future goals) and instrumentality (how much importance is place on present-task behaviors related to future goals), and career decision-making self-efficacy, choice/commitment anxiety and lack of readiness. Figure 1 depicts the hypothesized model.
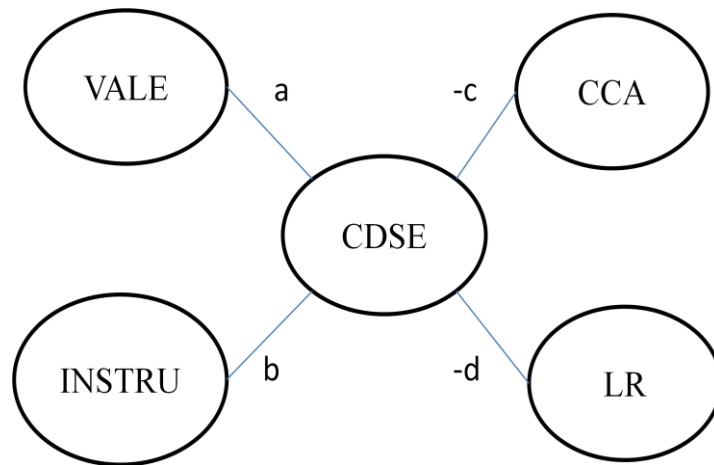
Figure 1. Presentation of hypothesized model of relations between valence (VALE) and instrumentality (INSTRU), and career decision-making self-efficacy (CDSE) and choice/commitment anxiety (CCA) and lack of readiness (LR). (-) Signifies an inverse relation between the variables.

I hypothesized that there would be a positive relation between valence and instrumentality and career decision-making self-efficacy. This was expected because those students might have a stronger and clearer view of future goals and, therefore, would be more likely to take requisite steps to meet those goals. Thus, they might feel more confident in their ability to carry out and persist longer on relevant current tasks. Second, valence and instrumentality were hypothesized to be negatively related to choice/commitment anxiety and lack of readiness, because they might have a better of idea of who they are and what they want to become. Results from this study could be relevant for teachers and other career development strategists in that they might better understand and incorporate activities that include the role future time perspective might play in attaining students' desired occupational-outcomes. However, before this can happen, it is

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important to have a more in-depth understanding of each of the examined variables.

Thus, in the following chapter, I explained the historical, theoretical, and empirical nature of future time perspective, career decision-making self-efficacy, and career indecision. I also provided specific hypotheses based on the literature I covered. In chapter three, I provided the methodology (i.e., sample description, data collection instruments, data collection procedures and analyses) used in the current study. Last, the results and discussion from the analyses were explicated in chapters four and five, respectively. In addition, I discussed the limitations and the implications of the present study and presented recommendations for further research.

Chapter 2

A REVIEW OF THE LITERATURE

In this chapter, I provided a literature review of the variables I intended to explore in the present study. Specifically, I included theoretical and empirical content that established a framework for the study. As such, I provided a comprehensive review of the literature on future time perspective, career decision-making self-efficacy, and career indecision. Following the review, I concluded the chapter by providing a summary of the material reviewed, and reiterating the purpose of the current study. Lastly, I listed each of my anticipated research hypotheses as well as testable null and alternative hypotheses.

Future Time Perspective Review

One of the major features of human cognition and behavior is orientation toward future events and outcomes (Nurmi, 1991). Bandura (1986) and Neisser (1976) noted that forethought and anticipation are basic features of human thinking that guide behavior. Though thinking about the future has been stated to be a basic feature, it is a complex, multidimensional, and multi-process phenomenon (Nurmi, 1991). To put it another way, future orientation, according to cognitive psychology (Bandura, 1986; Neisser, 1976) and action theory (Nuttin, 1984), is described as a set of processes: motivation, planning, and evaluation. Motivation refers to the kinds of interests people have in the future. That is, they refer to anticipated future events and objectives (Nuttin, 1984). Because these events are represented as expectations concerning the future, knowledge about the expectations plays an important role in the development of

future-oriented motivation (Nurmi, 1991). The second major process, planning, involves the way in which people plan the realization of interests and goals (Marko & Savickas, 1998; Nurmi, 1991). This is of particular importance because the planning process primarily consists of constructing a strategy, setting subgoals, and finding ways to achieve each subgoal (Nurmi, 1991; Nuttin, 1984). The final process involved in future orientation concerns how individuals evaluate the "realizability of the goals they set and the plans they construct" (Nurmi, 1991 p. 6). That is, individuals must evaluate the extent to which they can control their futures. Nurmi noted three important aspects that account for the development of the aforementioned processes.

The development of future orientation involves a learning process that begins during childhood. However, future orientation primarily develops through social interactions with other people. First, parents and peers, in particular, influence how children and adolescents think and plan for the future. For example, the ways in which parents problem-solve and plan for the future cam influence their children's approach to planning for the future (Nurmi, 1991). Second, early Piagetian research suggested that children develop a sense of history and time, and it continues to develop during their adolescent and young adult years (McInerney& McInerney, 2002; Piaget, 1954). It is also at this time when adolescents begin to formulate abstract ideas about the world and people around them and to think about their own thoughts, i.e., metacognition (Keating, 1980). According to Nurmi, this capability is expected to help these individuals set future goals.

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Third, in a much more global sense, future orientation develops in cultural and institutional contexts. In effect, this means that adolescents are influenced by societal expectations. McInerney (2004) also pointed out similar factors that influence individual's time perspective. He noted that these factors include:

"The complexity of the society in which an individual lives and what the society values (e.g., contributing to the progressive development of the society, preserving the status quo, etc.), perceived opportunities that need to be planned for in a given society, parental influences, technology, spiritually, and many other features of the sociohistorical milieu of individuals" (McInerney, 2004 p. 142).

Given that individuals develop the capability to think about and plan future goals, an issue remains as to how far into the future does time perspective extend and if there are gender and cultural differences. As noted in the previous chapter, the degree to which one is focused on future-oriented goals is strongly dependent on the degree to which she values the present steps to achieve those goals. Simons et al. (2004) argued that there is a strong relationship between future time perspective and the utility of what the person is doing. That is, individuals with longer future time perspective perceive their present behavior as more instrumental in achieving a broad range of short-term and long-term goals and the presence of the perceived value of the present task is higher (McInerney, 2004). Nuttin (1985) hypothesized that "as soon as an individual starts to work for a distant goal, a causal relation is established between the present activity and the goal, so that the degree of reality of that goal object progressively increases" (p.

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29). Researchers Bembenutty and Karabenick (2004) support this theoretical supposition and have added that students with longer future time perspective not only tend to value instrumentality, they are also willing to delay gratification in order to reach future goals. In essence, the authors suggested that students whose time perspective extends to distal future goals have a more elaborated set of goals and perceive greater instrumentality in reaching those goals (Bembenutty & Karabenick, 2004). On the other hand, people with short future time perspective are less able to clarify future goals, and they in-turn see less value in the activities in which they are currently involved.

Valence and Instrumentality

As noted, valence has been described as the importance individuals attribute or place on goals that can attained in the future. Husman and Shell (2008) suggested that valuing the future is one indicator that individuals are oriented to the future. Further, valence represents one's willingness to sacrifice in the present to attain future goals. Previous studies have found that valence was associated with adaptive behavior and positive motivation in primary and secondary academic settings. In other fields of research, valuing the future has been associated with better health. For example, valuing the future has been shown to be related to behavior that might reduce exposure to the HIV virus (Rothspan & Read, 1996). A similar study in which valuing the future was studied found that individuals who endorsed greater valence were more likely to adhere to smoking cessation regulations.

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The cognitive aspect of future time perspective that incorporates "plan fullness" for the future, the tendency to make connections between present activities and future goals and outcomes, as well as a general concern for future consequences, has been described as instrumentality (Husman & Shell, 2008). In essence, instrumentality relates to an individual's understanding of the incentive for present behavior. Raynor (1981) posited that each immediate achievement task in front of a person can be seen as a step in a longer motivational path or series of achievement tasks. Husman, Derryberry, Crowson, and Lomax (2004) provide the following example:

> "For a child wanting to be a doctor, every day at school, all classes taken, and each hospital volunteer opportunity will be steps on the path that determine her success or failure in her goal to become a doctor" (p. 64).

The example above demonstrates the relation between the immediate value a step may have and the value of the long-term goal. Husman et al. (2004) noted that instrumentality provides a much more complete picture to the literature of future time perspective because it not only emphasizes the future but has also helps to illuminate the connection between present actions and future goals. Thus, it appears that although valence (valuing the future) and instrumentality (importance placed on the connection between present tasks and future goals) are conceptually different, the two factors are important in the examination of future time perspective.

Future Time Perspective and Gender

Researchers have examined the role of future time perspective between men and women (Ferrari, Nota, & Soresi, 2010; Greene & DeBacker, 2004; Savickas, Silling, & Schwartz, 1984). For example, early studies reviewed by Green and Debacker supported the stereotypical belief that women and men differed in their academic motivation and life expectations. Women tended to be less competitive about their future ambitions and present tasks associated with those ambitions. According to the authors, these differences between women and men were a reflection of the sociohistorical atmosphere at that time (i.e., during the 1960s and 1970s).

McInerney (2004) noted that even though many of the studies that show sharp differences in perceptions about the future between the sexes are somewhat dated, considerable research continues to show that women, in general, are less competitive and more socially oriented than their male counterparts. Specifically, recent research reveals that men report more hopes and fears about the future in the career domain, whereas women report more socially oriented hopes and fears into the future. Potential reasons for such discrepancies have included age, parenting styles, socioeconomic status, culture, and societal beliefs about raising children. However, Greene and DeBacker (2004) noted that there has been a modicum of research that suggests there is a convergence in achievement motivation. The authors attribute this convergence to a wider variety of goals extended in the future. In the article, they also suggest that patterns in females'

and males' expectations about the future are continuing to evolve beyond the gender-stereotyped activities.

Still, according to McInerney (2004), "gender differences, such as those on extension and density of goals for the future exist and are probably most influenced by the sociocultural climate in which children are raised" (p. 146). Contrary to McInerney's review on gender differences, I agreed with Greene and Debacker's conclusion that expectations regarding the future will continue to evolve beyond gender stereotypes. In a recent study examining future time perspective, Ferrari, Nota, and Soresi (2010) found that women reported higher levels of time perspective than did their male counterparts. In effect, women placed greater focus on choices about the future. Similarly, if the previous statement is indeed true (i.e., the sociocultural environment influences future expectations across gender), then it is equally plausible to suggest that there might be differences in future time perspective across cultures as well.

Future Time Perspective and Culture

As previously noted, gender differences in the way in which men and women perceive future goals may be due to sociocultural influences. McInerney (2004) also suggests that this might in fact be true across cultures. However, many of these cultural differences in future time perspective have been found in schooling. Schooling is an international phenomenon that promotes the world of work (McInerney, 2004). That is, school is generally viewed as a means by which one enters the career domain. If one were to visit schools serving individuals in countries as diverse as Japan, Australia, and Egypt as well as ethnic minorities

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(e.g., Aboriginal Australians, Navajo Native Americans, Maori New Zealanders, etc.) within larger societies, one would notice broad similarities across groups (Ferrari, Nota, & Soresi, 2010; McInerney, 1989; McInerney, 1992; McInerney, McInerney, Bazeley, & Ardington, 1998; Nurmi, 1991; Phalet, Andriseesen, & Lens, 2004). There even seems to be general agreement concerning the importance of schooling as a means to help shape students' future orientation. McInerney (2004) stated that there is a point at which the importance of schooling diverges due to cultural differences. In qualitative studies in which McInerney (1989, 1991) conducted interviews with several indigenous communities, Western schooling was generally criticized for placing an emphasis on the future and individualism. Further, in some collectivist societies, the notions of preparing for one's own future is considered inappropriate or taboo (McInerney & Swisher, 1995).

Moreover, the instrumental value of school might be impacted by social, economic, cultural, and religious factors. For example, in a 5-year longitudinal study of school motivation comparing Native Americans and Whites, McInerney et al., (1998) found differences in motivation, with White students reporting more motivation than the Native American students. The authors suggested the Native American students did not perceive a clear connection between education and future goals. That is, the students did not connect the present instrumental school tasks to future benefits, such as employability. Phalet et al., (2004) postulated that the future may fail to motivate ethnic minorities because there is not a clear association between doing well in school and success in the future, and because

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some minority children may view their future as externally controlled rather than internally driven. In the study mentioned above (McInerney et al., 1998), a number of Native American students did, however, clearly articulate their future goals, that, in effect, guided their current behavior (e.g., taking a college course).

Although the majority of the empirical literature on future time perspective has been emphasized in educational psychology hitherto, career development theory and research (Marko & Savickas, 1998; Matulef, Warman, & Brock, 1964) have also suggested that time perspective is an important determinant of behavior. For example, Super (1983) and Crites (1978) both concluded that following initial self-awareness of the fluidity of one's vocational past, present, and future, an individual can then develop career involvement in the form of planful attitudes toward the future. Specifically, Savickas, Silling, and Schwartz (1984) noted that time perspective is an important variable in vocational maturity and career decision-making.

Thus, from these conclusions it seems plausible that the motivational importance of future time perspective has implications for the way in which individuals think about themselves, plan, and make occupational choices. As such, I hypothesized that future time perspective would be positively associated with career decision-making self-efficacy and negatively associated with career indecision.

Career Decision-Making Self-Efficacy

As previously noted in the first chapter, the theory of self-efficacy is primarily defined as a specific type of expectancy concerned with one's perception or belief in one's ability to perform a specific behavior (or set of behaviors) required to produce an outcome (Bandura, 1977). Bandura (1989) later expanded this definition to refer to people's beliefs about their capabilities not only to exercise control over events that might affect their lives but also to "mobilize the motivation, cognitive resources, and courses of action needed to exercise control over task demands" (Bandura, p. 1175). In more specific terms, self-efficacy involves three dimensions: 1) magnitude; 2) strength; and 3) generality. Magnitude refers to the degree to which a person believes he or she can perform successfully at varying levels of difficulty. Strength refers to "the resoluteness of a person's convictions that he or she can perform a behavior in question" (Maddux, 1995, p. 9). Generality of self-efficacy refers to the extent to which success or failure enhances or lowers self-efficacy expectancies (Maddux, 1995). As such, self-efficacy judgments do not emphasize the skills one has but the judgments of what one can do with the skills one possesses (Bandura, 1986; Maddux, 1995).

According to Bandura (1987), individuals process and weigh several different sources of information concerning their capabilities and they regulate their choice behavior accordingly. The information one receives from varied sources influences the way in which individuals pursue goals. Individuals with low self-efficacy expectations regarding their behavior might limit the extent to

which they participate in an endeavor and, thereby, may be more inclined to give up more quickly. Their efficacy beliefs, then, serve as an impasse to their career development. Hackett and Betz (1991), for example, found that low self-efficacy beliefs of women might account for the limited and disadvantaged position women have in the work force as well as for the limited range of career options present to them. Inherent in the concept of self-efficacy is the question of how these beliefs came to be. Fortunately, Bandura (1977) proposes the idea that there are notable contributors to one's self-efficacy beliefs.

In his proposal, Bandura (1977; 1986) identified six primary sources of self-efficacy: 1) performance or enhancement experiences; 2) vicarious experiences; 3) imaginal experiences; 4) verbal persuasions; 5) physiological arousal; and 6) emotional states. Performance experiences, according to Bandura (1977), are the most influential sources of self-efficacy information. Brown (1999) noted that the way in which accomplishments are achieved directly influences a person's self-efficacy expectations and actions. That is, success at any particular task or behavior strengthens self-efficacy expectancies for that task, whereas failure in a specific or set of task diminishes self-efficacy expectancy. For example, a person who has attempted to quit smoking for a day but failed will doubt his or her ability to quit in the future; conversely, the individual who was successful in the past may hold strong self-efficacy expectancies for abstaining for an additional day or week (Maddux, 1995). Another example, more appropriate to the subject at hand, involves the classroom. Individuals who receive poor grades and other assessments of ability might have lower self-

efficacy beliefs. However, Swanson and Woikek (1997) argued that the degree to which such experiences reinforce or promote low levels of self-efficacy depends on the individual's own beliefs that obstacles can be overcome.

The second primary source, vicarious learning, strengthens self-efficacy expectancy when one observes (i.e. imitates, models) the behaviors of others, sees the consequences, and makes judgments about likely outcomes concerning their own behaviors (Maddux, 1995). In observing the behavior of others, the onlooker is able to reflect on his or her own past experiences with such behavior and make meaning of its relevance in a new situation (Brown, 1999). It is important to note that the more similarities the observer perceives between himself/herself and the model, the stronger the effect the vicarious experiences will have on him/her.

Third, imaginal experiences involve people's capability to generate self-efficacy beliefs by imagining themselves or others behaving effectively or ineffectively in future situations (Bandura, 1977; 1986). Maddux (1995) noted, however, that "imagining oneself performing successfully or unsuccessfully is not likely to have as strong an influence on self-efficacy as an actual success or failure experience" (p. 25).

Fourth, verbal persuasion, albeit a less influential source of self-efficacy, pertains to the extent to which individuals are influenced by others. The degree to which one may be influenced by others depends upon the trustworthiness, attractiveness, and expertness of the source (Maddux, 1995; Petty & Cacioppo, 1981). Therefore, families, friends, and teachers have the potential to inadvertently (or perhaps overtly) limit the educational and vocational progression

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of their students by failing to encourage or by discouraging certain occupational interests, choices, and engagement (Brown, 1999). The fifth primary resource is physiological states. Physiological states, according to Maddux (1995), influence people's self-efficacy when they associate certain physiological reactions with unsuccessful behavior performance. Caine and Caine (1990) noted, "The brain learns optimally when appropriately challenged, but downshifts under perceived threat" (p. 68).

Thus, when individuals experience unpleasant arousals they tend to doubt their abilities to carry out tasks. The final primary source of self-efficacy, emotional states, is similar to individuals' physiological states in that they provide additional cues about self-efficacy. For example, people who exude more positive affect and less depression and anxiety tend to be more self-efficacious (Maddux, 1995). All six of these sources impact people in different aspects of their lives, such as their relationships, their education (i.e., academic achievement), and their choice of an occupation or career. However, several years passed before Bandura's theory was applied.

In the interim, trait and factor theories (e.g. Dawis & Lofquist, 1984) emphasized congruence between job requirements and personal characteristics (e.g. interests, abilities, and personality) in the prediction of job choice and satisfaction. Though these perspectives have been subsequently updated, Hackett and Lent (1992) and others argue that those theories remain limited in their ability to capture the process involved in choosing a career (Hackett & Betz, 1995). Other theories were applied to fill in the gap (e.g., Krumboltz's theory of social

learning 1975), but they lacked "theoretical advances from current cognitive theories, especially Bandura's (1977) self-efficacy theory" (Hackett & Betz, 1995, p. 250). Hackett and Betz (1981) incorporated the social cognitive theory and proposed various ways in which self-efficacy theory could add to career self-efficacy. Shortly thereafter, Taylor and Betz (1983) conducted one of the initial studies specifically designed to apply self-efficacy theory to the understanding of career indecision. In reviewing the empirical status of the career self-efficacy construct, researchers have stated that the construct of self-efficacy is useful in that it helps individuals to understand vocational behavior as a career and college major choice (Lent & Hackett, 1987), and helps career psychologists facilitate career development (Betz & Hackett, 1986; Osipow, 1986).

Though most of the above-mentioned research on career self-efficacy focused on women's career development in particular, it was quickly applied to both men and women. Initially, this research emphasized efficacy judgments concerning specific occupations, termed career-related self-efficacy; but, subsequent researchers used this as an umbrella term to incorporate a "variety of career-related tasks, decisions, behaviors, and adjustment processes" (Hackett & Betz, 1995, p. 251). In order to have additional specificity, Betz and Hackett (1995) differentiated the uses of self-efficacy theory with reference to career choice content and career choice process. Career choice content refers to content domains (e.g., math, reading, science), while career choice process refers to behaviors important to vocational choice, such as assertiveness and career decision-making self-efficacy (Betz & Luzzo, 1996). For purposes of this study,

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however, I focused on career choice process which manifests itself in career decision-making self-efficacy.

As mentioned in the previous chapter, career decision-making self-efficacy is defined as having confidence in oneself to make decisions about a career on the basis of information gathered about the self, goals, and career options (Betz, Klein, & Taylor, 1996). Betz et al. developed their theoretical concept (based on Crites's (1978) model of career maturity) to include the following dimensions: a) accurate self-appraisal (i.e., being realistic about one's skills, abilities and strengths); b) problem solving (i.e., ability to deal with problems related to career decisions); c) making plans for the future (i.e., securing a plan for ways to reach career goals); d) goal selection (i.e., having goals); and e) gathering occupational information (i.e., seeking pertinent information about potential occupations) (Betz & Luzzo, 1996; Stringer & Kerpelman, 2010).

According to Betz et al. (1996), these dimensions are important for making career decisions because they require individuals to explore themselves and the careers available to them. Inherent in the theoretical concept of career decision making is one's propensity to look toward the future. That is, the notion of career decision making includes time perspective as an implicit variable in "expectancy, anticipation, estimation, or subjective probability of future success" (Marko & Savickas, 1998, p. 259). Therefore, in the current study, I proposed that future time perspective would have a positive association with career decision-making self-efficacy. Specifically, I proposed that there would be a positive relationship between importance placed on future goals (valence) and present

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tasks (instrumentality) and career decision self-efficacy, because students who tend to be more future-oriented may have more focus on what they want and might be taking necessary steps to achieve their desired occupational outcome.

Career Indecision

The concept of career indecision has occupied a central position in theoretical and empirical research on career choice and development (Slaney, 1988). Ginzberg's theory is thought to be one of the first approaches to career development (Ginzberg, Ginsburg, Axelrad, & Herma, 1951). He noted that the development process of vocational choice has three distinct periods: fantasy, tentative, and realistic. A major characteristic of the fantasy period is the lack of realism in an individual's vocational choices. The tentative period is divided into four categories: interest, capacity, value, and transition. The interest stage refers to the stage during which individuals make definite decisions concerning likes and dislikes. The capacity stage refers to the stage in which individuals begin to juxtapose the relation between their skills and their occupational interests. The third stage, value, concerns the time at which individuals recognize the importance of values and goals in choosing an occupation. During the final stage, transition, individual begin to place an emphasis on the responsibilities accompanying a vocational choice as opposed to only the interests, skills, and values.

The realistic period is divided into three stages: exploration, crystallization, and specification. During the exploration stage, an individual tries to obtain information and experience new things that, in effect, support the

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occupational choice process. Throughout the crystallization stage, the individual

decides on a specific vocational choice. The final stage, specification, refers to

making the decision to select a job or professional training in preparation for a

specific career (Zunker, 2002). Ginzberg (1984) later postulated that the

vocational choice is a lifelong process for individuals, which can be vexing. This

is particularly true for young adults trying to decide on a career.

     As previously noted, not all young people make career decisions easily.

Young adults beginning to think about their futures can feel undecided about how

to proceed (Ferrari, Nota, & Soresi, 2010). This dynamic is not uncommon. In

fact, career indecision is a developmentally appropriate experience that may

fluctuate depending on the situation (Creed, Patton, & Prideaux, 2006). In this

respect, career indecision is different from indecisiveness. Over the years,

researchers have debated the issue of whether or not career indecision was a

personality characteristic (Tyler 1961; Goodstein, 1965; Crites, 1969). However,

a number of studies and theoretical papers have hypothesized that there are two

general types of problems that occur in deciding on a career choice. As just noted,

the first is normal or developmental career indecision, which over time or in

response to information or appropriated interventions is resolved (Slaney, 1988).

The second problem has been called indecisiveness and is generally referred to as

being more difficult to treat and is longer lasting (Slaney, 1988). Crites (1969)

wrote:

     "Indecision is specific to vocational choice and can usually be resolved by

     changing the conditions for decision making, i.e., information about

choice supply, incentive to choose, and freedom to choose, whereas indecisiveness is a more generalized personality attribute and persists even when the conditions for choice are optimal" (p. 576).

More recent literature has also distinguished between developmental indecision, which refers to a normal phase in development, and chronic or generalized indecision (i.e., persistent difficulty in making decisions in various aspects of life) (Betz, 1992; Nota & Soresi, 2004). Nevertheless, career indecision is a multidimensional construct that continues to be an issue for both high school and college students (Newman, Gray, & Fuqua, 1999; Patton & Creed, 2001). In fact, some authors have estimated that more than 50% of college students experience indecision (Gianakos, 1999). Creed, Patton, and Prideaux (2006) reviewed several studies and found a number of variables that have attributed to career indecision which include the following: age and gender (Patton & Creed, 2001), career maturity (Rojewski, 1994), decision-making style (Mau, 1995), career barriers (Patton, Creed, & Watson, 2003), self-efficacy beliefs (Betz & Luzzo, 1996), identity status (Stringer & Kerpelman, 2010; Vondracek, Schulenberg, Skorikov, Gillespie, & Wahlheim, 1995), knowledge of one's self (i.e., interests, aspirations, talents, etc.) and the occupation of which one is in pursuit (Gati & Saka, 2001), and the structure of thinking about careers (Tracey & Darcey, 2002).

Creed's et al. (2006) review of research has also noted that there are personal and interpersonal variables that are associated with career indecision which include negative affect (Multon & Lapan, 1995), fear of success (Staley,

1996), low self-esteem (Germeijs & DeBoeck, 2002), poor self-awareness, anxiety (Wanberg & Muchinsky, 1992), and poor social skills (Nota & Soresi, 2003).

Similarly, Ferrari, Nota, and Soresi (2010) noted that indecision about one's future is connected to "immature attitudes, unstable career goals and lack of motivation to make or commit to a vocational choice" (p. 63). The authors (and other researchers) posit that young people's career choices have become very difficult due to the greater number of career opportunities, the uncertainty of the job market (Ferrari et al., 2010; Gati & Asher, 2001; Savickas, 2005), poor problem-solving abilities, and the lack of or negative attitudes about future choices. It can also be reasonably aruged that these challenges may, in part, be in relation to one's lack of time perspective. In Ferrari's et al. study that examined time perspective in high school students, they found time perspective was negatively associated with career indecision, such that those students who reported higher levels of time perspective also showed lower levels of career indecision.

Career Indecision Profile

The findings above present compelling arguments that time perspective influences career indecision; however, the majority of studies used the Career Decision Scale (CDS; Osipow, 1980). Though the career decision scale has been extensively used in previous research, it is limited in its overall scope of career indecision (Brown & Rector, 2008). The authors suggest career indecision is not unidimensional. Further, the career decision scale, along with other measures of

career indecision (Career Decision Profile; Jones, 1989; Career Decision Difficulties Questionnaire; Gati, Krausz, & Osipow, 1996), might represent higher-order factors (i.e., latent variables) that might account for a substantial amount of covariation among these measured variables. Brown et al. (2011) argued that "if a few higher-order constructs could be uncovered via factor analysis, these might provide a comprehensive, theoretically, meaningful, and clinically useful taxonomy of career decision-making difficulties" (p. 19).

As such, Brown et al. (2008, 2011) conducted several factor-analytic studies and found a four factor model of career indecision: neuroticism/negative affectivity, choice/commitment anxiety, lack of readiness/immaturity, and interpersonal conflict. The first factor, neuroticism/negative affectivity, represents neuroticism as trait, such that individuals scoring high on this scale would tend to have a negative view of the world around them (e.g., being dissatisfied with the majority of options available to them).

Choice/commitment anxiety is a second factor that has been described as one's inability to commit to a decision due to having a multiplicity of available options or to not having a sufficient amount of information that would permit one to make a confident decision. The third factor, lack of readiness/immaturity, is referred to as a genuine lack of planfulness and goal directedness. The final factor is interpersonal conflict, which has been described as one's experience with external barriers and conflict with significant others. Thus, given that Brown's et al. (2008, 2011) four-factor demonstrates a more representative construct of career indecision, I examined this model in the current study.

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Specifically, I hypothesized that there would be a negative relation between valence and instrumentality and career indecision. In effect, I proposed the notion that individuals, who report more importance of future goals (i.e., valence) and more importance on the relation between present tasks and future goals (i.e., instrumentality), will also report less choice/commitment anxiety and lack of readiness.

While neuroticism/negative affectivity and family are important features of career indecision, the former places emphasis on chronic indecision which, as previously noted, is trait specific. In the current study, specific attention is not given to potential traits of one's personality; it is given to the way in which one might be affected if one does not endorse the value of thinking about attainable future goals and making meaningful preparations for it. Interpersonal conflict is also important in that it relies heavily upon conflict an individual might experience with significant others. For simplicity, however, emphasis was not placed on external aspects of career indecision. Further, I was primarily focused on how one's thinking affects behavior, not potential barriers such as familial conflict or discrimination (Brown, et al. 2011). Thus, I hypothesized that individuals who understand the importance of future goals and present-task behaviors would experience less anxiety about the career choices and would also be better prepared to make informed decisions. That is, individuals would report more anxiety, lack of commitment and lack of readiness about their career-related decisions if they do not value goals attainable in the future and are not taking requisite steps to achieve those goals.

Summary

As noted, researchers in educational psychology have shown that the concept of future time perspective is a critical component in student motivation. Future time perspective, according to Husman and Lens (1999) and others (Leondari, 2007; Savickas, 1991a; Savickas, 1998; Shell & Husman, 2008; Zimbardo & Boyd, 1999), is described as an individual's mental presentation of the future. It is learned and developed throughout one's life-span within immediate and external socio-environmental interactions (parents, peers, and societal norms). Within the construct of future time perspective, there are two critical features that assist in motivation towards future goals: valence and instrumentality. Valence was defined as the importance people place on future goals. Instrumentality has been the described as the degree to which an individual sees the importance of present activities. Further, the individual sees the present activities as a means to an end. Thus, I postulated that future time perspective (valence and instrumentality) might have interesting implications for certain variables generally examined within the realm of career development. These variables include career decision-making self-efficacy, choice/commitment anxiety and lack of readiness.

Purpose of Study

Although there has been a plethora of research on the role of future time perspective in academic achievement, the relationship between future time perspective and career development. In addition, much of the empirical literature has focused on students in secondary education. Therefore, the purpose of the

present study was to examine the relation between two factors of future time perspective and key features in the process of career development among college students.

Given the time and nature of how future time perspective develops (i.e., parental and peer influences, and cognitive development), I proposed, conceptually, a structural relation between the component of future time perspective and career decision-making self-efficacy and career indecision. That is, valence (i.e., individual endorsement of valuing the future) would lead to an increase in career decision-making self-efficacy (path a), because the value one places on future goals might motivate individuals to work on skills, thereby increasing their self-efficacy. Also, instrumentality (i.e., importance placed on taking steps to reach future goals) would lead to an increase in career decision-making self-efficacy (path b) because individuals might have already taken necessary steps (thereby building a sense of confidence in their abilities to make career decisions in the process) to achieve their desired occupational outcome. As previously noted, being confident about making career decisions is important because it requires individuals to explore themselves and the attainable careers available to them (Betz et al., 1996).

Therefore, it would follow that emphasis placed on exploring the self, future career goals and the tasks required to meet those goals, would be key features that lead to a sense of confidence in making career-related decisions. Consequently, career decision-making self-efficacy was expected to mediate the relationship between valence and instrumentality and choice/commitment anxiety

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and lack of readiness, respectively. The relations between valence and instrumentality and career decision-making self-efficacy would in effect lead to a decrease in anxiety commitment and a sense of lack of readiness (paths c and d) because people's beliefs in their capacity to manage and carry out tasks associated with successful career choices would more likely contribute to less anxiety and feelings of being unprepared. More importantly, feelings of being unprepared would be assuaged because one's self-efficacy in making career decisions specifically involves an individual having confidence in one's ability to plan and gather career-related information. (See Figure 1 below).
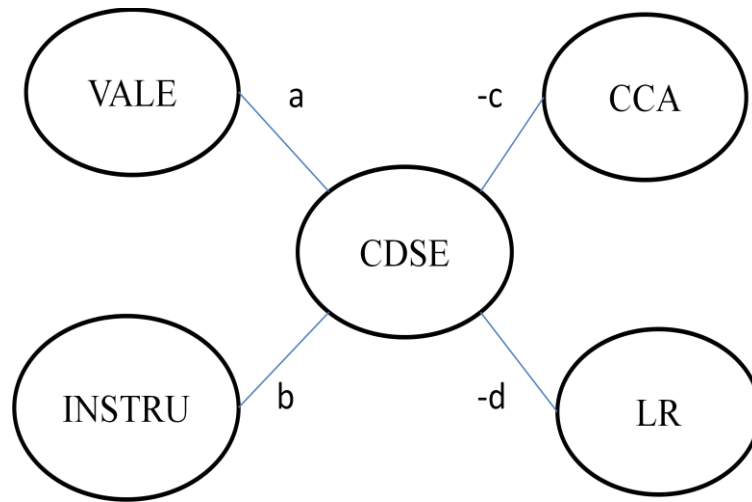
Figure 1. Presentation of hypothesized model of relations between valence (VALE) and instrumentality (INSTRU), and career decision-making self-efficacy (CDSE) and choice/commitment anxiety (CCA) and lack of readiness (LR). (-) Signifies an inverse relation between the variables.

As noted, previous findings have been mixed when future time perspective was examined across gender. However, the most recent finding suggests that women might be more future-oriented than men (Ferrari, Nota, & Soresi, 2010). As such, I hypothesized that there would be differences between men and women.

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Specifically, women were hypothesized to report more valence (valuing the future) and instrumentality (placing importance the relation between present behavior and future goals) than were men.

Finally, in order to provide adequate support for my hypothesized model, there was an alternative model against which my model was compared. This alternative model postulates career decision-making self-efficacy predicts valence and instrumentality, which in turn, would predict less choice/commitment anxiety and less lack of readiness. To my knowledge there have not been any theoretical or empirical studies that support this model; however, it can be argued, from a conceptual stand point, that individuals are only able to look toward attaining future goals when they feel self-efficacious about making career decisions. Specifically, before individuals ruminate about pursuing the goals in the future, it might be important for them to reflect on what they have accomplished thus far. It is only when career decision-making self-efficacy is considered can people focus on valence and instrumentality (paths a and b), which would subsequently lead to lower choice/commitment anxiety and lack of readiness (paths c, d, e, and f, respectively). (See Figure 2).
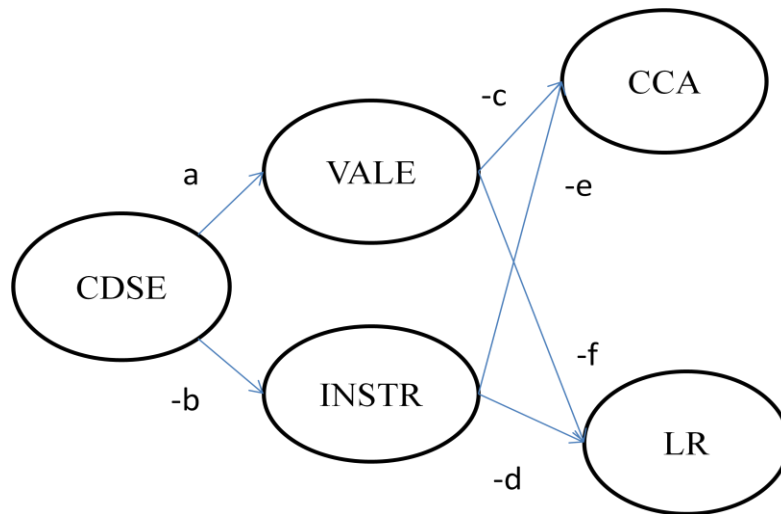
Figure 2. Presentation of alternative structural model of relations between career decision-making self-efficacy (CDSE), and valence (VALE) and instrumentality (INSTRU), and choice/commitment anxiety (CCA) and lack of readiness (LR). (-) Signifies an inverse relation between the variables.

Chapter 3

METHODOLOGY

Participants

The current sample was comprised of 218 university students enrolled at a large state school in the southwest U.S. Of the total sample, 107 (49%) were women (mean age 19.55, SD=1.40) and 111 (51%) were men (mean age 19.70, SD=2.10). There were 136 (62.4%) White, 37 (17%) Hispanic, 15 (6.9%) African American, 13 (6%) Asian American/Pacific Islander, and 17 (7.8%) Multi-racial students. There were 59 (27.1%) Freshmen, 61 (28%) Sophomores, 67 (30.7%) Juniors, and 31 (14.2%) Seniors.

Procedures

Data were collected using hardcopy and online forms of the questionnaire that took approximately 15 minutes to complete. Undergraduate students from Arizona State University were recruited to participate in the study. After receiving permission from instructors teaching career development courses, I distributed hardcopies of the questionnaire to students in each class. In order to increase my sample size, I provided an online version of my study for students enrolled in online career development courses. Two hundred and eighteen (87%) of the 250 students I invited to participate in the study completed the questionnaire. Of the total sample, 161 (74%) of the students completed the survey in class while and 57 (26%) participants completed the questionnaire online. A letter of informed consent was attached to each student's packet that gave a brief description of the study which included the following: 1) assured

individuals that their participation was voluntary; 2) that all results were anonymous; and 3) that they could withdraw from the study at anytime. As a reward, participants were given extra course credit for their participation. There was only 5% (11 people) of missing data.

Measures

  Sociodemographic. This questionnaire gathered an array of demographic data, which include ethnicity, age, sex, and GPA. Scaling varied across questions. (A copy of the Social Demographics measure is included in Appendix A)

  Future Time Perspective (FTP' Shell, 1985). The Future time perspective scale was developed to measure the extent to which individuals are future-oriented. The 27-item measure consists of four subscales: Instrumentality (12 items), Valence (7 items), Speed (3 items), and Extension (5 items). The 7-item Valence subscale was included in the study because it measured the degree to which individual value future goals (e.g., "The most important thing in life is how one feels in the long run"). The instrumentality subscale was used because it is the only subscale that measured the way in which individuals think about the importance of and the relation between present behavior and future consequences. The FTP instrumentality scale consisted of 12 questions that assessed the contingent or instrumental relationship between current behavior and future goal attainment (e.g., One should be taking steps today to help realize future goals). For both subscales, participants were asked to indicate their agreement with each question using a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The total score for valence was derived by summing the 7 items to form

scores that ranged from 7 to 35, with higher scores indicating more value for future goals. A total score for instrumentality was derived by summing across the 12 items to form a score that could range from 12 to 60, with higher scores indicating more importance on present tasks. In a previous study (Shell & Husman, 2001), the internal consistency estimates for the valence and instrumentality subscale were .77 and $\alpha = .83$, respectively. Construct validity for the scale was supported by confirmatory factor analysis (Husman, 2008) on 453 university students. Results indicated that the model fit the data well (χ^2 (318, N = 453) 465.45, p < .01, GFI = .93, CFI = .94). In a study examining engineering students (Husman, in press), external validity for the instrumentality subscales was supported through correlations with knowledge building (r = .48). In the present study, the internal consistencies for the valence and instrumentality subscales were .69 and .84. (A copy of the Future Time Perspective measure is included in Appendix B)

Career Decision Self-Efficacy. The short form of the CDSE scale (Betz, Klein, & Taylor, 1996) was designed to measure the most important aspect of students' beliefs regarding career decision making. The measure consists of 25 questions and asks students to rate their confidence in their current ability to complete a task. The scale consists of five subscales: Self-Appraisal (e.g., "Decide what you value most in an occupation"), Occupational Information (e.g., "Find out about the average yearly earning of people in an occupation"), Goal Selection (e.g., "Choose a career that will fit your interests"), Planning (e.g., "Prepare a good resume"), and Problem Solving (e.g., "Persistently work at your

career goal even when you get frustrated"). Students rate their perceived effectiveness on a 5-point Likert scale (1 = *no confidence at all* to 5 = *complete confidence*). Item scores were summed to form a scale ranging from 25 to 125, with higher scores indicating more decision-making efficacy.

The scale is widely used as a unidimensional test and has been found to be highly reliable and to have sufficient evidence for validity (Betz et al., 1996; Creed, Patten, & Watson, 2002) Betz, et al. (1996) and Creed, et al. (2002) reported internal reliability coefficients for the total scores of α =.94 and .93, respectively. Betz et al. (1996) supported external validity through correlations between the CDSE total score and other career-related variables, such as the certainty scale (r = -.68) and the career indecision scale (r = -.63) from Osipow's (1987) career indecision scale. The internal reliability for the current study was .92. (A copy of the Career Decision Self-Efficacy Scale is included in Appendix C)

Career Indecision Profile (CIP; Brown et al., 2011). The CIP is a 65-item scale used to assess career indecision. The scale consists of four subscales, each of which measures a different dimension of career indecision: Neuroticism/Negative Affectivity (21 items), Choice/Commitment Anxiety (24 items), Lack of Readiness/Immaturity (15 items), and Interpersonal Conflict (6 items). Responses are rated on a 6-point Likert-type scale ranging from 1 (*completely disagree*) to 6 (*strongly agree*). For purposes of the current study, the choice/commitment anxiety and lack of readiness subscales were used because they address the degree to which individuals feel unsure about and commitment to

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their occupational choice and one's lack of planning and gathering information about one's occupational pursuits. Total scores for choice/anxiety and lack of readiness were derived by summing across the 24 and 15 items to form scores that could range from 24 to 100 and from 15 to 90, respectively. Higher scores indicated more insecurity and anxiety, and more unpreparedness when making occupational choices. Sample items include: "I am uncomfortable committing myself to a specific career," and "I need a clearer idea about my abilities and talents before I can make a good career decision." Brown et al. conducted a factor analytic study and reported Cronbach's alpha coefficients of .96 and .91 for choice/commitment anxiety and lack of readiness, respectively. External validity for choice/commitment anxiety and lack of readiness/immaturity was supported through a correlation with single self-reported decidedness items, -.38 and -.22, respectively. For the current sample, I reported an internal consistency estimate of $\alpha = .96$ and .92, for choice/commitment anxiety and lack of readiness, respectively. (A copy of the choice/commitment anxiety and lack of readiness subscales from the Career Indecision Profile is included in Appendix D)

Planned Analyses

In order to test the hypothesized model for future time perspective, I used structural equation modeling (SEM) (SPSS Amos, Version 20). SEM was used to test both the relational and meditational effects of future time perspective and career decision-making self-efficacy and career indecision (i.e., anxiety/commitment and lack of readiness).

Analysis of the proposed model followed the two-step procedure recommended by Anderson and Gerbing (1988). The first step is to use confirmatory factor analyses to develop a measurement model with an acceptable fit to the data. Mallinckrodt and Wei (2002) suggest that only after an acceptable measurement model is developed can the structural model be tested. Because the constructs used in this study were represented by only a single measure variable, I followed the recommendations of Little, Cunningham, Shahar, and Widaman (2002) and Russell, Kahn, Spoth, and Altmaier (1998) to create item parcels for latent constructs which addresses low reliability by accounting for measurement error. There would be a least three indicators of each latent variable. This approach in effect provides a "just-identified" measurement of the constructs. For each construct, factor loadings of three or more items were ranked in order of magnitude and then successively assigned pairs of the highest and lowest loadings. This procedure was used to equalize the loadings of each resulting parcel on its respective latent variable. For valence, instrumentality, choice/commitment anxiety, and lack of readiness, three indicator variables were created which lead to just-identified latent variables. For career decision-making self-efficacy five indicator variables were created to be consistent with Betz, Klein, and Taylor's (1996) five theoretically and empirically validated subscales. (See appendices B, C, and D for item parcels and their respective coefficient alphas.)

The maximum-likelihood (ML) estimation method was utilized in order to examine the fit of the model. According to Quintana and Maxwell (1999), the

ML procedures are widely used because they are more robust to situations where the distribution departs from normality. Further, a chi-square test was used as it is the most commonly used goodness-of-index (Quintana & Maxell, 1999). That is, a non-significant test would indicate that the estimated and observed variance-covariance matrices are not reliable; hence, the model fits the data well. However, this index is highly affected by model complexity and sample size so other indices have been added to enable a better assessment of model fit. In addition, the comparative fit index (CFI) was used. CFI compares the hypothesized model over the null model to identify if there was any improvement. CFI varies from 0 to 1; a CFI value close to 1 indicates a very good fit and values above .90 represent acceptable fit (Bentler, 1990). Additionally, root-mean-square error of approximation (RMSEA) was used to test the fit of the model as it is less affected by small sample size than is χ^2. Further, RMSEA values less than .05 indicate a good fit and RMSEA greater than .08 represent errors in approximation (Hu & Bentler, 1999). Lastly, the standardized root-mean-square residual was used as it tests the overall difference between the observed and predicted correlations. Values of SRMR less than .10 are generally considered favorable (Hu & Bentler, 1999).

In order to test whether my model was superior to other competing models, I followed Hoyle and Panter's (1995) recommendations by performing several comparisons between pairs of tested models with chi-square difference tests. To test the magnitude and significance of mediation effects, I followed Shrout and Bolger's (2002) suggestion to use the bootstrapping procedure.

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Following Shout and Bolger's recommendations, I formed 1,000 bootstrap samples from the original data set through random sampling with replacement. I used the SPSS Amos 20 program to re-estimate 1,000 times the path coefficients of my hypothesized model shown in Figure 1. Shout and Boger also recommend that researchers report the 95% confidence interval (CI) for the mean indirect effect. If the CI does not include zero, the indirect effect is considered statistically significant at the .05 level. There are a variety of ways for which missing values are accounted (e.g., listwise deletion). I opted to use the listwise deletion method as there was only 5% (11 people) of missing data.

Chapter 4

RESULTS

Analysis of Measurement Model

Confirmatory factor analysis (CFA) was used to test the measurement model. There were 5 latent factors, each with three or more indicators, in the model (Valence, Instrumentality, Career Decision-Making Self-Efficacy, Choice/Commitment Anxiety, and Lack of Readiness). The following indices of fit suggest that measurement model reached acceptable fit: (χ^2(110, 207) = 189.21, p <.01; CFI = .96, RMSEA = .06; SRMR = .05). Convergent validity was supported for the measures, as factor loading ranged from .41 to .89 (all significant at the p < .01 level). The factor loadings, correlations and means and standard deviations are presented in Table 1. The correlations presented are between latent factors rather than the observed measures in order to correct for measurement error. The magnitude for the correlations ranged from [.10] to [.60] and provided evidence for discriminant validity of the two future perspective measures. Although Valence and Instrumentality were moderately correlated, these variables showed very different relations with choice/commitment anxiety and lack of readiness. Thus, these preliminary CFAs supported the construct validity of the measurement model.

Table 1
Measurement Model Factor Loadings and Intercorrelations Among Valence, Instrumentality, Career Decision-Making Self-Efficacy, Choice/Commitment Anxiety and Lack of Readiness (n=207)

Variable	1	2	3	4	5
V1	.74				
V2	.41				
V3	.67				
I1		.82			
I2		.68			
I3		.78			
CD1			.80		
CD2			.78		
CD3			.80		
CD4			.80		
CD5			.73		
CA1				.89	
CA2				.71	
CA3				.80	
LR1					.77
LR2					.83
LR3					.79

Intercorrelations

	1	2	3	4	5
Valence	1.00				
Instrumentality	.40**	1.00			
Career Decision	-.10	.28**	1.00		
Choice/Com/Anx	-.12	-.20**	-.53	1.00	
Lack of Readiness	-.16*	-.47**	-.60	.35**	1.00
M	23.82	51.34	95.60	80.64	29.40
SD	4.10	6.34	13.99	27.11	10.74

** $p < .01$

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Analysis of Structural Model

        Hypothesized model (HypModel). The structural model specified the hypothesized relations among the latent constructs. As shown in figure 3, valence (VALE) and instrumentality (INSTRU) were hypothesized to be structurally related to career decision-making self-efficacy (CDSE) which in turn would be related to choice/commitment anxiety (CCA) and lack of readiness (LR). For this model, the χ^2 statistic was equal to 219.68, with 114 degrees of freedom, and a p value less than .01. The comparative fit index was equal to .95, which is an acceptable fit for this measure of fit. The root-mean-square error of approximation (RMSEA) was equal to .07, which is also representative of acceptable fit for this measure. The standardized root-mean square residual was equal to .07 which also indicates the structural model is of adequate fit. In sum, these results confirm my hypothesized structural model. The parameter estimates indicated that although valence did not adequately predict career decision-making self-efficacy (-.05, $p <$ .61), instrumentality predicted career decision-making self-efficacy (.40, $p < .01$). Career decision-making self-efficacy mediated the relationship between instrumentality and choice/commitment anxiety (-.60, $p < .01$) and lack of readiness (-72, $p < .01$), respectively. (See Figure3; Results are presented in Table 2).
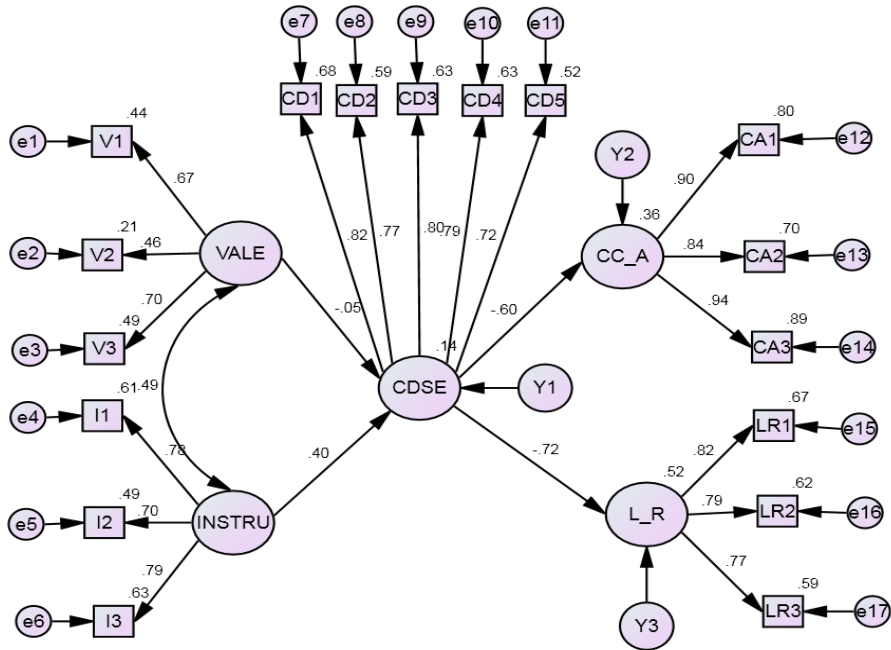
Figure 3. Standardized parameters of the structural model of relations between valence (VALE) and instrumentality (INSTRU), and career decision-making self-efficacy (CSDE), choice/commitment anxiety (CC_A) and lack of readiness (L_R). (-) Signifies an inverse relation between the variables.

Analysis of Career Decision Self-Efficacy Model

A series of nested models were estimated and the models were compared to each other. Table 2 presents the indices of fit for each model and the results of the chi-square difference tests comparing each pair of models sequentially.

The alternative model examined whether career decision-making self-efficacy would predict valence and instrumentality, which in turn would better predict choice/commitment anxiety and lack of readiness. However, the results indicated that it in fact was a poor fit to the data (χ^2(113, 207) = 330.06, $p < .01$; CFI = .88; RMSEA = .10; SRMR = .15). (See Figure 4). Given these findings, I selected my theoretically hypothesized model as the fit was superior. That is, the results of my model support the notion that valence and instrumentality were better predictors of career decision-making self-efficacy, choice/commitment anxiety, and lack of readiness than career decision-making self-efficacy as the main predicting variable.
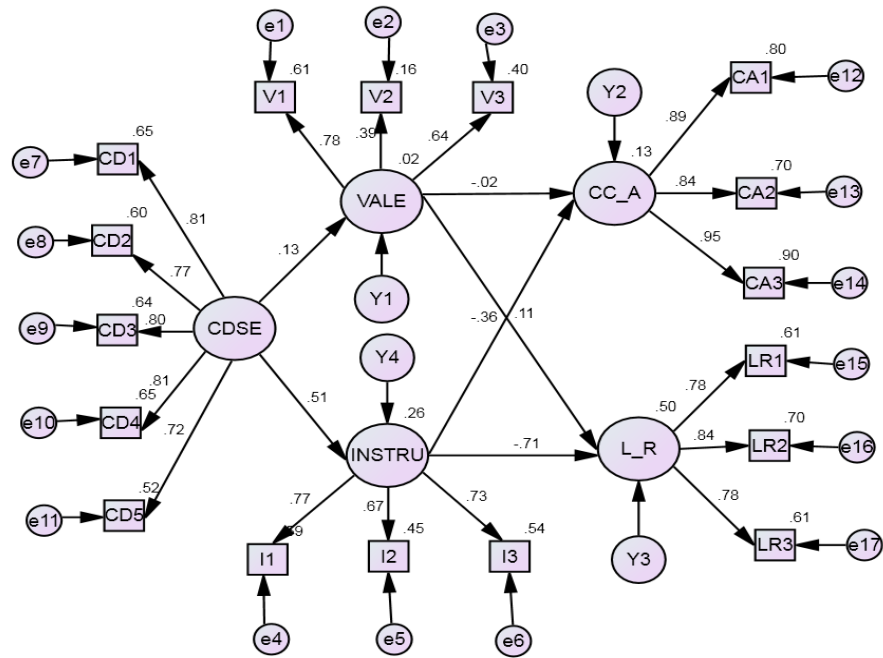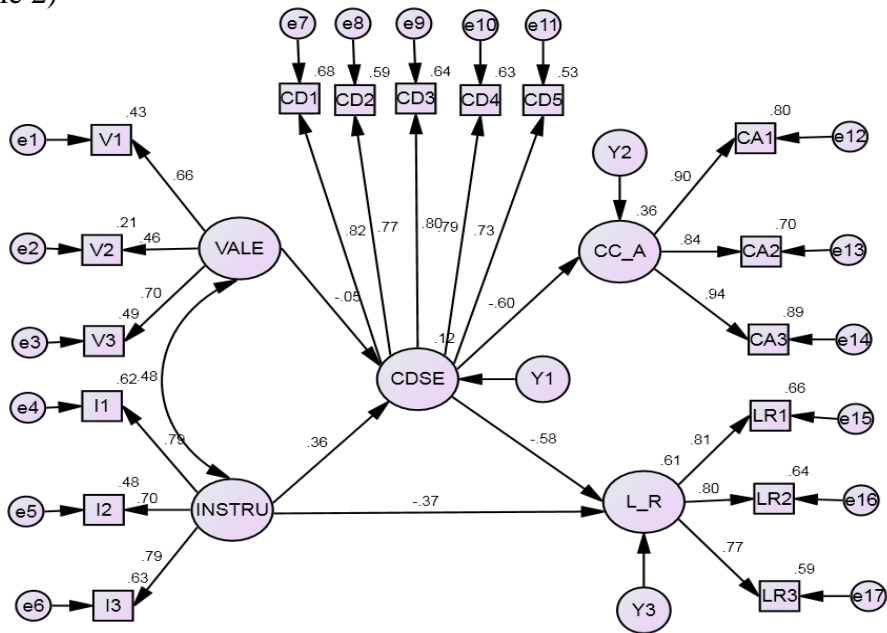
Figure 4. Standardized parameter estimates of the alternative model of relations between career decision-making self-efficacy (CSDE), and valence (VALE) and instrumentality (INSTRU), and, choice/commitment anxiety (CC_A) and lack of readiness (L_R). (-) Signifies an inverse relation between the variables.

Post-Hoc Analyses

I examined the modification indices as post-hoc analyses in order to identify superior models. The modification indices indicated that only one parameter should be added to improve the model. The alternative model (ATL 1) was a version of my hypothesized model but with the direct relation between instrumentality and lack of readiness added. ATL 1 was fit to the data and resulted in the following acceptable indices of fit: $\chi^2(113, 207) = 192$, $p < .01$; CFI $= .96$; RMSEA $= .07$; SRMR $= .06$. There was a significant difference in chi-square between ALT 1 and HypModel ($\chi^2 diff (1,207) = 27.63$, $p < .01$), thus indicating ATL 1 to be a superior fit. (See figure 5 below; results are presented in Table 2)

Figure 5. Standardized parameters of the alternative model of relations between valence (VALE) and instrumentality (INSTRU), and career decision-making self-efficacy (CSDE), choice/commitment anxiety (CC_A) and lack of readiness (L_R). Note that INSTRU is directly related to L_R. (-) Signifies an inverse relation between the variables.

Given these results, I selected ALT 1 as the best model. However, I also wanted to select the model that was most parsimonious. As such, I sought to remove any regression paths there were not significant. In the modified model (ALT 1a), the regression path from valence to career decision-making self-efficacy was deleted. The model was re-estimated with the paths deleted and resulted in the following acceptable indices: $\chi^2(114, 207) = 192.23$, p < .01; CFI = .96; RMSEA = .06; SRMR = .06. There was no significant difference in chi-square between ALT 1 and Alt 1a ($\chi^2 diff$ (1,207) = .23, $p < .63$). Given the lack of difference between the models, I chose this revised model as it is the most parsimonious.

To test the magnitude and significance of mediation effects, I followed Shrout and Bolger's (2002) suggestion to use the bootstrapping procedure. As shown in Figure 6, instrumentality not only directly predicted more CDSE (.33, p < .01), it also predicted less lack of readiness (-.37, $p < .01$), so there was only partial mediation of career decision-making self-efficacy in the instrumentaility and lack of readiness relation (-.58, $p < .01$). This suggested that the regression path from instrumentality to lack of readiness was reduced in-absolute size but was still different from zero when career decision-making self-efficacy was introduced. Individuals who endorsed more importance on the relationship between present tasks and future goals were more likely to be confident in their career decisions and less likely to be unprepared to make career-based decisions. Career decision-making self-efficacy completely mediated the relationship between instrumentality and choice/commitment anxiety (-.60, $p < .01$).

Specifically, instrumenality predicted career decision-making self-efficacy, which in turn resulted in a decrease in choice/commitment anxiety. Thus, my hypothesis that career decision-making self-efficacy would be a significant mediator of the relationship between instrumentality and both choice/commitment anxiety and lack of readiness was supported. Given that valence did not have a path to career decision-making self-efficacy, I tested the mediation of valence through instrumentality for career decision-making self-efficacy, choice/commitment and lack of readiness. Instrumentality completely mediated the relation between valence and career decision-making self-efficacy, choice/commitment anxiety and lack of readiness. All of the loadings from the regression paths were significant. (See Figure 6 and table 3)
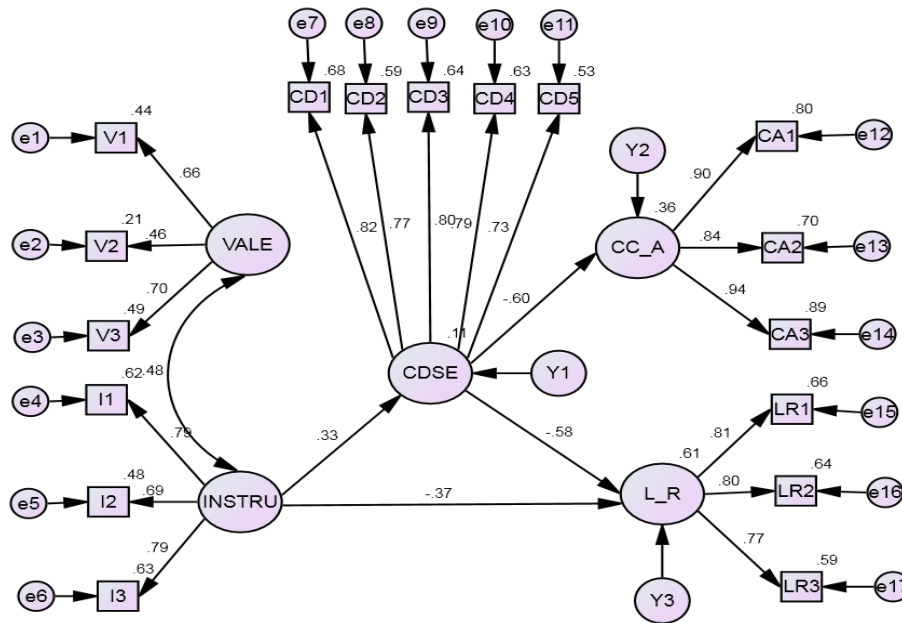

Figure 6. Standardized parameters estimates of the final model (Alt 1a) demonstrates relations between instrumentality (INSTRU), and career decision-making self-efficacy (CSDE), choice/commitment anxiety (CC_A) and lack of readiness (L_R). (-) Signifies an inverse relation between the variables.

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Table 2
Comparison of Nested, Competing Structural Equation Models for Future Time Perspective (n = 207)

Model	χ^2	df	p	CFI	RMSEA	SRMR	χ^2diff
HypModel	219.68	114	.01	.95	.07	.07	Alt1-HypModel = 27.68**
CDSE Model	330.06	113	.01	.88	.10	.15	---
Alt 1	192.00	113	.01	.96	.06	.05	Alt 1-Alt 1a = .23
Alt 1a	192.23	114	.01	.96	.06	.06	---

Note. χ^2 = chi-square; CFI = comparative fit index; RMSEA = root-mean-square error of approximation; SRMR = standard root-mean-square residual; χ^2diff = difference in chi-square log likelihood test. A significant chi-square difference tests indicate a significantly worse fit to the data for the model.*$p < .05$ ** $p < .01$

Table 3
Bootstrap Analysis of Magnitude and Statistical Significance of Indirect Effects

Independent variable	Mediator variable	Dependent variable	B (Unstandardized path coefficient)	95% confidence interval for mean indirect effect
INSTRU	CDSE	CCA	-1.01	-.49 to -1.68*
INSTRU	CDSE	LR	-.38	-.19 to -.64*
VALE	INSTRU	CDSE	.60	.16 to .60*
VALE	INSTRU	CCA	-1.60	-.35 to -1.17*
VALE	INSTRU	LR	-.64	-.27 to -1.05*

Note. These values are based on unstandardized path coefficients.
This 95% confidence interval excludes zero and therefore is significant at $p < .05$.

A multiple group model analysis was used to test for invariance of the final model (Alt 1a) across gender. Results suggested that the unconstrained model (that is, the model in which the parameters were free to be different for each group) had acceptable fit: χ^2 (228, N =207) = 327.81, $p < .01$; CFI = .94; RMSEA = .05; SRMR = .07. When structural parameters were equal, results suggested that the constrained model also had acceptable fit: χ^2 (232, N =207) = 329.70, $p < .01$; CFI = .94; RMSEA = .05; SRMR = .09. The chi-square difference statistic did not reveal a significant difference between the original and the constrained-equal models ($\chi^2 diff$ (4, N=207) = 1.89, $p < .75$), thus I concluded that the model was invariant across groups (i.e., the model fit the same for both men and women).

Next, I examined whether there were gender differences in means for instrumentality, career decision-making self-efficacy, choice/commitment anxiety, and lack of readiness. I examined latent mean differences as they are better indicators of differences than observed means because they are not associated with measurement error (Brown, 2006; Hancock, 1997). In order to examine latent mean differences across gender, I designated men as the reference group such that their latent means were fixed to zero. There were significant differences for instrumentality and lack readiness across gender. Women reported higher instrumentality than did their male counterparts. Specifically, women were more likely to endorse the importance of relating present tasks to future goals. Results also suggested that women reported lower scores for lack of readiness

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than did women. Women were also significantly less likely to be unprepared to

make career decisions. However, there were no mean differences across gender

for career decision-making self-efficacy and choice/commitment anxiety. (See

Table 4
Latent Mean Differences Across Gender

Sex	Variable	Estimate	S.E.	C.R.	*p*
Women	INSTRU	1.24	.27	4.53	.01*
	CDSE	.59	.47	1.24	.22
	CCA	.05	1.30	.04	.97
	LR	-2.11	.50	-4.21	.01*

Note: Men were the reference group; thus, their scores were set to zero.
p < .01.

table 4)

Chapter 5

DISCUSSION

The purpose of the study was to test whether the theorized motivational properties of future time perspective could be applied to the career decision making of university students. Theoretical and empirical research has primarily focused on examining the relation between future time perspective and academic motivation among high school students. However, I examined the relation between future time perspective in university students pursuing occupations. I proposed a structural relation between two theoretically defined components of future time perspective, career decision-making self-efficacy and two components of career indecision. Specifically, I hypothesized that individuals' endorsement of valuing the future (valence), while taking requisite steps in order to achieve future goals (instrumentality), would predict higher levels of career decision-making self-efficacy. Career decision-making self-efficacy was expected to mediate the relationship between valence and instrumentality and choice/commitment anxiety and lack of readiness).

Results of this study provide adequate support for my proposed structural model. Indices for the overall fit suggest the model was sufficient. This means that the regression paths I proposed were accurate representations of the data collected. Further, my hypothesized model proved to be superior to the alternative model in which career decision-making self-efficacy was the primary predicting variable where it would predict valence and instrumentality, which in turn, would

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predict less choice/commitment anxiety and less lack of readiness. It seems plausible to suggest that my hypothesized model fit the data better because individuals' cognitions regarding the future precede actual behavior (Nurmi, 1991). As previously noted, the development of future orientation involves a very basic learning process that begins during childhood. Further, as students' cognitions continue to development (i.e., they begin to think about present and future expectations), they start planning the realization of interests and goals (Marko & Savickas, 1998; Nurmi, 1991). In addition, Super (1983) and Crites (1978) supported this notion, indicating that only after individuals follow initial self-awareness of the fluidity of one's vocational past, present, and future, can they then develop career involvement in the form of planful attitudes toward the future.

At the level of direct effects, this study established that instrumentality was positively associated with career decision-making self-efficacy. Specifically, individuals who tended to think about how their present activities connected with future goals, reported higher confidence in their ability to make career decisions. However, my hypothesis that there would be a direct positive relationship between valence and career decision-making self-efficacy was not supported. One reason for non-significance between valence and career decision-making self-efficacy could be that individuals who place an emphasis on the importance of future goals might not necessarily mean they are actively working on ways they can build their self-efficacy in making career choices. Pizzolato (2007) suggests

that individuals who overemphasize future goals might not pay attention to or might not have an adequate understanding of the skills needed to reach their goals. These results are, therefore, partially consistent with the extant literature on the potential role of future time perspective.

I examined the mediating effects of career decision-making self-efficacy. Specifically, career decision-making self-efficacy was expected to mediate the relationship between valence and choice/commitment anxiety and lack of readiness. Similarly, I expected career decision-making self-efficacy to mediate the relationship between instrumentality and choice/commitment anxiety and lack of readiness. The findings of the present study provided partial support for my hypotheses. As previously noted, the structural path between valence and career decision-making self-efficacy was not significant which, therefore, cancelled out the meditational relationship between valence and career decision-making self-efficacy, and choice/commitment anxiety and lack of readiness. The relation was entirely accounted for by the relation of valence with instrumentality.

There were, however, significant mediation effects between instrumentality and choice/commitment anxiety and lack of readiness, accounted for by career decision-making self-efficacy. Individuals who understand the important relation between present steps and future goals tended to have more confidence in their ability to make career decisions increase, which in turn, decreased their anxiety about choosing and committing to a career and decreased their sense of being unprepared. In addition to my partially supported mediation

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hypotheses, it is important to note that the findings indicated that although career decision-making self-efficacy significantly mediated the relationship between instrumentality and lack of readiness, the mediation was not complete. In other words, the results from the modification index indicated that instrumentality also directly predicted lack of readiness. This makes conceptual sense given that both variables are associated with planning and preparation.

In sum, the results suggest that although my model had adequate fit, there were a couple of modifications I needed to make to enhance the strength of the model (see Figure 4). First, I deleted the regression path between valence and career decision-making self-efficacy for parsimony. Kleine (2005) states that if one has two different models with similar explanatory power for the same data, one should choose the simpler model. Second, I added a direct regression path from instrumentality to lack of readiness to improve the overall fit of the model. I made this decision in order to follow Quintana and Maxwell's (1999) recommendation that lower chi-square tests suggest better overall model fit.

Once the final model was identified, I examined a multiple group model to test for invariance across gender. The findings from the chi-square difference test suggested there were no differences in overall model fit across gender. Specifically, instrumentality predicted career decision-making self-efficacy, which in turn predicted choice commitment anxiety and lack of readiness for both men and women.

Next, I examined latent mean differences across gender. For each of the latent variables (i.e., instrumentality, career decision-making self-efficacy, choice/commitment anxiety and lack of readiness) I tested whether there were significant differences between men and women. There was a significant difference for instrumentality across gender such that women reported higher instrumentality than men. Contrary to the literature supporting differences between men and women (such that women tended to think less about their future ambitions and present tasks associated with those ambitions, McInerney (2004)), women reported higher scores for emphasizing the importance of present tasks for future goals than did men in this study. This provides support for Greene and DeBacker's (2004) argument that patterns in females' and males' expectations about the future are continuing to evolve beyond the previously construed gender-stereotyped activities. This finding is also consistent with Nota and Soresi's (1999) argument that women generally place greater focus on preparation for the future than do men.

Additionally, there were mean differences across gender for lack of readiness. Women reported being more prepared to make career decisions than did men. This finding was not surprising given the previous differences across gender for instrumentality. Brown et al. (2011) found that individuals who report lack of readiness essentially reflect "a lack of goal-directedness, planning, and confidence in career decision-making abilities, and a less than rational, more intuitive, decision-making style" (p. 12). It appears that women tend to plan ahead

more than do men. However, further findings indicate there were no differences in career decision-making self-efficacy and choice/commitment anxiety across gender. These results are somewhat surprising given the previous findings that women reported being more planful toward the future and more prepared for making career decisions. According to these results, the fact that women might plan more than men does not necessarily mean they should demonstrate more confidence in their ability to make career decisions. It is important to note that this lack of difference in career decision-making self-efficacy and choice/commitment anxiety across gender (despite the findings mentioned above) could be due to factors associated general beliefs about gender differences and limited opportunities in society and more specifically, in the workplace. Fitzgerald and Harmon argued that the transformation of the American workforce resulting from "women's integration into that workforce, has not been matched or even adequately recognized by employers and policy makers." (2001, p. 225). Nevertheless, these findings are consistent with previous studies that found no differences between men and women for career decision-making self-efficacy and career indecision variables (Betz & Voyten, 1997; Betz, Hammond, & Multon, 2005; Creed, Patton, & Prideaux, 2006; Daniels et al., 2011). In sum, these results indicate that while women are more likely to plan for the future and to be more prepared to make career decisions than are men, their self-efficacy about making career decisions and anxiety associated with choosing a career remains equal to men.

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Limitations

While this study provided adequate support for my hypotheses, a number of limitations in this study should be acknowledged. First, its generalizability is somewhat limited because this sample consisted of predominately White (62.4%) students. Previous studies suggest that future time orientation might differ significantly among U.S. ethnic minorities (McInerney & Swisher, 1995). Ferrari, Nota, and Soresi (2010) found that minorities tended to report lower scores related to attributing importance to present tasks needed to achieve future goals. Also, the extent to which these findings generalize to individuals with different socioeconomic status remains to be demonstrated. Second, although structural equation methods were used to test "casual" models, the data collected was cross-sectional and, thus, cannot provide evidence of actual causation. Hence, longitudinal models are needed for a more complete examination. Finally, in this study, only two subscales were used to represent future time perspective which might limit the degree to which the construct of future time perspective is captured. For example, Stouthard and Peetsma (1999) created a four-factor Time Perspective Questionnaire that included scales for long-term time perspective in school and professional career, social relations, and leisure time, as well as a scale for short-term time perspective in leisure time. Though this scale appears to have a more complete representation of future time perspective, its reliability and validity psychometric properties are questionable, and it was created in the Netherlands which might not be appropriate for participants in the United States.

Further, Husman and Shell (2008) argue that while there are multiple instruments of future time perspective, most are atheoretical and lack empirical support.

Implications for Future Research

The results of this study suggest there are several directions in which future research and practice could proceed. First, the generalizability of the results should be examined in other racial/ethnic minorities, different student populations (e.g., trade schools), age groups, and individuals of various socioeconomic backgrounds. Second, a longitudinal study would be beneficial in determining the directionality of the relations observed in this study. The literature on the development of individuals' ability to think about the future indicates that this might begin to peek during adolescence (McInerney& McInerney, 2002; Piaget, 1954). It is also at this time when individuals begin to formulate abstract ideas and plan future endeavors. As such, researchers might endeavor to test the theorized model of future time development as it relates to career decision-making self-efficacy, choice commitment anxiety and lack of readiness. Additionally, studies might begin to examine participants from middle school (because they are at the normative age for future orientation learning (Nurmi, 1991) to college (because learning future orientation typically continues into the early twenties (Dreher & Gerter, 1987). Thus, the application of this model to a longitudinal study might establish additional support for the results found in the current study.

Third, given that this is one of very few studies incorporating these variables, if these results are replicated in future studies, confidence could be built about conclusions that must remain very tentative for the present. As previously mentioned, given that there were only two measures of future time perspective used in this study (which might not have been a complete representation of future time perspective), future research might include other measures. As previously noted, Stouthard and Peetsma (1999) created a four-factor scale covering time perspective in school and professional career, social relations, and leisure time, as well as a scale for short-term time perspective in leisure time. Future studies could either validate the measure with U.S. populations or look at creating items similar to those in this measure and examine its relation with other career-related variables.

Last, ongoing research in this area could help improve interventions geared toward individuals seeking vocational guidance. The fact that one's future cognition develops at a certain time suggests that interventions with students in grades levels as early as middle school may help them develop a greater sense of time perspective and career decision-making self-efficacy and avoid indecision (Ferrari, Nota, & Soresi, 2010). Interventions of this type may increase the extent to which students benefit from their school experiences and work harder at school to obtain advantages in the future. This is because a developed sense of time perspective may help students perceive these long-term advantages and keep them in sight as they proceed. Ferrari et al. further proposed that specific interventions

in middle school and in the first years of high school should encourage adolescents to look into the future and develop planning strategies.

For example, Auszkiewicz (1983) underscored how it is possible to strengthen time perspective with specific forms of intervention. The author developed a program based on a series of sessions with adolescents that focused on enhancing abilities such as personal and professional goal-setting. In addition, the students were taught how to plan and work out the best strategies to achieve a desired goal. The results from the study indicated that the intervention helped participants to become more future-oriented, optimistic, and hopeful about their career endeavors.

Marko and Savickas (1998) also developed a program to strengthen time perspective in high school and university students. Specifically, they helped students improve their abilities to mentally depict their future lives, predict events and take necessary action to make them happen (See Marko & Savickas, 1998 and Savickas, 1991). The findings of the current study, therefore, not only point to the need to intervene in this direction but also to a starting point for setting up early interventions of this type.

In sum, this study makes a contribution to the extant research because it examined future time perspective in the context of career development. Researchers and practitioners should keep future time perspective in mind when working with students because many vocational guidance activities have been found to be effective only for individuals who have already developed an

awareness of, and active involvement in their own career development (Meara, 1996; Savickas, 1991b). Further, several studies indicate that many young people in today's society are not oriented toward the future, and they seldom reflect on the ways in which their careers might evolve (Creed & Patton, 2003; Fitzgerald & Betz, 1994; Skorikove, 2007). As a consequence, according to Ferrari, Nota, and Soresi (2010), they rarely seek career counseling and do not reap the benefits of examining future time perspective.

Conclusions

The evidence supporting the role of future time perspective was adequately supported by this study. Further, this study makes a unique and substantial contribution to the literature because it examined the relationship between future time perspective and career development of college students; while the majority of research related to future time perspective, thus far, has solely focused on the academic achievement of high school students. The results of this study will help inform future theory and research continuing to elucidate the extent to which the role of future time perspective might play in the way in which students plan their lives. Further, it might be helpful for psychologists, teachers, and vocational counselors to think about ways they can begin to challenge students by focusing on key instrumental steps students can take in the present that will in effect help them to attain future career-related goals.

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APPENDIX A

SOCIAL DEMOGRAPHICS

1. What is your gender

    a) Male

    b) Female

2. How would you describe your primary racial group?

    a) Caucasian/White American
    b) African American/Black
    c) Hispanic/Latino
    d) Asian American or Pacific Islander
    e) Multiracial
    Other_____

3. In what year of college are you currently?

    a) Freshman
    b) Sophomore
    c) Junior
    d) Senior

4. What is your current GPA? _____

5. What is your age?_____

APPENDIX B

FUTURE TIME PERSPECTIVE

VALENCE

1. V1 (α = .52)
   a. Long range goals are more important than short range goals.
   b. It's really no use worrying about the future.

2. V2 (α = .48)
   a. Given the choice, it is better to get something you want in the future than something you want today.
   b. Immediate pleasure is more important than what might happen in the future.

3. V3 (α = .52)
   a. What happens in the long run is more important than how one feels right now.
   b. I don' think much about the future.
   c. I have been thinking a lot about what I am going to do in the future.

INSTRUMENTALITY

1. I1 (α = .68)
   a. The most important thing in life is how one feels in the long run.
   b. What one does today will have little impact on what happens ten years from now.
   c. It's not really important to have future goals where one wants to be in five or ten years.
   d. What will happen in the future is an important consideration in deciding what action to take now.

2. I2 (α = .60)
   a. It is important to have goals for where one wants to be in five or ten years.
   b. I don't like to plan for the future.
   c. Planning for the future is a waste of time.
   d. What might happen in the long run should not be a big consideration in making decisions now.

3. I3 (α = .73)
   a. It is better to be considered a success today.
   b. It is important to save for the future than to buy what one wants today.
   c. One shouldn't think too much about the future.
   d. One should be taking steps today to help realize future goals.

APPENDIX C

CAREER DECISION SELF-EFFICACY

1. CD1 (α = .82)
    a. Determine the steps you need to take to successfully complete your chosen major.
    b. Prepare a good resume.
    c. List several majors that you are interested in.
    d. Get involved in a work experience relevant to your future goals.
    e. Get letters of recommendation from your professors.

2. CD2 (α = .77)
    a. Accurately assess your abilities
    b. Decide what you value most in an occupation.
    c. Talk to a faculty member in a department you are considering for a major.
    d. Make a career decision and then not worry about whether it was right or wrong.
    e. Determine what your ideal job would be.

3. CD3 (α = .73)
    a. Choose a major or career that your parents do not approve of.
    b. Resist attempts of parents or friends to push you into a career or major you believe is beyond your abilities.
    c. Persistently work at your major career goal even when you get frustrated.
    d. Choose a career that will fit your preferred lifestyle.
    e. Change majors if you did not like your first choice.

4. CD4 (α = .70)
    a. Determine the steps to take if you are having academic trouble with an aspect of your chosen major.
    b. Change occupations if you are not satisfied with the one you enter.
    c. Select one occupation from a list of potential occupations you are considering.
    d. Make a plan of your goals for the next five years.
    e. Use the internet to find information about occupations that interest you.

5. CD5 (α = .70)
    a. List several occupations that you are interested in.
    b. Select one major from a list of potential majors you are considering.
    c. Find information about companies who employ people with college majors in English.

d. Find information about educational programs in engineering.
e. Ask a faculty member about graduate schools and job opportunities in your major.

APPENDIX D

CAREER INDECISION PROFILE

CHOICE/COMMITMENT ANXIETY

1. CA1 (α = .90)
   a. I need to learn more about the interests I have before I can make a good career decision.
   b. I strive hard to achieve my goals.
   c. I feel stuck because I don't know enough about occupations to make a good career decision.
   d. I am familiar with my career options, but I'm just not ready to commit to a specific occupation.
   e. I think I am a worthwhile person.
   f. I need to learn more about myself before I can make a good career decision.
   g. I often feel discouraged about having to make a career decision.
   h. I'm concerned that my goals may change after I decided on a career.

2. CA2 (α = .90)
   a. I need a clearer idea about my abilities and talents before I can make a good career decision.
   b. I sometimes feel directionless.
   c. My interests change so much that I cannot focus on one specific career goal.
   d. I am not sure I can commit to a specific career because I don't know what other options might be available.
   e. I feel very confident that I will be able to achieve my career goals.
   f. It's difficult for me to choose a career because I like so many different things.
   g. I'm conflicted because I find a number of different careers appealing.
   h. I am uncomfortable committing myself to a specific career direction.

3. CA3 (α = .91)
   a. I am quite confident that I will be able to overcome obstacles to getting the career I want.
   b. I try to excel at everything I do.
   c. Given enough time and effort, I believe I can solve most problems that confront me.
   d. I don't know much about the occupations I'm considering.
   e. I like to keep myself open to various career opportunities rather than committing myself to a particular career.
   f. I feel stuck because I don't know enough about occupations to make a good career decision.

g. Important people in my life disagree about the career I should pursue.

h. I'm having a hard time trying to decide between a couple of good career options.

LACK OF READINESS

1. LR1 ($\alpha = .88$)
   a. I need more information about careers I might like.
   b. I'm having a hard time narrowing down my career interests.
   c. When bad things happen in my life, I just keep going because I know things will get better soon.
   d. I often feel nervous when thinking about having to pick a career.
   e. I always think carefully about decisions I have to make.

2. LR2 ($\alpha = .84$)
   a. I need more information about occupations in which I might be successful.
   b. I don't have enough occupation information to make a good career decision.
   c. I plan ahead when I have to make an important decision.
   d. I thoroughly consider the consequences of a decision before I make it.
   e. I need to learn how to go about making a good career decision.

3. LR3 ($\alpha = .77$)
   a. I will be able to find a career that fits my interests.
   b. I always work productively to get the job done.
   c. I usually am able to carry out the plans I make.
   d. I am quite confident that I will be able to find a career in which I'll perform well.
   e. I verify my information to ensure I have all the facts before making a decision.

APPENDIX E

INSTITUTIONAL REVIEW BOARD APPROVAL

Office of Research Integrity and Assurance

To:	Terence Tracey EDB
From:	Mark Roosa, Chair Soc Beh IRB
Date:	09/09/2011
Committee Action:	**Exemption Granted**
IRB Action Date:	09/09/2011
IRB Protocol #:	1109006820
Study Title:	The role of future time perspective in career development

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to
Federal regulations, 45 CFR Part 46.101(b)(2) .

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.   It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.