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The Role of Vocational Hope in the Social Cognitive Career Theory: A Test of Three Models

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LOYOLA UNIVERSITY CHICAGO

THE ROLE OF VOCATIONAL HOPE IN THE SOCIAL COGNITIVE CAREER
THEORY: A TEST OF THREE MODELS

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

PROGRAM IN COUNSELING PSYCHOLOGY

BY

ANDREA L. CARR

CHICAGO, ILLINOIS

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TABLE OF CONTENTS

ACKNOWLEDGMENTS	iii
LIST OF TABLES	vii
LIST OF FIGURES	viii
ABSTRACT	ix
CHAPTER ONE: INTRODUCTION	1
CHAPTER TWO: LITERATURE REVIEW	12
CHAPTER THREE: METHODS	35
CHAPTER FOUR: RESULTS	48
CHAPTER FIVE: DISCUSSION	56
APPENDIX A: IRB APPROVAL LETTER	67
APPENDIX B: SITE APPROVAL LETTERS	70
APPENDIX C: RECRUITMENT DOCUMENTS	74
APPENDIX D: GUARDIAN CONSENT DOCUMENT	77
APPENDIX E: ASSENT SCRIPT	80
APPENDIX F: FUTURES QUESTIONNAIRE	82
REFERENCE LIST	88
VITA	94

LIST OF TABLES

Table 1. The Bivariate correlations, means, standard deviations, observed ranges, potential ranges, skewness, kurtosis, and internal consistency for SCCT vocational hope study variables.	49
Table 2. Fit indices for three vocational hope SCCT models.	51

LIST OF FIGURES

Figure 1. Vocational Hope SCCT Model.	7
Figure 2. SCCT Interest and Choice Model from Lent et al., 1994.	23
Figure 3. SCCT Performance Model (Lent et al.,1994).	24
Figure 4. Vocational Hope SCCT Model reprinted from Brown et al., 2013.	25
Figure 5. Model A: Hypothesized model where vocational hope serves as a partial mediator.	44
Figure 6. Model B: Vocational hope removed.	45
Figure 7. Model C: Vocational hope as outcome expectation.	46
Figure 8. Model A with parameter estimates.	52
Figure 9. SCCT self-management model with vocational hope	64

ABSTRACT

This study is the first to empirically explore the potential role that vocational hope serves in the Social Cognitive Career Theory (SCCT; Lent, Brown, & Hackett, 1994). Vocational hope was proposed as a mechanism through which at-risk youth could develop a positive future orientation, an essential component of the career development process (Brown, Lamp, Telander, & Hacker, 2012). Measures assessing vocational hope, hope related self-efficacy beliefs, hope related outcome expectations, and educational and occupational goals were completed by 147 diverse adolescents. Structural equation modeling partially supported vocational hope serving as a partial mediator of the relationships between self-efficacy beliefs and outcome expectations to educational and occupational goals. Theoretical and clinical implications for hope related variables are described. Limitations and future directions are discussed.

CHAPTER ONE

INTRODUCTION

Research has shown that a positive future orientation is related to a number of outcomes that support healthy development. A future orientation or perspective is a person's representation of the future and focuses on how much importance the person places on the future or thinks about the future (Walker & Tracey, 2012). Adolescents with positive future orientations have been shown to have higher levels of resiliency and educational aspirations than those with less positive (or negative) views about their futures. Additionally, future expectation is one of the strongest predictors of school engagement and graduation (Brown, Lamp, Telander, & Hacker, 2013). Developing a positive future orientation is seen as a central task to career development (Marko & Savickas, 1998). While research suggests the importance of a future orientation, it does not shed much light on how a future orientation may be developed for adolescents. Diemer and Blustein (2007) suggested that vocational hope may be important to the process of developing a future orientation in addition to academic success and school engagement. In his article on the future of vocational psychology, Chope (2011) identified the exploration of the relationship between vocational interests and vocational hope as an important future direction for the field.

Vocational Hope

Diemer and Blustein (2007) first used the term vocational hope following a study that examined how barriers can impede both the development of a future orientation and how the lack of a future orientation can impact vocational development. They defined vocational hope as the “commitment to working in the future and connection to the career development process” (Diemer & Bluestein, 2007, pp. 102). The authors thought that urban adolescents are likely to face greater difficulty in developing a future orientation due to the contextual barriers they face. This led them to hypothesize that traditional theories of vocational development may not be sufficient for urban adolescents and alternative theories may be needed to understand and support the vocational development of that population. The results of the study indicated that it is important for urban adolescents to have a connection to their future work (that they will be employed in some capacity) and also to their anticipated future careers (that they will have a choice in their occupation). The study also indicated that there is a resilient connection between vocational future and barriers. That is, urban youth who have developed a sense of their vocational future will be able to better withstand the contextual barriers they face than their peers who have not developed a vocational future. Finally, the study indicated that the contextual pressures necessary to produce a future time perspective (e.g., teachers and parents encourage and expect youth to develop plans for their futures) may be lacking for urban youth, suggesting the need for an alternative method to instill this future perspective. Vocational hope may become that alternative method to develop a future perspective and support vocational development (Diemer & Bluestein, 2007).

Brown and colleagues (2013) defined vocational hope somewhat differently than Diemer and Bluestein (2007). Brown's definition of vocational hope is "a positive motivational state associated with envisioning a future in which meaningful work is attainable" (Brown, in press, p. 4). There are several key aspects of this definition that allow vocational hope, at least in theory, to impact young people's future outcomes. The first is that vocational hope is a state that may be impacted by context or events. This indicates that vocational hope can be targeted by interventions in order to change an individual's level of vocational hope. Additionally, vocational hope is motivational and will be related to persistence and goal-setting. It is also essential that vocational hope is oriented toward the future and not present or past situations. Finally, and perhaps most importantly, is that for someone to be vocationally hopeful, they must believe that they will be able to attain meaningful work (Brown et al., 2013). It is up to each individual to subjectively determine what meaningful work consists of for him/her. For example, for some individuals meaningful work must include aspects that allow them to contribute to their community by "giving back," however, for others meaningful work may consist of being able to provide financially for his/her family's basic needs.

Social Cognitive Career Theory

Additionally, Brown and colleagues (2013) expanded vocational hope from Diemer and Bluestein's (2007) initial development of the construct by including vocational hope in a theoretical model. This expansion provided a basis to explore how vocational hope is related to other constructs in vocational psychology. The purpose of this model was to provide a theoretical framework to explore the mechanisms through

which a future orientation may be built in order to impact educational and vocational outcomes. Brown and colleagues (2013) outlined a new Social Cognitive Career Theory (SCCT; Lent, Brown, & Hackett, 1994) model of vocational hope. SCCT was selected as the basis of the vocational hope model because of the strong base of empirical support (e.g., Brown et al., 2008, Brown, Lent, Telander & Tramayne, 2011, Duffy & Lent, 2009, Lent et al., 2005, Lent et al., 2007). This will allow for research to focus specifically on the role that vocational hope plays in an existing, established theory. Additionally, the use of vocational hope in an extant model of career development may allow SCCT to adapt to the unique needs of urban youth that are not addressed by other career development theories, as suggested by Diemer and Blustein (2007).

The hypothesized SCCT vocational hope model is related to other SCCT models (Lent, Brown, & Hackett, 1994; Lent & Brown, 2006; Lent & Brown, 2008). The SCCT models consist of cognitive (e.g., self-efficacy beliefs, outcome expectations, and goals), personal (e.g., personality, gender, race/ethnicity) and contextual (e.g., supports, barriers) variables that are hypothesized to predict the types of interests that people develop, the types of educational and occupational goals they set for themselves, and their success and satisfaction in their educational and occupational pursuits (Brown et al., 2013).

Specifically, the SCCT model of vocational hope is intended to explain how feelings of vocational hope develop (and can be modified) and how vocational hope then leads to positive vocational (career exploration) and educational (school involvement) outcomes (Brown et al., 2013). The current study is the first investigation of the SCCT

vocational hope model and focuses specifically on testing the hypothesized social cognitive antecedents of vocational hope (self-efficacy beliefs and outcome expectations) and its hypothesized immediate effects on educational and vocational goal setting (e.g., intentions to engage in school work and career exploration activities). This study not only provides an empirical test of the SCCT model of vocational hope, but also (depending on the results) suggests how interventions to promote vocational hope might be developed to promote positive youth outcomes.

While the SCCT models differ in the variables they each address, all SCCT models include a set of three core constructs: self-efficacy beliefs, outcome expectations, and personal goals (Brown et al., 2013). First, self-efficacy represents an individual's self-assessment of his or her ability to perform in a specific domain and is related to interest, goal setting, persistence, and performance in that domain. That is, a person with strong self-efficacy in a domain such as science is more likely to develop interests in and set challenging goals for themselves in that domain (e.g., science) than someone with low science self-efficacy (Lent, 2013). Second, outcome expectations are a person's anticipated results of engaging in a behavior. Self-efficacy relates to how well a person thinks he can perform behaviors to attain certain ends (Can I do it?), outcome expectations relate to the consequences of taking action (What will happen if I try?) (Brown et al., 2013). Together, self-efficacy beliefs and outcome expectations impact people's interests and the choices they make. People are more likely to engage in and have interest in activities in which they think they can succeed and believe will result in positive outcomes. Interests, self-efficacy beliefs, and outcome expectations then lead

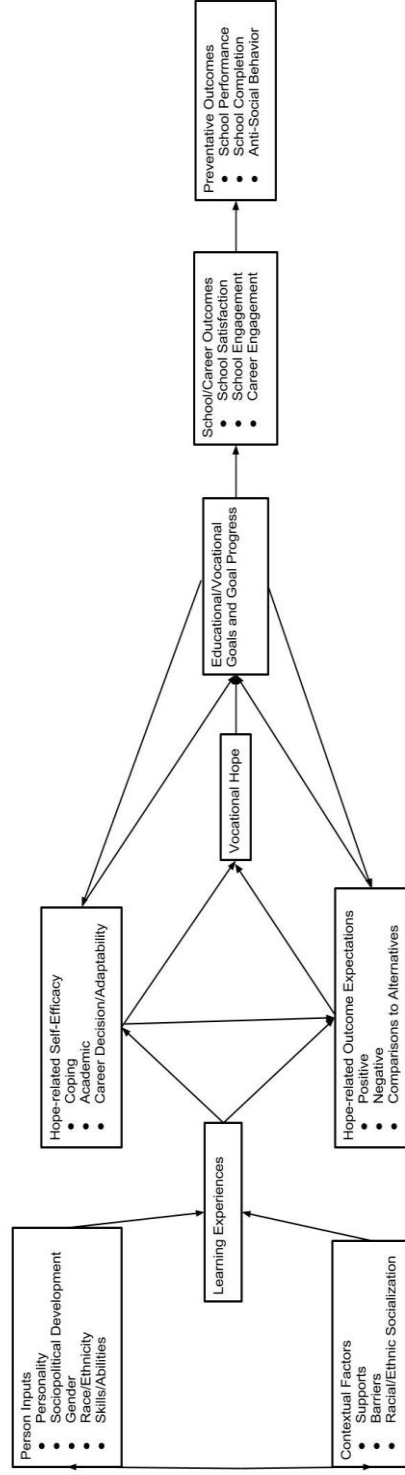
individuals to develop goals in a specific area. Goals in SCCT are defined as the determination or intent to pursue a specific outcome (Brown et al., 2013).

The vocational hope model (Figure 1) is similar to other SCCT models because it emphasizes the importance of self-efficacy and outcome expectations in the development of vocational hope (see Brown et al., 2013). The vocational hope model includes person factors in addition to contextual or environmental factors. In the vocational hope model, personal factors such as disposition, gender, race/ethnicity, social class, and skills and abilities (among others) contribute indirectly to the development of vocational hope via self-efficacy beliefs and outcome expectations. Additionally, contextual factors like supports, barriers, and racial/ethnic socialization also indirectly contribute to vocational hope through self-efficacy beliefs and outcome expectations (Brown et al., 2013).

Brown and colleagues (2013) have also suggested that goal persistence and progress lead to positive academic and career outcomes such as school satisfaction and school or career engagement. Additionally, as in other SCCT models, the achievement of goals will confirm or cause people to reevaluate their self-efficacy beliefs and outcome expectations, which in turn impact vocational hope. Finally, the school and career outcomes are also predicted to lead to a number of preventative outcomes, such as improved school performance, higher rates of school completion, and lower rates of antisocial behavior (Brown et al., 2013).

Like all SCCT models, the vocational hope model is context specific. Each of the constructs included in the model are highly tailored for the purpose of the model. A

Figure 1. Vocational Hope SCCT Model.



meaningful difference in the context of this model versus other SCCT models is that the hope model is more process-oriented than other SCCT models. That is, the hope model is concerned with the process of making progress toward career development rather than the content of a decision (whether to become an engineer or poet). In other SCCT models the content or choice is the focus of the model overall. This necessitates that self-efficacy and outcome expectations are uniquely contextualized for the hope model. They address questions of whether an individual feels competent to sustain effort to find meaningful work (self-efficacy beliefs) and whether they see that sustained efforts are worth it (outcome expectations).

Hope-related self-efficacy beliefs consist of several specific components. As vocational hope is hypothesized to be a means of developing a future orientation in the face of contextual or environmental barriers, the first aspect of hope-related self-efficacy beliefs is coping efficacy. Coping efficacy is individuals' beliefs that they can overcome environmental barriers (e.g., financial or discriminatory barriers) as well as their beliefs that they will be able to obtain support for their educational and career plans. Additional components of hope-related self-efficacy are: (1) academic self-efficacy, the belief that a person will be able to complete the tasks necessary to perform adequately in school and (2) career decision-making self-efficacy, the feeling that an individual can complete the tasks necessary to find and attain meaningful work even when an initial choice is not available (Brown et al., 2013).

The outcome expectations in the vocational hope SCCT model also need to be specific to address this process model. Thus, they focus on the positive outcomes related

to the tasks associated with finding meaningful work. Some of these hope-related positive outcome expectations might include material (e.g., good income), social (e.g., respect of friends), and self-evaluative (e.g., feelings of self-approval) consequences (Brown et al., 2013). However, simply looking at positive outcome expectations may not be sufficient to see distinctions between low income and minority youth compared to more privileged youth (e.g., Kenny et al., 2007). This is perhaps a reflection that both groups of adolescents are able to see the potential positive outcomes of sustaining effort to find meaningful work, but that low income youth may also see significantly more negative outcomes than more privileged youth (or see them as more impactful on their futures). Negative outcome expectations are also included in the study. The importance of including negative outcomes was demonstrated by Gibbons and Borders (2010) who found that negative outcome expectations accounted for more variance in college-going intentions for potential first-generation college students than did positive outcome expectations. Possible negative outcomes are also material (e.g., educational expense), social (e.g., loss of friends who do not share the person's values), and self-evaluative (e.g., the effects of failure on self-esteem).

Together, these hope-related self-efficacy beliefs and outcome expectations give rise to vocational hope. Strong efficacy beliefs and positive outcome expectations promote greater feelings of vocational hope than if either (or both) is lacking. Vocational hope requires that a person feel competent to do what is necessary to find meaningful work and believe that the effort will be worthwhile. Vocational hope, in conjunction with self-efficacy and outcome beliefs, then predicts whether people develop academic and

career-related goals. Additionally, the theoretical model suggests that vocational hope partially mediates the relationship of self-efficacy beliefs and outcome expectations with goals (Brown et al., 2013).

Purpose of Study

The purpose of this study was to test the SCCT model of vocational hope by focusing on both (1) the roles of self-efficacy beliefs and outcome expectation in promoting vocational hope and academic and educational goals and (2) the relation of vocational hope to goals or intentions to engage in career- and school-related tasks. The first step in this process explored whether or not self-efficacy beliefs and outcome expectations related to vocational hope. The next step was to determine if vocational hope was related to educational and occupational goals. Then, in order to assess if vocational hope was a necessary precursor to goal setting, three versions of the SCCT model were assessed using structural equation modeling (SEM). The first model (Model A) included vocational hope as a partial mediator of the relationships of self-efficacy beliefs and outcome expectations with educational and occupational goals, as hypothesized by Brown et al. (2013). Two alternative models were also assessed in this study. The first alternative model (Model B) tested whether vocational hope represents a necessary or superfluous influence on educational and vocational goal setting. Previous research that predated the vocational hope model found that self-efficacy and outcome expectations alone relate to goal setting in various contexts (e.g., Multon, Brown, & Lent, 1991). Thus, Model B essentially removed vocational hope from the model and suggested that vocational hope is superfluous to educational and vocational goal setting (i.e., that

self-efficacy beliefs and outcome expectations relate to educational and vocational goal setting directly). The second competing model (Model C) tested if vocational hope serves a more appropriate role as another type of outcome expectation. Model C then suggested that vocational hope might best contribute to the development of goals not as a unique construct, but as a component of outcome expectations. These competing models were compared to each other in order to assess the overall importance of the role of vocational hope in SCCT.

CHAPTER TWO

LITERATURE REVIEW

This purpose of this chapter is to provide a framework that outlines a rationale for the present study, and is accomplished by completing a review of relevant literature. This chapter attends to three main tasks. First, the importance of expanding vocational psychology is discussed. This review leads to an exploration of the role that a positive future orientation plays in vocational development, and includes the introduction of the construct of vocational hope. Next, the theoretical backdrop for vocational hope, the Social Cognitive Career Theory (SCCT; Lent, Brown, & Hackett, 1994) is described. This involves a discussion of previously developed models as well as a thorough discussion of the proposed vocational hope model (Brown, Lamp, Telander, & Hacker, 2013). Because the present study is the first empirical exploration of the vocational hope model of SCCT, research of the usefulness of the other SCCT models and related constructs in adolescent samples is discussed.

Need to Expand Vocational Psychology

A number of professionals (e.g., Blustein, 2001; Blustein, McWhirter, & Perry, 2005; Chaves, Diemer, Blustein, Gallagher, DeVoy, Casares, & Perry, 2004; Constantine, Erickson, Banks, & Timberlake, 1998; Richardson, 1993) have noted the importance of expanding vocational psychology and career development. This is particularly true for groups other than middle class, White, college educated individuals. Bluestein (2001)

stated, “we have developed an elegant science about the work lives of a small proportion of individuals who live in relative affluence in Western countries. Yet our research has essentially neglected the work lives of the rest of humanity who work primarily to fulfill their basic needs and/or to care for their children and other family members” (pp.171-172). Bluestein and colleagues (2005) suggested that these limitations arose due to the lack of justice across the world of work and further noted that vocational psychology has continued to focus on world-views that emphasize autonomy, individualism, and choice. Richardson (1993) suggested that vocational theories are somewhat limited in that they consider a career from middle-class perspectives. Richardson (1993) encourages an expansion to consider work as “a basic human function among populations for whom work has a multiplicity of meaning, including but not restricted to a career meaning” (pp. 427).

One way that vocational psychology has become limited is by researching traditionally explored constructs in vocational psychology (e.g., interests, self-efficacy) that are tied to contextual factors individuals’ lives (Bluestein et al., 2005). This type of research has been focused on people from privileged backgrounds and, as a result, may neglect other groups, especially those who have been underrepresented or disadvantaged (Bluestein, 2001; Bluestein et al., 2005). Bluestein (2001) further challenged the field to expand its work to focus on those groups who have been largely neglected in the recent past and incorporate existing work within the current social and economic context. Similarly, Richardson (1993) encouraged a shift to thinking about work as opposed to

careers because work incorporates a greater emphasis on social value and the greater community where as careers generally are focused on the self.

Blustein and colleagues (2005) recommended several ways to begin addressing some of the concerns in current career development research: incorporate democratic participation among participants throughout research, engage in research that integrates both a bottom up and top down approach, work to instill critical consciousness across all groups, and include aspects of advocacy and activism into research and practice.

Richardson (1993) emphasized the importance of including the context (including development) of work that people are doing as well as the interactions between people and their various systems. Finally, Blustein (2001) described the importance of confronting our own class biases and including input from people whose work lives do not reflect that of middle-class, college-educated individuals. This type of research needs to include a reflection of concerns with survival and meeting basic needs that are not evident in traditional career development discussions. Additionally vocational psychology research requires an active involvement of poor and working class individuals in research participation and design (Blustein, 2001; Richardson, 1993).

One group that falls into the areas historically neglected by vocational psychology are adolescents in underserved groups such as racial/ethnic minorities and low-income students. Adolescence is a critical time for the establishment of educational and vocational perceptions, attitudes, and beliefs (Super, Savickas, & Super, 1996). This process is a challenge for all youth, but may be more difficult for low-income youth (Chaves et al., 2004). Underrepresented groups, including racial and ethnic minorities,

face significant challenges that may impact their career development and such as discrimination, poverty, and low access to career development resources (e.g., Constantine, Erikson, Banks, & Timberlake, 1998; Wilson, 1996). There has been limited research exploring how these adolescents understand work and thus existing educational and vocational interventions and theories may not be sufficient (Chaves et al., 2004).

Many career development theories and interventions are limited because their assumptions may not hold true for at-risk youth. Some of these assumptions are: (1) embedding academic tasks in a work context is meaningful for the school-to-work transition (Blustein et al., 2000), (2) work provides intrinsic rewards (Chaves et al., 2004), (3) meaningful work is accessible in the community (Wilson, 1996), and (4) work is an opportunity for self-expression (Blustein et al., 2002). When these assumptions are not met it may lead adolescents to feel pessimistic about their futures and anticipate job failures (Blustein et al., 2002; Wilson, 1996).

In an effort to challenge assumptions about the vocational development of urban youth, Chaves and colleagues (2004) found that participants in their sample of urban adolescents defined work as being related to external outcomes like money/income or accomplishing tangible goals, behavioral or psychological activities, or as a way of keeping busy. Very few participants noted goals of accomplishment or personal development in how they defined work, which is in contrast to existing career development theories (Chaves et al., 2004). Additionally, participants in the study identified work as more positive than negative, and work required a great deal of energy and effort. Together, these data suggest that urban youth may not have the same resources

as others making career choices based on interests or work values may not be relevant to the career development process (Chaves et al., 2004).

Another possible consequence of inadequate career development opportunities for racial and ethnic minority youth is that they are more likely to have tentative orientations toward work and lack educational and vocational opportunities and information to support their career development process (Loughead, Liu, & Middleton, 1995; Watson & Stead, 1990). Some urban youth of color face conflict in deciding between seeking future success and leaving their communities to accomplish these types of occupational goals (Lindstrom & Van Sant, 1986). People appear to attempt to make meaning of their work experiences via context which is driven by family history, cultural background, or individual dreams (Chaves et al., 2004). It is possible that the context that urban youth live in explains the lack of alignment between students' vocational aspirations and actual educational plans (Bowe, Bowe, & Streeter, 2000).

Several authors have begun exploring new approaches to vocational psychology for at-risk and underserved youth. A number of factors have been identified as critical for the vocational development for African American and Latino/a young people including: high levels of internal control, confidence in academic ability, and a tentative decision about occupational choice made by middle school (Griggs, Copeland, & Fisher, 1992). Although self-efficacy is important to consider, urban youth may have few opportunities to develop self-efficacy for careers (Speight, Rosenthal, Jones, & Gastenveld, 1995).

Constantine and colleagues (1998) have made several recommendations to support underrepresented youth in their career development. These include monitoring

students' aspirations and expectations and then ensuring they are not inhibited by contextual factors. Additionally, these young people may benefit from interventions that include role models in careers of interest and mapping out potential career paths. Furthermore, racial and ethnic minority adolescents would likely benefit from opportunities to build self-efficacy in career-related tasks. While these efforts are beneficial for urban or at-risk youth, they are not sufficient. Future work in vocational psychology needs to include development of empirically supported theories and interventions that are meaningful for this population and its unique needs.

Future Orientation in Career Development

Future orientation is essentially how much importance or value someone places on the future (Walker & Tracey, 2012). Many have suggested the importance of a positive future orientation in the career development process. For example, Marko and Savickas (1998) suggested that a time perspective is fundamental to being able to conceive of oneself having a career because it links the past and present to an anticipated future. Many career interventions are helpful for those who are future-oriented, however, there are many people who are not oriented this way and thus do not think about their future careers (Meara, 1996; Savickas, 1991).

There are clear benefits to adolescents having a future orientation in academic and vocational domains. For example, several have found that a future time perspective is motivational (De Volder & Lens, 1982; Husman & Shell, 2008; Nurmi, 1991). A future time perspective is necessary for youth to be able to develop goals (Husman & Shell, 2008; Marvo & Savickas, 1998; Nurmi, 1991). Young people with a positive future

orientation are also more likely to persist and engage in behaviors that lead to goal attainment (De Volder & Lens, 1982; Husman & Shell, 2008; Marko & Savickas, 1998; Nurmi, 1991; Simons, Vansteenkiste, Lens & Lacante, 2004). Positive academic (e.g., academic achievement; De Volder & Lens, 1982) and vocational outcomes (e.g., career decision-making, career maturity, self-efficacy, outcome expectations; Marko & Savickas, 1998, Savickas, Silling, & Schwarts, 1984, Walker & Tracey, 2012) are related to a positive future orientation. Finally, future aspirations may support resiliency against structural oppression (Sirin et al., 2004).

In a qualitative study of urban adolescents, Sirin and colleagues (2004) found a number of patterns related to their future orientation. Half of the sample perceived their futures and had developed goals with both the structure and process of how to achieve them. A large proportion of students' goals were focused on "here and now" or basic survival as opposed to long-term goals. The authors pointed out that this present-focus was a barrier for future aspirations. Finally, they found that students who were more aware of contextual challenges were more prepared for the future (Sirin et al., 2004).

Research supports that a future time perspective is subject to change and can be learned through experience (Marko & Savickas, 1998). Future orientation is a developmental process that begins in childhood, peaks at about fifteen or sixteen years old, and continues into the early twenties (Nurmi, 1991). This future orientation develops within cultural contexts, and interests about the future are developed based on the knowledge and expectation of an individual's normative group. Future beliefs are learned during social interactions with others and can be influenced by external factors (Nurmi,

1991). At least one study has shown that providing opportunities to develop a future orientation are connected to positive educational and vocational outcomes. An intervention designed to influence time perspective showed significant mean differences between control participants' future orientation and career maturity in both high school and college samples (Marko & Savickas, 1998).

Vocational Hope

While Marko & Savickas (1998) demonstrated that a positive future orientation can be influenced by interventions, it is clear that urban youth do not necessarily develop a future orientation on their own (Nurmi, 1991). Diemer and Blustein (2007) considered that the barriers underserved youth face could impact both the development of a future orientation and, as a result, vocational development. They suggested that these individuals may develop a future orientation in a different way than their more privileged peers. In order to do this they used exploratory factor analysis and found that the urban youth in their sample experienced four factors related to their future work. These factors included: (1) future career identification defined as an understanding of the importance of having a future career and working, (2) vocational identity which consists of the clarity and stability of identity-related beliefs of adolescents toward the vocational realm, (3) work role resilience, or the connection to a work role in the future despite facing barriers, and (4) salience of chosen career which is an individual's personal connection to his/her chosen career and the interest in that career. These four factors were supported using confirmatory factor analysis in a second sample of urban adolescents.

Diemer and Blustein (2007) concluded that for these young people it was not only important to have a future connection to work, but also to have a connection to their anticipated career. However, the authors reflected that for more privileged youth context will support the development of a positive future orientation and this may not be present for urban youth. In order to support the development of a future orientation they proposed the idea of vocational hope, which they defined as a “commitment to working in the future and a connection to the career development process” (pp. 102 Diemer & Blustein, 2007).

The concept of vocational hope as a mechanism to support the development of a future orientation for underserved (e.g., racial/ethnic minorities, low income) youth was appealing to Brown, Lamp, Telander, and Hacker (2013). However, they modified the definition to operationalize vocational hope somewhat differently than Diemer and Blustein (2007). They defined vocational hope as “a positive motivational state associated with envisioning a future in which meaningful work is attainable” (pp. 375 Brown et al., 2013).

Brown and colleagues go on to specify several key components of their definition of vocational hope to facilitate its use in future studies and interventions. They suggest that vocational hope is a state and as such can be changed and shaped by contextual and personal influences. Vocational hope is also motivational and will be positively associated with approach versus avoidance behaviors, goal setting, effort, and persistence. The authors suggested that vocational hope must be oriented toward the future, and does not reflect past or present experiences. The future that an individual

envisioning needs to include meaningful work. It is up to each individual to determine what meaningful work is on the basis of his/her cultural context (as opposed to being defined by others like researchers in vocational psychology). Finally, in order for hope to be present, an individual must see the work as attainable for them (Brown et al., 2013).

Several factors in the literature warrant considering vocational hope as a useful construct. First, there has been a call for research in vocational psychology to expand its usefulness to underserved populations, including at-risk or urban youth. Thus, it is important to understand mechanisms that may apply differently to underserved adolescents than their more privileged peers. The importance of a future orientation in career development and achieving positive academic and vocational outcomes has been well established. However, it remains unclear how this orientation can be developed for urban or at-risk youth. Therefore, an understanding of future orientation via vocational hope fits well within the recommendations of many researchers in expanding the focus of vocational psychology to include underrepresented groups including low-income or racial/ethnic minority youth.

Social Cognitive Career Theory

In order for vocational hope to be adequately evaluated, it is important for it to fit into a theoretical model. This will facilitate understanding how (or if) vocational hope is additive to existing literature. In order to do this Brown and colleagues (2013) developed a new model of the social cognitive career theory (SCCT, Lent, Brown, & Hackett, 1994) as a theoretical frame. This theoretical background can be used to evaluate the role that vocational hope (and mechanism to develop a future orientation) serves in the career

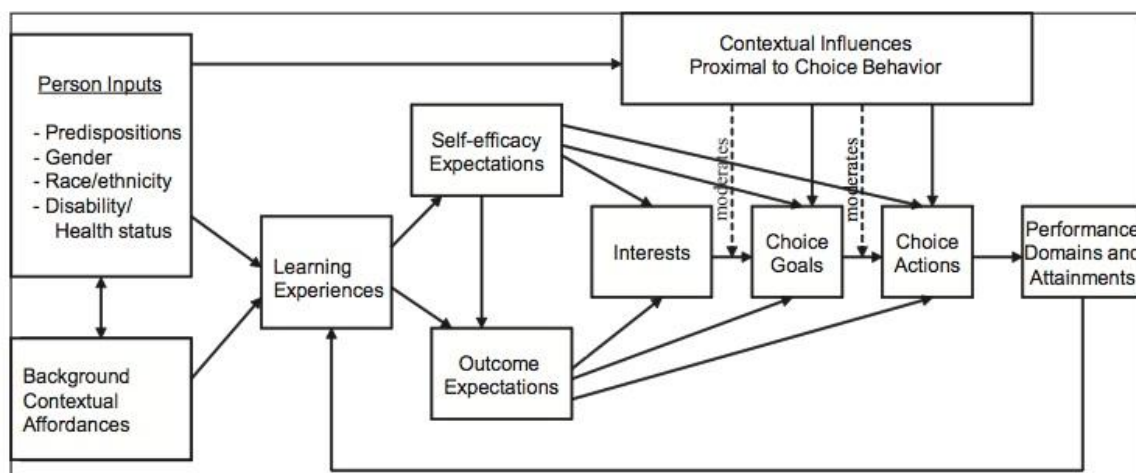
development of at-risk youth. The SCCT vocational hope model developed by Brown and colleagues (2013) is related to other SCCT models (Lent et al., 1994; Lent & Brown, 2006; Lent & Brown, 2008). The SCCT models consist of cognitive (e.g., self-efficacy beliefs and outcome expectations), personal (e.g., race/ethnicity and gender) and contextual (e.g., supports and barriers) variables that are hypothesized to predict the types of interests that people develop, the types of educational and occupational goals they set for themselves, and their success and satisfaction in their educational and occupational pursuits.

In an effort to integrate the efforts of various studies and professionals in vocational psychology, Lent and colleagues (1994) developed SCCT as an expansion of Bandura's (1986) social cognitive theory. SCCT models all include a set of three core constructs: self-efficacy beliefs, outcome expectations, and personal goals (Lent et al., 1994). Self-efficacy represents an individual's self-assessment of his or her ability to perform in a specific domain and is related to interest, goal setting, persistence, and performance in that domain (Lent, 2013). Outcome expectations are a person's anticipated results and value of the results to a behavior. Self-efficacy relates to how well a person thinks he can perform behaviors to attain certain ends (Can I do it?), while outcome expectations relate to the consequences of taking action (What will happen if I try?) (Brown et al., 2013).

Together, self-efficacy and outcome expectations impact people's interests and the choices they make. People are more likely to engage in and have interest in activities they think they will be good at and believe will result in positive outcomes. Interest, self-

efficacy beliefs, and outcome expectations will then lead individuals to develop goals in a specific area. Goals in SCCT are defined as the determination or intent to pursue a specific outcome (Brown et al., 2013).

Figure 2. SCCT Interest and Choice Model from Lent et al., 1994.

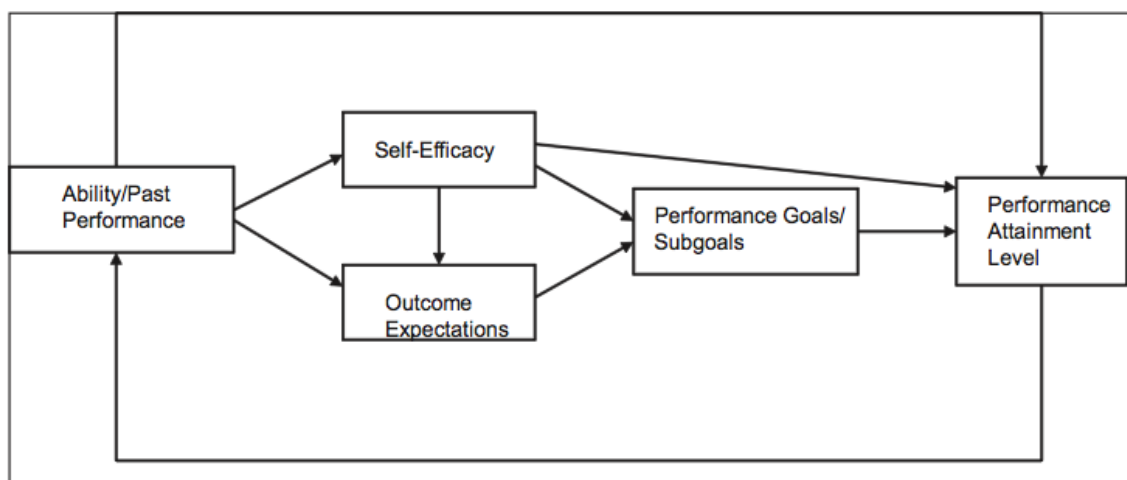


The two original SCCT models are the (1) interest and choice model (Figure 2) and the (2) performance and satisfaction (Figure 3) model. In the interest and choice model, self-efficacy beliefs and outcome expectations regarding academic and occupationally related tasks lead to interests. Together, self-efficacy, outcome expectations, and interests allow for goals for specific activities to develop. Once people have developed goals, they become more likely to pursue and persist in activities that are related to their goals. Based on the success (or failure) of the activities, the individual will revise or confirm his/her self-efficacy beliefs and outcome expectations (Lent et al., 1994).

In the performance model (Figure 3) self-efficacy beliefs and outcome expectations are predicted by abilities and past performance. Then Self-efficacy beliefs

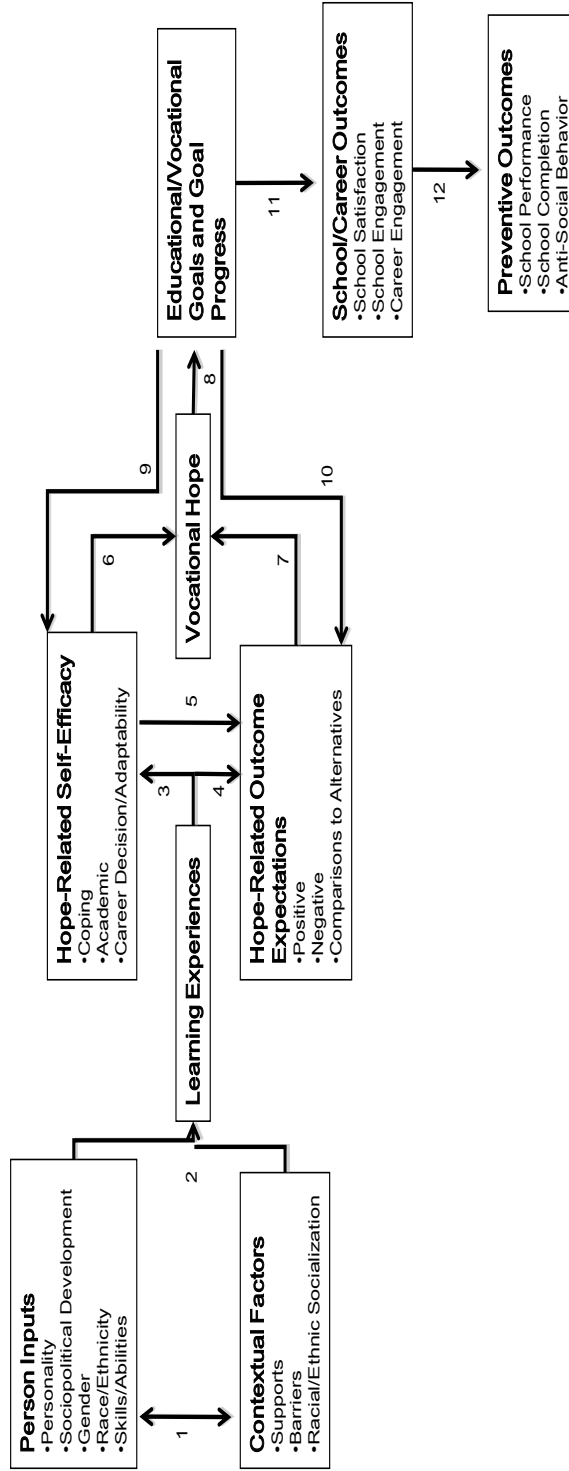
and outcome expectations then lead to goals, which in turn predict performance level (Lent et al., 1994).

Figure 3. SCCT Performance Model (Lent et al., 1994).



In addition to the variables described above, each of the SCCT models includes individual person and contextual variables. These additional person variables include demographic variables such as gender, ethnicity, and social economic status (SES). An individual's affective tendencies also play a role in the existing SCCT models. These personal variables impact the models directly in regards to interests, choices, and satisfaction as well as indirectly by influencing self-efficacy beliefs and outcome expectations (Lent et al., 1994). Contextual or environmental factors play an essential role in the SCCT models and the development of interests, choices, and satisfaction. Specifically, environmental barriers or supports can mediate the relationships between self-efficacy beliefs and outcome expectations with interests, choices, and goals (Brown et al., 2013). An important commonality to note of these existing models of SCCT is that they are focused on the content of an individual's interests, choices, or performance.

Figure 4. Vocational Hope SCCT Model reprinted from Brown et al., 2013.



Similarly to other SCCT models, the vocational hope model (Figure 4) emphasizes the importance of self-efficacy and outcome expectations. This model, unlike other, more content-oriented SCCT models, does not seek to predict what types of educational and career fields in which people will be interested and enter, but rather how people develop goals and intentions in the face of barriers. Thus, this process-oriented model replaces interests with vocational hope and hypothesizes that both self-efficacy beliefs (path 6) and outcome expectations (path 7) contribute to the development of vocational hope.

However, self-efficacy beliefs and outcome expectations are contextualized differently in the hope model the content focused models. These cognitive variables address questions of whether an individual feels competent to sustain effort to find meaningful work (self-efficacy) and whether they see that sustained efforts are worth it (outcome expectations). Brown and colleagues (2013) identified several specific components of hope-related self-efficacy beliefs. The contextual nature of hope-related self-efficacy beliefs and outcome expectations are described in detail in Chapter One.

Together these hope-related self-efficacy beliefs and outcome expectations give rise to vocational hope. Having strong efficacy beliefs and positive outcome expectations will promote greater feelings of vocational hope than if either (or both) is lacking. Vocational hope requires that a person feels competent to do what is necessary to find meaningful work and that the effort will be worth it. Vocational hope, in conjunction with self-efficacy and outcome beliefs, will then predict whether people will develop academic and career-related goals. Additionally, the theoretical model suggests that vocational

hope will partially mediate the relationship between self-efficacy beliefs and outcome expectations with goals (paths 6, 7, 8; Brown et al., 2013).

Like other SCCT models, the vocational hope model also includes additional person factors as well as contextual or environmental factors. In the vocational hope model, personal factors such as gender, race/ethnicity, social class, and skills and abilities (among others) contribute indirectly to the development of vocational hope via self-efficacy beliefs and outcome expectations. Additionally, contextual factors like supports, barriers, and racial/ethnic socialization will also indirectly contribute to vocational hope through self-efficacy beliefs and outcome expectations (paths 2, 3, 4; Brown et al., 2013).

Brown and colleagues (2013) have also suggested that goal persistence and progress will lead to positive academic and career outcomes such as school satisfaction and school or career engagement (path 11). As in other SCCT models the achievement of goals will confirm or reevaluate the levels of self-efficacy beliefs and outcome expectations (paths 9 and 10), which will then impact vocational hope. Finally, the school and career outcomes are also predicted to lead to a number of preventative outcomes (path 12), such as improved school performance, higher rates of school completion, and lower rates of antisocial behavior (Brown et al., 2013).

The vocational hope model of SCCT is clearly related, yet distinct, from the SCCT interest, choice, and satisfaction models. The contextual nature of the hope model alters its purpose to be focus the process of the career development, as opposed to the other models, which are focused on content. However, as in other models, the hope

model is centered on cognitive factors (e.g., self-efficacy), personal factors (e.g., personality), and contextual factors (e.g., supports and barriers).

Research on SCCT

The present study is the first empirical exploration of the vocational hope model of the social cognitive career theory (SCCT). Given this, there is a lack of previous literature exploring this process model. However, there are large bodies of evidence supporting the relationships hypothesized by SCCT in other contextual domains for adolescent populations. The following section summarizes this literature.

The content models of SCCT have received support in adolescent populations. Several studies have explored the appropriateness of the models in the math and/or science domains. These results remain consistent across a variety of adolescent samples including racial/ethnic minority adolescents (Alliman-Brisset & Turner, 2010; Navarro, Flores & Worthington, 2007). In a study of eighth grade African American middle school students, Alliman-Brisset & Turner (2010) found that math self-efficacy and outcome expectations were positively and significantly related to each other ($r = .22$), although neither self-efficacy beliefs nor outcome expectations were significantly related to math interests. The lack of relationship between self-efficacy and outcome expectations with interests was confirmed using multiple regression, however, interests were predicted by previous academic performance and racism. Using multiple regression analyses, the authors found that six percent of the variance in math efficacy was related to racism and fourteen percent of the variance was predicted by parent support and racism (Alliman-Brissett & Turner 2010). These results provide partial support for the SCCT interest

model, suggesting that self-efficacy beliefs and outcome expectations are correlated with each other, but not, however, with interests. These results were contrary to the relationships found in other studies of math efficacy, outcome expectations, and interests in other underrepresented adolescent samples (e.g., Fouad, Smith, & Enochs, 1997; Navarro et al., 2007). This study does support the importance of personal factors (e.g., abilities) and contextual variables (e.g., racism) in the development of career interests.

Navarro and colleagues (2007) found that the SCCT interest model was supported in a study of Mexican American eighth grade students. Their model included personal variables (generation status, ethnic orientation, social class), contextual variables (social supports), as well as the cognitive variables (self-efficacy, outcome expectations, interests, and goals) in science and math domains. They found moderate and significant correlations between the core SCCT variables ranging from .36 to .43. Additionally, their hypothesized model was retained due to appropriate fit indices and that model accounted for 40% of the variance in goal intentions (Navarro et al., 2007).

Additional support for the relationship between the core SCCT variables in content domains was provided by Fouad and colleagues (1997). In their study of middle school students they found that correlations among math self-efficacy, outcome expectations, and goals were significant and ranged from .37 to .54. A similar pattern was discovered in the science domain and correlations ranged from .46 to .47 (Fouad et al., 1997).

A number of studies have explored more general content domains (e.g., academic) using SCCT. Wettersten and colleagues (2005) explored the relationships of social

support, barriers, academic self-efficacy, academic outcome expectations, and career outcome expectations (among other variables) in a sample of rural adolescents (36% identified as low income). They found significant correlations among the SCCT variables ranging from .21 between academic and career outcome expectations and .37 between academic self-efficacy and career outcome expectations. Using multiple regression, the study found that social supports, perceived barriers, and academic self-efficacy all predicted career outcome expectations. However, for academic outcome expectations, only academic self-efficacy (along with non-SCCT variables) was a significant predictor. Wetternson and colleagues' results (2005) provides some support for the relationships between self-efficacy beliefs and outcome expectations as well as the influence of contextual variables.

A study of lower middle-class ninth and tenth grade students (74% of the sample were ethnic minority participants) explored the relationships from self-efficacy (self-regulated learning and academic achievement) to grade-related goals (Zimmerman, Bandura, & Martinez-Pons, 1992). Path analyses supported the hypothesized model where social cognitive variables (self-efficacy and goals) predict academic achievement. Specifically related to SCCT, academic self-efficacy predicted academic goals with a .36 path coefficient and a .41 correlation (Zimmerman et al., 1992).

Two studies have explored the fit of SCCT in different adolescent samples (high school students from Appalachia and low income ninth graders from the Pacific Northwest) by assessing vocational/education self-efficacy along with variables like outcome expectations, social supports, perceptions of barriers, and vocational/educational

aspirations (Ali & McWhirter, 2006; Ali, McWhirter, & Chronister, 2005). In one of these studies, the authors found that college outcome expectations and self-efficacy beliefs were the strongest predictors of students pursuing post secondary education. Students whose aspirations were for full-time employment had lower self-efficacy and outcome expectations. Ali and McWhirter (2006) hypothesized that this result may reflect fewer opportunities to develop self-efficacy. In the other study, self-efficacy accounted for 21% of the variance in outcome expectations and the contextual supports did not account for any significant variance above self-efficacy beliefs (Ali et al., 2005).

In addition to exploring the content-related SCCT variables that were originally suggested by Lent and colleagues (1994), a number of authors have explored process-related variables and their relations within the larger SCCT models. These studies provide a basis of support for the process nature of the vocational hope model of SCCT (Brown et al, 2013). An example of this was in the exploration of career decision-making self-efficacy beliefs, outcome expectations, and goals (Fouad et al, 1997). In this study, the authors found significant correlations between these variables in a sample of middle school students ($r = .59 - .60$). Additionally, these authors were able to provide support for the unique nature of the content and process domains of SCCT variables via confirmatory factor analysis (Fouad et al., 1997).

Jantzer, Stalides, and Rottinghaus (2009) explored the relationships between career decision-making self-efficacy beliefs, outcome expectations, and goals in a sample of eighth grade students from rural Midwestern schools. Based on preliminary analyses that showed that girls scored significantly higher than boys on all measured variables,

thus, main analyses were completed separately by gender. For girls, correlations between variables ranged from .42 to .50 and for boys they ranged from .61 to .67. The path model accounted for 30% of the variance in goals for female participants and 45% in goals for male participants (Jantzer et al., 2009).

A study of the impact that acculturation, career decision-making self-efficacy, and perceived problem-solving abilities have on the development of educational goals was completed with a sample of Mexican American high school students (Flores, Ojeda, Huang, Gee & Lee, 2006). The way that the problem-solving abilities were conceptualized makes it similar to a self-efficacy belief. In the study, Flores and colleagues found significant correlations between educational goals and problem solving abilities (.29) as well as with career decision-making self-efficacy (.31). Using multiple regression analysis, only problem solving (along with Anglo-orientation) contributed to the prediction of goals. The overall model accounted for 16% of the variance of educational goals (Flores et al., 2006).

Two studies explored the relationship that ethnic identity has on career decision-making self-efficacy for minority high school students (Latino/a students, Gushue, 2006; Black, Latina females, Gushue & Whitson, 2006). Gushue (2006) found a strong correlation between self-efficacy and outcome expectations ($r = .48$). The hypothesized model was retained illustrating the relationships between ethnic identity, however, only the paths from ethnic identity to self-efficacy and from self-efficacy to outcome expectations (.48) were significant (Gushue, 2006).

In the other study, ethnic identity along with gender role attitudes were hypothesized as variables that would influence career decision-making self-efficacy and the gender traditionally of career goals. Gushue and Whitson (2006) found that self-efficacy completely mediated the relationship between the cultural variables and career goals. Additionally, they found an inverse significant correlation between career decision-making self-efficacy and goals in traditional careers ($r = -.27$) suggesting that decision-making self-efficacy supports Latina adolescents in making goals in careers that are not traditionally female (Gushue & Whitson, 2006).

A longitudinal study was completed on process variables in a SCCT context with an Australian adolescent sample (Rogers & Creed, 2007). The authors measured career planning and exploration, career decision-making self-efficacy, career outcome expectations, goals, supports, and students' personality. The relationships between self-efficacy and goals with career planning/exploration were supported across all grade levels (grades 10-12) and longitudinally. However, there was no direct relationship supported from outcome expectations and career planning/exploration. Rogers and Creed (2007) suggested that the lack of this result may be explained by the strength of the relationship of self-expectations with plans/exploration.

The review of the previous studies illustrates a base of support for SCCT content models in adolescent samples including many underrepresented groups (e.g., rural, urban, racial/ethnic minorities, low income). Additionally, there is a sense of support for process-oriented constructs that could be incorporated into SCCT for at-risk adolescents. Taken together, this empirical base provides a rationale for the exploration of the SCCT

model of vocational hope as a method to expand career development theories for at-risk youth.

CHAPTER THREE

METHODS

The current chapter is divided into four subsections. First, the characteristics of the participants in the study are described. Next, the data collection procedure and instruments used in the study are discussed. Vocational hope was assessed using the Vocational Hope Scale (VH) and was developed prior to this study. Hope-related self-efficacy is measured by a combination of three sub-scales: Coping Self-efficacy (CSE), Career Decision-Making Self-efficacy (CDMSE; Fouad, Smith, & Enochs, 1997), and Academic Self-efficacy (ASE). The Positive Outcome Expectations (POE) and Negative Outcome Expectations (NOE) scales were developed for this study. Similarly, the Educational and Occupational Goals Scale (Goals) was developed for use in the current study. Third, the preliminary analyses on these measures are discussed. Finally, the main analyses, including the three models tested, are described.

Participants

The sample for this study consisted of adolescents in grades seven through eleven. Students were recruited from three schools in a large Midwestern urban area. Two schools were from public school districts and the third school was part of a network of Catholic schools. The schools were selected because they consisted of students representing a wide range of demographic variables, including race/ethnicity and social class. The final sample consisted of 147 participants (one participant was removed as a

result of not completing any scales used in analysis). Participants ranged in age from 12 to 18 years (Mean = 13.94, SD = 1.50). The sample consisted of 49.3% girls (N = 73) and 50.7% boys (N = 74). The largest ethnic group represented in the sample was Latino/a (38.5%). Other ethnicities were represented at the following percentages: Black/African American (15.5%), White (14.9%), Asian/Pacific Islander American (9.5%), Mixed Race (2.7%), Other (2.7%), Native American (1.4%). Eighty percent of the students in the sample were in middle school (7th or 8th grade) and the remainder of the sample (20%) consisted of high school students (grades 9-11). The majority (79.6%) of the students in the sample indicated that they intend to receive a 4-year or graduate degree.

Students reported their parents' level of education. Participants indicated that 27.2% of their fathers had, at most, a high school education, 5.4% reported that their father received an Associate's degree, 10.1% a Bachelor's degree, 3.4% a Master's degree, 2.0% a doctoral degree, and 43.9% reported that their father's level of education was "unknown." The remaining 8.1% of the sample did not report their father's level of education. Nearly thirty-three percent of the students' mothers had a high school education or less. Students reported that 6.8% of their mothers received an Associate's degree, 7.4% received a Bachelor's degree, 9.5% received a Master's degree and, 2.0% received a doctoral degree. A meaningful proportion (37.2%) of the sample reported that they did not know their mother's level of education and 4.7% of the sample did not report their mother's level of education.

Procedures and Instruments

Data were collected following a procedure approved by the author's university's Internal Review Board (Appendix A). Prior to approaching potential participants and their parents, permission was granted in writing from each site where data were collected (Appendix B). Using a pre-arranged and scripted protocol (Appendix C), the staff at the data collection site sent consent forms to the parents or guardians (Appendix D) of the adolescents who were recruited to participate in the study.

Data collection took place at a prearranged time for students who had turned in a guardian consent form. Prior to participating in the study, the researcher described the purpose of the study and informed the participants that involvement in the study was completely voluntary. The potential participants verbally assented to participate in the study (Appendix E). For those students who elected to participate in the study, they were asked to complete the Futures Questionnaire (Appendix F) which consisted of a demographic information page and scales measuring the following: vocational hope, hope related self-efficacy (coping self-efficacy, career decision-making self-efficacy, and academic self-efficacy), hope related outcome expectations (positive and negative), and academic and career goals. It took participants approximately 20 minutes to complete the Futures Questionnaire.

Demographic Information

Participants were asked to provide a single page of demographic information including: age, gender, race/ethnicity, year in school, educational goal, and their father's

and mother's highest level of education. This information was collected to ensure a diverse range of young people was included in the sample.

Vocational Hope

The vocational hope scale (VH) was developed prior to this study using exploratory factor analysis (EFA) with an independent sample of middle school students ($N = 80$). Seventy items that assessed young people's futures and careers were used in this EFA. The items were drawn from nine different existing measures assessing constructs related to people's perceptions of their futures. The original measure also included six items written to tap into the unique definition of vocational hope written by Brown and colleagues (2013). All of the items use a five-point response scale ranging from 1 (strongly disagree) to 5 (strongly agree).

After subjecting the data to principal axis factoring with direct oblimin rotation, three factors emerged. These factors appeared to represent positively worded items, negatively worded items, and vocational hope. The items on the vocational hope scale that loaded saliently (greater than .40) were retained to construct the scale used for the present study. This resulted in a six-item scale. Three items of the scale were reversed in order for high score to reflect greater hope in obtaining meaningful work in the future. A sample item is, "I trust I'll have a meaningful job in the future." Internal consistency for the scale in the current sample was .62.

Hope-Related Self-Efficacy

Brown and colleagues (2013) identified three components of self-efficacy that are related to vocational hope: coping self-efficacy, career decision-making self-efficacy, and

academic self-efficacy. The three subscales were selected and developed in order to be contextually relevant for vocational hope and the process of getting meaningful work in the future. For each of the three sub-scales, the response format was “1= not at all confident” to “5=very confident.”

Coping self-efficacy subscale (CSE). CSE was assessed using an eleven-item scale developed for the study. Items assessed the individuals’ perception of their abilities to cope with a lack of support from important others, cope with differing values from important others, and persist in the face of barriers. Total scores were used in assessment of CSE and high scores reflect a greater level of coping self-efficacy. An example item is: “I can overcome a negative school environment.” Reliability estimates for this sample was .69.

Career decision-making self-efficacy subscale (CDMSE; Fouad et al., 1997). CDMSE was assessed using a modified version of part of The Middle School Self-efficacy Scale (Fouad & Smith, 1997). Only the career decision-making self-efficacy items were used. Content of the items was not altered; however, the items were reworded to allow for consistent response scales to be used across all three self-efficacy subscales. The CDMSE scale is a twelve-item scale. Items assessed the individual’s perception of his/her ability to complete tasks related to selecting a career or getting a job and a higher score reflected a greater perception of ability. “I can decide what I value most in an occupation,” is a sample item. The CDMSE scale showed large correlations with career decision-making outcome expectations ($r = .56$) and career decision-making goals ($r =$

.59) and reasonable reliability estimates ($\alpha = .79$) in a sample of Latino 7th and 8th grade students (Fouad et al., 1997). In the present sample, Cronbach's alpha was .80.

Academic self-efficacy subscale (ASE). ASE was assessed using a six-item scale that measured individuals' confidence that they will be able to complete the academic tasks necessary to gain meaningful work in the future. This scale was developed for the study in consultation with self-efficacy scales used in other contextual domains. An existing measure was not appropriate for this study because other measures of academic self-efficacy are typically content-driven as opposed to process-driven, which is the context of the present study. Higher scores reflected a greater sense of academic self-efficacy and a total score was used to reflect participants' ASE. A sample item is "I can perform well on my exams." Internal consistency of the Academic Self-Efficacy Scale in this sample was .86.

Hope-Related Outcome Expectations

Similarly to the hope-related self-efficacy beliefs, the outcome expectations assessed as part of the vocational hope model of SCCT needed to be context specific. As such, items were created for this study as no existing outcome expectation scales were appropriate to assess hope-related outcome expectations. Brown and colleagues (2013) identified three components of hope-related self-efficacy beliefs: positive outcome expectations, negative outcome expectations, and comparisons to alternatives. However, only positive and negative outcome expectations were assessed in this study. The outcome expectations scale began with the following prompt: "If I do things now to help me get a meaningful job in the future like doing well in school, getting information about

different careers or talking to a school counseling, the...” This was included to insure that the outcomes were related to the process of obtaining meaningful work as opposed to having a specific career. The response scale ranged from “1 = strongly disagree” to “5 = strongly agree.”

Positive outcome expectations scale (POE). POE consists of items assessing potential positive outcomes associated with putting in effort to gain meaningful work. Nine items made up this subscale and a sample item is “My family will be proud of me.” Items represented self-evaluative, material, and social consequences to engaging in the activities that can lead to meaningful work in the future. Higher scores reflected a greater perception of positive outcomes for engaging in these activities. In the present sample Cronbach’s alpha was .86.

Negative outcome expectation scale (NOE). NOE is made up of seven items evaluating potential negative outcomes of the participant’s efforts to obtain meaningful work in the future including the three dimensions mentioned above for the positive outcome expectation scale. “I’d miss out on other things I’d rather do,” is a sample item. Higher scores indicated a higher sense of negative outcomes for engaging in activities that would lead to meaningful work in the future. Internal consistency of the negative outcome expectation scale for the current sample was .74.

Educational and Occupational Goals Scale (Goals)

Goals, a thirteen-item scale, was written in consultation with existing measures of career intentions and goals (e.g., Betz & Vuyten 1997, Fouad et al., 1997) to assess hope-related academic and career goals that are contextually relevant to the hypothesized

process model. Existing measures of academic and occupational goal intentions were not sufficient regarding the process-related goals essential to vocational hope and finding a meaningful job in the future. The items assess how likely an individual is to engage in activities that demonstrate academic or career goals. The response scale ranges from “1 = not at all likely” to “5 = very likely.” Items were increasingly challenging and a higher score reflected greater goals for the future. A sample item is, “I intend to develop a plan for my future.” The reliability estimate for the sample used in the study was a Cronbach’s alpha of .89.

Preliminary Analyses

Using conventions of the field for studies using Structural Equation Modeling (SEM) and path analysis, a sample size that would provide between 5 and 10 observations for parameter estimated was sought (Kline, 2010). The least parsimonious model tested included 16 estimated parameters indicating that the sample should consist of between 80 and 160 participants.

Cases with missing data were not removed from analysis for this study (except for one participant who did not complete any scale). As the data were sufficiently normal in terms of skewness and kurtosis (skew < 2.00, kurtosis < 7.00) and appeared random, missing data were handled using a Maximum Likelihood Estimation following the recommendations of Enders (2010). This approach to handling missing data limits the number of participants removed from analysis.

Descriptive statistics were calculated using SPSS Version 22 (IBM, 2013). These included mean, standard deviation, observed range, skewness, and kurtosis for all scales

used. Bivariate correlations for total scores were also calculated. In order to verify that there were no differences between variables across demographic variables including grade level (middle school versus high school students), race/ethnicity, and gender, t-tests were employed.

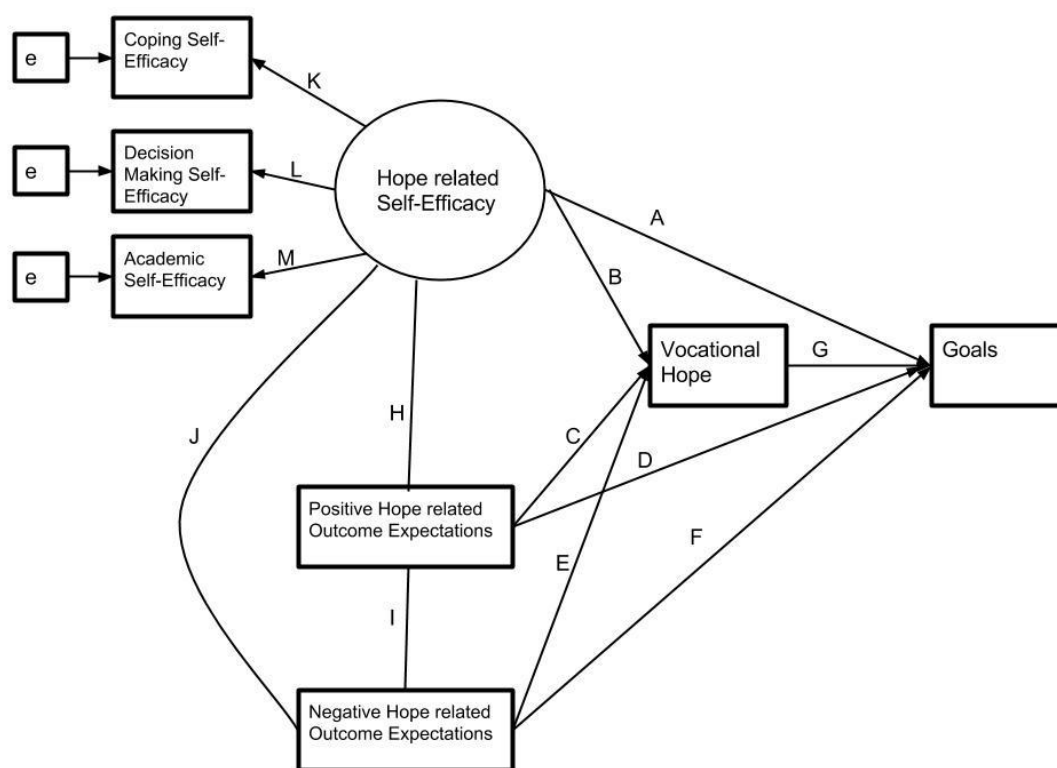
Main Analyses

The main analysis, the exploration of the SCCT models of vocational hope, was completed using structural equation modeling (SEM) using MPlus Version 7 (Muthen & Muthen, 1998-2012). Full SEM models were included in this study. A full model consists of a combination of measurement model and path relationships among variables. In the case of this study, hope related self-efficacy was considered a latent variable that consisted of coping, career decision-making, and academic self-efficacies as described by Brown and colleagues (2013). Each of the observed, or measured, variables was allowed to load and contribute to the higher order, latent factor. A full SEM model additionally includes a path component which describes the relationships between some combination of latent and observed variables. In the present study, a path model explored the relationships between positive and negative outcome expectations, hope related self-efficacy, vocational hope, and educational and occupational goals as described in each of the three models discussed below. SEM models were assessed in two ways; first by assessing the overall fit of the model and then by evaluating the path coefficients (an effect size for the relationships between variables).

The three models tested were assessed to determine what, if any, role vocational hope serves in the SCCT model. Several fit indices were used to assess the fit of the

hypothesized and alternative models. The overall goodness of fit was assessed using both absolute and comparative fit indices: the root mean square error of approximation (RMSEA), standardized root mean residual (RSMR), Tucker Lewis index (TLI), and comparative fit index (CFI). The parameters of the model were also inspected as part of each model's evaluation.

Figure 5. Model A: Hypothesized model where vocational hope serves as a partial mediator.



In the hypothesized model (Model A; Figure 5), vocational hope partially mediated the relationship of both hope-related self-efficacy beliefs and outcome expectations and academic and career goals (paths A-F). Partial mediation in the figure is demonstrated by the direct paths (A, D, F) from self-efficacy and outcome expectations to goals in addition to the paths from self-efficacy and outcome expectations to goals

through vocational hope (B, C, E). This model tested if vocational hope partially explained the relationship between self-efficacy and outcome expectations with goals, as hypothesized by Brown et al. (2012).

Because an important purpose of this study, based on prior SCCT research, was to assess if vocational hope is a superfluous construct in the SCCT model, the second alternative model (Model B; Figure 6) fixed all of the paths to or from vocational hope to zero, which allowed for the author to answer the question, “Is vocational hope additive to SCCT?”, by essentially removing vocational hope from the model.

Figure 6. Model B: Vocational hope removed.

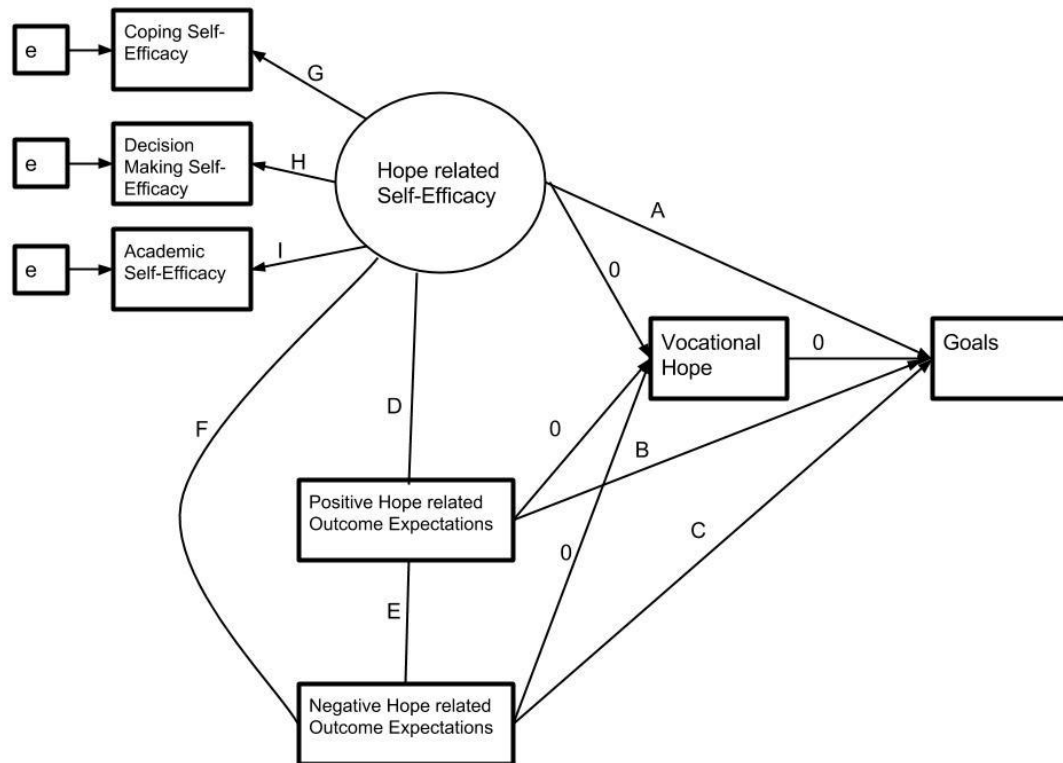
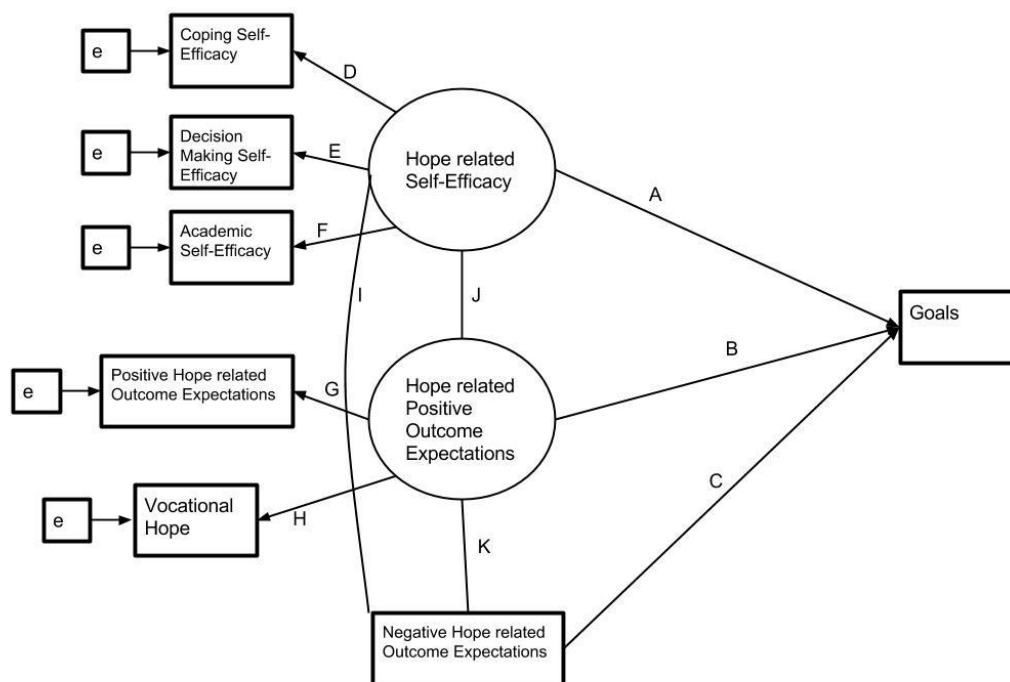


Figure 7. Model C: Vocational hope as outcome expectation.



The second alternative model (Model C, Figure 7), explores the possibility that vocational hope functions more appropriately as an outcome expectation since it, like the more proximal outcome expectations, can be positive or negative, but in this case about a more distal future. As measures were developed for the study, the author was conscious in developing vocational hope items that were not similar to self-efficacy in that they did not reflect any direct reference to self-agency. An attempt was made to make conceptually distinct scales for outcome expectations and vocational hope, this proved to be more difficult than the distinction with self-efficacy. Therefore, it was reasonable to conclude that vocational hope may have a more appropriate fit in the model as an outcome expectation. In this model, vocational hope and positive outcome expectations were combined to result in a latent factor (paths G and H). The rest of the model

remained similar to the hypothesized model except that there is no mediating variable.

Testing this model allowed the author to explore if vocational hope serves as an outcome expectation as opposed to a new, unique construct, in the prediction of vocational and educational goals.

CHAPTER FOUR

RESULTS

This chapter presents the results of the study. It begins with a summary of descriptive statistics. Next, the results of the main analysis using SEM are discussed. This begins with an evaluation of the goodness of fit of the three models described earlier. Finally, the parameters of the best fitting model are explored.

Descriptive Statistics

The bivariate correlations, means, standard deviations, observed ranges, potential ranges, skewness, and kurtosis for the variables assessed in this study are presented in Table 1.

All correlations between variables are statistically significant except for the relationships of negative outcome expectations (NOE) and coping self-efficacy (CSE), academic self-efficacy (ASE), and positive outcome expectations (POE). Significant correlations ranged in size from a magnitude of .11 (career decision-making self-efficacy, CDMSE with NOE) to .66 (POE with goals). The large correlations between POE and goals ($r = .66$), and vocational hope and ASE ($r = .65$) suggest that these constructs are highly related and perhaps are similar and may not represent unique variables. The three hope-related self-efficacy sub-scales are reasonably correlated (r from .34 to .52) suggesting that it was appropriate to combine these into a latent variable for further

analysis as hypothesized. Cronbach's alpha ranged from .62 to .89 indicating that relationships between variables were minimally attenuated in this study.

Table 1. The Bivariate correlations, means, standard deviations, observed ranges, potential ranges, skewness, kurtosis, and internal consistency for SCCT vocational hope study variables.

	VH	CSE	CDMSE	ASE	POE	NOE	Goals
VH		.31**	.52**	.33**	.65**	-.32**	.37**
CSE			.41**	.34**	.48**	-.02	.40**
CDMSE				.52**	.55**	-.19*	.49**
ASE					.46**	-.11	.59**
POE						-.13	.66**
NOE							-.04
Mean	23.06	36.85	43.54	23.38	37.44	19.50	55.84
SD	3.36	6.99	6.80	4.52	5.40	5.08	6.54
OR	12-30	12-30	25-58	12-30	20-45	9-32	39-65
PR	6-30	12-30	12-60	6-30	9-45	7-35	13-65
Skewness	-.12	.00	-.24	-.42	-.80	.35	-.37
Kurtosis	.21	.05	.44	.40	.41	.43	.41
IC	.62	.69	.80	.86	.86	.74	.89

** $p < .01$, * $p < .05$, VH-Vocational hope, CSE-Coping self-efficacy, CDMSE-Career decision-making self-efficacy, ASE-Academic self-efficacy, POE-Positive outcome expectations, NOE-Negative outcome expectations, SD-Standard deviation, OR-Obtained range, PR-Potential range, IC-Internal consistency

Prior to moving further with analyses, data were inspected to determine if there were any significant differences in measured constructs across demographic variables. There were no significant mean differences on any measure across grade level (middle school versus high school students) or race/ethnicity. There were several mean differences across gender. Female participants scored significantly higher ($M = 24.22$, $SD = 3.84$) than male participants ($M = 22.54$, $SD = 5.01$), $t(141) = 2.26$, $p = .03$ on ASE. Similarly, girls ($M = 38.65$, $SD = 4.73$) endorsed higher levels of POE than boys ($M = 36.23$, $SD = 5.79$), $t(136) = 2.69$, $p = .008$. There was one additional gender difference, as female participants ($M = 57.21$, $SD = 6.28$) indicated they had higher goals than male

participants ($M = 54.45$, $SD = 6.55$), $t(137) = 2.54$, $p = .012$. The remaining four variables showed no significant differences across gender.

Structural Equation Modeling

In order to assess the role of vocational hope in SCCT analysis began with an evaluation of the overall fit of the models. This was achieved by assessing several measures of model fit. In the case of the present study four fit indices were used. The root mean square error of approximation (RMSEA), standardized root mean residual (SRMR), Tucker-Lewis index (TLI), and comparative fit index (CFI). The absolute fit indices, RMSEA and SRMR, assess the amount of error in the fit of the data to the model and smaller values indicate a better fitting model. Following standard conventions (Browne & Cudeck, 1989; Hu & Bentler, 1998), models were judged as having acceptable fit with RMSEA and SRMR values less than .08, and as having good fit if their values were .05 or less. For TLI and CFI, the standard for acceptable fit is .90 and good fit is .95 (Bentler, 1990; Bentler & Bonett, 1980). TLI and CFI are comparative fit indices and evaluate how well the data fit the model compared to an independent model, thus higher values indicate a better fit. In assessing goodness of fit for an SEM model, several fit indices are inspected and a consensus across the metrics provides evidence if a model is appropriately fitting or not.

Table 2 provides the results of the goodness of fit of each of the three vocational hope SCCT models. An inspection of these results suggests that Model A, the hypothesized model where vocational hope partially mediates the relationships between self-efficacy beliefs and outcome expectations with goals, has consistently acceptable fit.

Model B, where vocational hope was removed from the model, does not fit the data well using any of the metrics. Finally, Model C, where vocational hope is functioning as an outcome expectation, results are mixed with two of the four indices reflecting acceptable fit. Taken together, these data suggest that the hypothesized model of vocational hope serving as a partial mediator in the SCCT model is the most appropriate of the three models. This suggests that vocational hope is not superfluous to self-efficacy beliefs and outcome expectations in the prediction of educational and occupational goals.

Additionally, hope functions well as a unique construct as opposed to as serving as an outcome expectation.

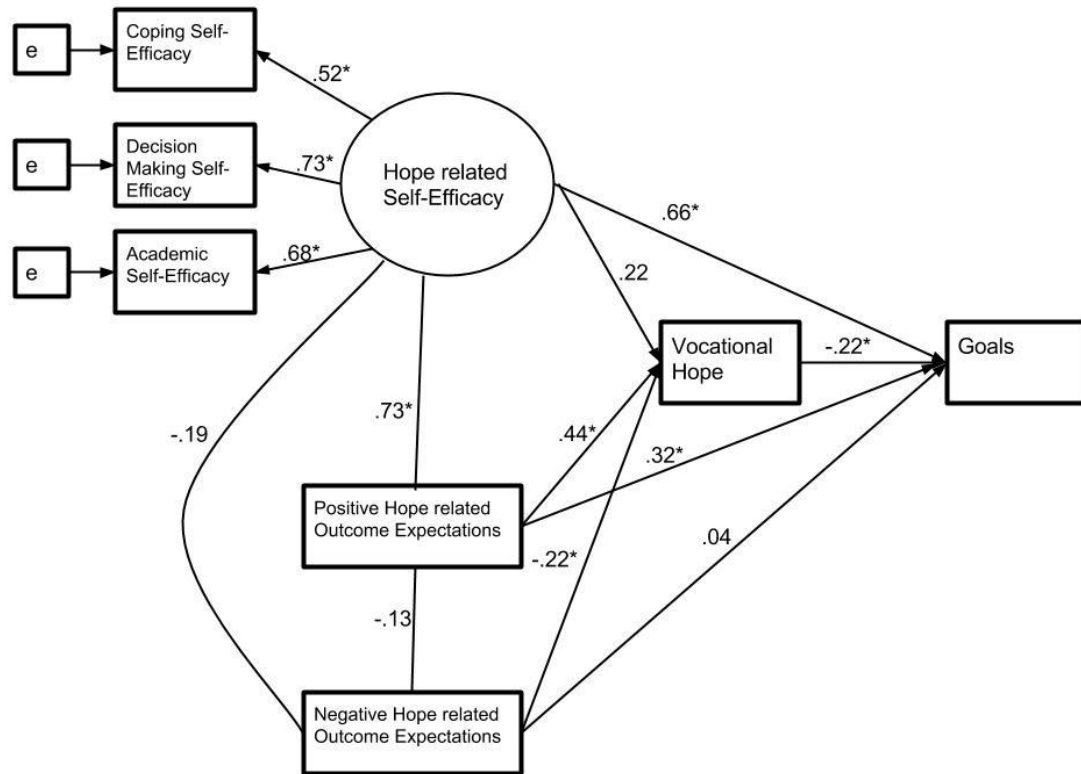
Table 2. Fit indices for three vocational hope SCCT models.

	χ^2	df	RMSEA	SRMR	CFI	TLI
Model A: Hypothesized Model, Partial Mediation	13.22	8	.07	.04	.98	.96
Model B: Alternative Model, Vocational Hope Removed	104.33	12	.23	.18	.70	.50
Model C: Alternative Model, Vocational Hope as an outcome expectation	30.93	8	.12	.06	.93	.86

df = degrees of freedom, RMSEA = Root mean square error of approximation, SRMR = Standardized root mean residual, CFI = Comparative fit index, TLI = Tucker-Lewis index

Inspecting model fit is not sufficient to determine if a model is interpretable and meaningful because it does not provide any information regarding the strength of the relationships among variables. In order to do this, an inspection of the path coefficients was necessary. Figure 8 includes the parameters estimated for Model A in the present sample. There are several paths worth noting.

Figure 8. Model A with parameter estimates.



* $p < .05$

First, in this sample, self-efficacy had a strong, statistically significant direct relationship with goals (.66). That is, students who feel they are able to complete both academic and career decision-making tasks and are able to cope in the face of difficulties are likely to have higher educational and occupational goals. This result is similar, although stronger in magnitude, to SCCT models in other contextual areas like career decision-making, math intentions, and college-going for adolescent samples (e.g., Gibbons & Borders, 2010, Jantzer, Stalides, & Rottinghaus, 2009; Navarro, Flores, & Worthington, 2007). In exploring the measurement component of this model, factor

loadings range from .52 to .68 suggesting that all three components of hope related self-efficacy contribute meaningfully to the latent construct.

Second, the relationship between self-efficacy and vocational hope is non-significant for our sample and somewhat small (.22). This indicates that vocational hope does not substantially mediate the relationship between self-efficacy and goals.

Third, a somewhat different picture about the role of vocational hope is seen when exploring how it explains, or mediates, the relationship between outcome expectations and intentions. For both types of outcome expectations, the relationship with vocational hope is significant (.44 and -.22 with POE and NOE, respectively). The directions of these relationships are also as expected, where positive outcome expectations are associated with increased hope and vice versa for negative outcome expectations. However, the direct relationship between negative outcome expectations and goals is small and non-significant (.04), while the direct path from positive outcome expectations to goals is moderate and significant (.32). Thus, positive, but not negative, outcome expectations seem to influence goals directly as well as indirectly via vocational hope. These results are consistent with the relationships between outcome expectations and goals in other contextual domains (e.g., Gibbons & Border, 2010; Jantzer et al., 2009; Navarro et al., 2007).

Fourth, the relationship between self-efficacy and outcome expectations suggests that self-efficacy, as anticipated, is strongly related to positive outcome expectations (.73). This suggests that strong self-efficacy beliefs may lead to more positive outcome expectations. There are negative, small, and non-significant relationships between

negative outcome expectations and both positive outcome expectations (-.13) and self-efficacy (-.19). These path coefficients mirror the relationships described earlier in the bivariate correlations.

Fifth, due to the strong relationship between self-efficacy and positive outcome expectations it was also important to evaluate the indirect effect of self-efficacy beliefs on goals through positive outcome expectations or partial mediation. This indirect effect is .23. This provides further evidence for the importance of both self-efficacy and positive outcome expectations on the development of educational and career intentions.

The sixth, and perhaps most important, relationship in this model is that vocational hope has a somewhat small, significant relationship with goals. However, the relationship is negative. This was particularly surprising because the bivariate correlation between hope and goals was .37. This path coefficient is likely the result of multicollinearity among variables in the data set. Multicollinearity can occur when variables are highly correlated with each other (Grewal, Cote, & Baumgartner, 2004). Several bivariate correlations in this study (e.g., $r = .65$ between VH and ASE and $r = .66$ between POE and goals) are large enough to raise multicollinearity as a possibility. The likelihood of multicollinearity suggests that vocational hope is so embedded with other elements of the model that the impact of this path on goals may have been reduced, and reversed. In other words, self-efficacy and positive outcome expectations account both directly and indirectly for so much variance in academic and vocational goals that there is little left over for which vocational hope can uniquely account.

Summary

The purposes of this study have been achieved. The first question, understanding the variables that promote vocational hope and educational/vocational goals, was addressed by evaluating the relationships among the measured variables. The results provided support for self-efficacy beliefs and positive and negative outcome expectations predicting vocational hope, while only self-efficacy beliefs and positive outcome expectations gave rise to goals. The second purpose of this study was to determine what role vocational hope served in predicting goals. Results suggest that vocational hope does not add to the prediction of goals above what self-efficacy beliefs and positive outcome expectations contribute. The next chapter will discuss the impact of these results, clinical implications, future directions, and limitations of the study.

CHAPTER FIVE

DISCUSSION

This chapter includes a discussion of the results of this study and their importance to the field, beginning with the correlations between measured variables. Next, the gender differences observed in academic self-efficacy, positive outcome expectations, and educational and occupational goals are explored. These preliminary results are followed by a discussion of the conclusions that can be drawn from the structural equation modeling (SEM). This discussion focuses on what roles hope-related variables may serve in the Social Cognitive Career Theory (SCCT) and the development of educational and career intentions. Clinical implications of the results will be explored prior to discussing the limitations of the study and areas for further study.

Preliminary Analysis Discussion

The bivariate correlations among the seven measured variables suggest a number of conclusions. First, vocational hope is significantly correlated with all of the other constructs included in the study (r 's from .31 to .65, including a negative correlation with negative outcome expectations). This suggests that vocational hope is related to other, established, constructs in SCCT indicating that it has the possibility of serving as additive component in the model. However, the high correlation (.65) between vocational hope and positive outcome expectations (POE) indicates that perhaps these constructs overlap sufficiently enough that as measured in the current study they may not be distinct from

each other. A similarly large relationship is present between POE and goals (.66)—again suggesting that these constructs may not be unique. While the direction of the relationships between these constructs is similar to SCCT in other contexts, the magnitude of the correlations is not (with an exception of male participants in Jantzer et al., 2009). This suggests that multicollinearity may be present in the current data set. These large bivariate correlations suggest the possibility that the instruments created for this study need to be reevaluated and modified to ensure that the constructs measured are more distinguishable for participants.

This study was also interesting because of the lack of significant relationships found with negative outcome expectations (NOE). In the present study, NOE was only significantly related to career decision-making self-efficacy (CDMSE) and vocational hope. The small and non-significant relationships with NOE indicate that negative hope-related outcome expectations are not predictive of the development of academic and occupational goals. Also interesting is that the relationship of POE is in such contrast to NOE in terms of potential influence on the development of goals. These results are similar to previous studies. For example, Gibbons and Borders (2010) found small, non-significant relationships between negative and positive outcome expectations and self-efficacy in a college-going context. Together these data may suggest that seeing positive consequences from working toward meaningful work in the future may carry more weight in the development of vocational hope than the expectation of negative consequences.

Additionally, the mean comparisons suggest several possible conclusions. First, the lack of any statistical differences across middle and high school students is meaningful. Participants in middle and high school samples reported similar levels of each of the seven measured variables. These non-significant results suggest that the hope related variables do not differ based on the current level of education for students. This provides some preliminary evidence that the constructs do not vary across age. Similarly, students of different race/ethnic groups did not have statistically significant mean differences across all seven measured variables.

There were several variables that differed across gender. Female students reported statistically higher levels of academic self-efficacy (ASE), positive outcome expectations (POE), and goals than did males. Literature regarding gender difference in social cognitive variables is somewhat mixed. However, Jantzer and colleagues (2009) have noted that women and girls scores higher than men and boys on process-oriented measures like career decision-making self-efficacy and goals.

Structural Equation Modeling Discussion

Results from the SEM analyses were somewhat mixed. Evaluation of the overall fit of the three tested models suggested that the hypothesized model, Model A, was the only acceptably fitting model. This indicated that vocational hope, as hypothesized by SCCT, might serve as a partial mediator of the relationships between self-efficacy beliefs and outcome expectations with goals. However, path coefficients suggested a presence of multicollinearity. The positive bivariate correlation between hope and goals (.37) reversed in sign to a negative path estimate (-.22) when the other social cognitive

variables were included in the model. This along with several high bivariate correlations elsewhere in the dataset (several correlations were larger than .60) suggest that multicollinearity likely occurred.

Thus, despite the fit of the hypothesized model it is difficult to conclude that vocational hope contributes uniquely to the prediction of adolescents' goals. In fact, at this point, it appears that vocational hope may be superfluous in predicting students' educational and career goal intentions because it may not provide unique motivational information that is not already provided by self-efficacy and outcome expectations.

While hope did not contribute to the prediction of goals when self-efficacy and positive outcome expectations were considered, this study clearly indicates the importance of self-efficacy beliefs to the development of educational and career goals. Young people who have strong coping perceptions, complete academic tasks, and successfully engage in career decision-making tasks had higher intentions for their educational and occupational engagement. They also reported more positive outcome expectations. Thus, the influence of self-efficacy on goals occurred both directly and indirectly through positive outcome expectations.

Finally, while self-efficacy beliefs had the strongest influence on goals, positive outcome expectations also provide a meaningful contribution to understanding educational and career intentions. In other words, adolescents who believe that positive self-evaluative, social, and material consequences will be associated with educational and career involvement will be more likely to intend to engage in school and career development activities.

As this is the first study exploring the SCCT in a hope-related context, it is difficult to make comparisons to other studies. However, the underlying role of self-efficacy beliefs and outcome expectations in the prediction of educational and occupational goal intentions continues to be supported as it has across numerous contexts and populations (e.g., Brown et al., 2008, Brown, Lent, Telander & Tramayne, 2011, Duffy & Lent, 2009, Lent et al., 2005, Lent et al., 2007). The role of vocational hope itself remains less clear and needs further exploration.

In conclusion, the purposes of the present study, (1) to explore the roles of self-efficacy beliefs and outcome expectation in promoting vocational hope and academic and educational goals and (2) to understand the relation of vocational hope to goals or intentions to engage in career- and school-related tasks, have been met. Self-efficacy beliefs and positive outcome expectations predict vocational hope as well as academic goals. However, negative outcome expectations do not relate to goals, but were, as hypothesized, inversely related to vocational hope. Finally, these data suggest that vocational hope may not serve as a predictor of academic goals and intentions. This area needs further exploration, although issues of multicollinearity will need to be addressed in the future.

Clinical Implications

The clinical implications from the study are nuanced. The impact of self-efficacy beliefs and positive expectations on goals were supported by the present study. As such, supporting the development of educational and vocational goals through an emphasis on skill development and improving self-efficacy beliefs across academic, career decision-

making, and coping domains when working with young people, either individually or through programs is suggested. Although a focus on developing positive outcome expectations is also suggested, the indirect path of self-efficacy to goals through outcome expectations suggests that self-efficacy focused interventions may have a positive impact on outcome expectations. As vocational hope was not found to contribute uniquely to the prediction of goals based on these results, it is not included in the scope of clinical implications.

There are a number of interventions that are suggested by SCCT in general and could be applied to programs to build positive self-efficacy beliefs outlined by Lent and colleagues (1994). One such intervention is to provide young people with opportunities for success. Allowing students the ability to develop time management and study skills to facilitate academic performance could enable success experiences in the academic domain. Students may have the opportunity to engage in activities related to career decision-making such as identifying interests and making plans to bolster their self-efficacy.

Furthermore, coping self-efficacy could be beneficial to help young people understand past successes and to understand how they overcame past challenges. In addition to providing opportunities for success, students' self-efficacy beliefs could be bolstered by receiving positive feedback regarding past success experiences. Other interventions that have the potential of leading to greater self-efficacy and outcome expectations would be through modeling. A potential modeling intervention would be to

connect students with mentors who have faced similar life experiences and who have achieved academic and vocational goals.

Together, the interventions identified above could lead at-risk youth to develop a greater sense of efficacy across coping, career decision-making, and academic domains. The results of this study suggest that such interventions might then lead to increased positive outcome expectations and ultimately to higher educational and occupational goals.

Future Directions

Research exploring educational and occupational goals clearly indicates the importance of having a positive future orientation. Thus, despite the results of this study indicating that vocational hope may not add substantially to the prediction of educational goals, vocational hope should not be discarded as unimportant. Rather, vocational hope may have been misplaced in the tested models. An avenue for future research will include exploring vocational hope in different locations in the SCCT models. The existing SCCT models have received a great deal of support about people's career interests and choices. However, these models have not explored the process of the career development.

A recent model of SCCT, the self-management model (Lent & Brown, 2013), expands upon and compliments the existing models by addressing the process (rather than content) aspects of career development. The self-management model is focused on answering questions about how career tasks are completed across content areas. It does this largely by identifying adaptive behaviors that lead to successfully navigating both predictable and unpredictable changes across the career span. Some of these behaviors

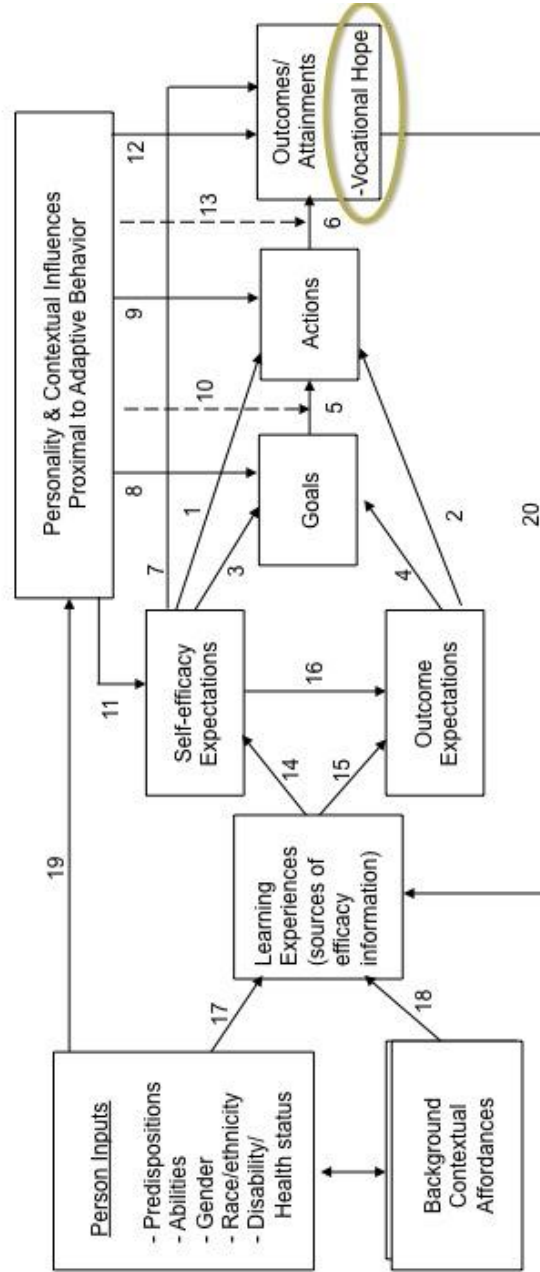
are developmental tasks and part of the normative growth process, while others fall into a group of coping processes to address unpredictable or unforeseen circumstances that impact the career development process.

Self-efficacy and outcome expectations remain at the core of the self-management model. Context appropriate self-efficacy beliefs (e.g., career exploration self-efficacy beliefs) and outcome expectations (e.g., anticipated outcomes of career exploration) related to developmental tasks lead to goals and intentions (e.g., intentions to engage in career exploration), actions (e.g., actually engaging in career exploration activities), and ultimately to a variety of possible positive outcomes/attainments (e.g., vocational hope). Thus, it is possible that vocational hope may better fit in Lent and Brown's (2013) social cognitive self-management model as an outcome of engaging in career and educational development activities rather than as a predictor of goals and actions (See Figure 9).

In other words, vocational hope (and perhaps other future-oriented constructs like career concern) emerges over time as students engage in educational and career development activities. Success at these activities (which is a function of task-specific self-efficacy beliefs and outcome expectations) raises hope, while failure lowers it. Feelings of vocational hope then feed backwards to alter (raise or lower) self-efficacy beliefs and outcome expectations in an on going feedback loop.

This possibility that vocational hope serves as a distal outcome is important to explore with future studies. This will provide increased clarity about how and where a future orientation may influence the career development of young people. Thus, future research on vocational hope may explore if the construct fits more appropriately as a

Figure 9. SCCT self-management model with vocational hope



distal outcome in the SCCT self-management model and also incorporate contextual (e.g., supports and barriers) and person (e.g., social political development) variables that are hypothesized to influence the development of self-efficacy beliefs and outcome expectations.

Limitations

This study has several important limitations to consider. The first is related to the presence of multicollinearity among the measures. A central question to address in future studies is whether vocational hope actually has no unique motivational properties beyond self-efficacy beliefs and outcome expectations in the prediction of career and educational goals versus being the result of measurement artifact in this study. Future studies exploring vocational hope and other hope-related constructs would benefit from evaluating measures using validity studies to ensure that constructs included in the model are unique to reduce the possibility of multicollinearity occurring.

A related limitation of the study was that the majority of scales were developed for use in this study. That made it impossible to assess the validity and reliability evidence of the tools used prior to data collection. However, as this was the first study exploring vocational hope in SCCT and due to the contextual requirements of SCCT this was unavoidable (other than for career decision-making self-efficacy—the only appropriate existing measure identified). This concern will likely be rectified as more studies are completed on vocational hope (and other studies using the self-management model).

The third limitation of this study relates to the sample size. While the sample was sufficiently large following recommendations from Kline (2010), it did not reach the optimal sample size where there would be ten observations for each parameter estimated. Finally, in order to truly assess the role of SCCT variables and vocational hope on the development of goal intentions longitudinal data would need to be used and the present study used only cross-sectional data.

Summary

While the hypothesized model was not supported on the basis of the parameter estimates, this study still replicated and underscored the importance of self-efficacy beliefs and positive outcome expectations as predictors of development of goal intentions. These results fit well with the theoretical tenants of SCCT. Although it appears that vocational hope may not contribute to the prediction of goals above the contributions of self-efficacy beliefs and outcome expectation, the importance of a future orientation in other literature (e.g., Diemer & Bluestein, 2007; Marco & Savakas, 1998) has been well established. Therefore it is possible that vocational hope and other future-oriented constructs may serve a different role than was hypothesized in the current study. An encouraging possibility is to explore vocational hope as a distal outcome of goal progress in the career self-management model (Lent & Brown, 2013).

APPENDIX A
IRB APPROVAL LETTER

Sunday, March 15, 2015

Dear Andrea Carr,

On Sunday, April 6, 2014 the Loyola University Chicago Institutional Review Board (IRB) reviewed and approved your Initial application for the project titled "**The Role of Vocational Hope in the Social Cognitive Career Theory: A Test of Three Models**". Based on the information you provided, the IRB determined that:

- the risks to subjects are minimized through (i) the utilization of procedures consistent with sound research design and do not unnecessarily expose participants to risk, and (ii) whenever appropriate, the research utilizes procedures already being performed on the subjects for diagnostic or treatment purposes
- the risks to participants are reasonable in relation to anticipated benefits, if any, to participants, and the importance of the knowledge that may reasonably be expected to result
- the selection of subjects is equitable
- informed consent be sought from each prospective subject or the subject's legally authorized representative, in accordance with, and to the extent required by §46.116
- informed consent be appropriately documented, in accordance with, and to the extent required by §46.117
- when appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of subjects
- when appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of data
- when some or all of the subjects are likely to be vulnerable to coercion or undue influence, such as children, prisoners, pregnant women, mentally disabled persons, or economically or educationally disadvantaged persons, additional safeguards have been included in the study to protect the rights and welfare of these subjects

In addition, the IRB determined that documented consent is not required for all participants.

The IRB approved a waiver of documentation of informed consent.

This review procedure, administered by the IRB, in no way absolves you, the researcher, from the obligation to adhere to all Federal, State, and local laws and the Loyola University Chicago policies. Immediately inform the IRB if you would like to change

aspects of your approved project (please consult our website for specific instructions). You, the researcher, are respectfully reminded that the University's ability to support its researchers in litigation is dependent upon conformity with continuing approval for their work.

Please notify the IRB of completion of this research and/or departure from the Loyola University Chicago by submitting a Project Closure Report using the CAP system. In all correspondence with the IRB regarding this project, please refer to IRB project number #1381 or IRB application number #2389.

The IRB approval granted for this project expires on **4/6/2015 12:00:00 AM**

If you have any questions regarding this approval, the IRB, or the Loyola University Chicago Human Subject Protection Program, please phone the Assistant Director for Research Compliance at (773) 508-2689 or email the IRB at irb@luc.edu.

Best wishes for your research,

Raymond H. Dye, Jr., Ph.D.
Chairperson, Institutional Review Board

APPENDIX B

SITE APPROVAL LETTERS

FAIRVIEW SOUTH SCHOOL

7040 Laramie Avenue – Skokie, IL. 60077 (847) 929-1048 – Fax: (847) 929-1058



February 27, 2014

Andrea Carr, M.Ed.
Doctoral Candidate

Chair
School of Education
Loyola University Chicago
820 North Michigan Avenue
Chicago, IL 60611

Steven D. Brown, Ph.D.
Professor & Dissertation

School of Education
Loyola University Chicago
820 North Michigan Avenue
Chicago, IL 60611

Dear Ms. Carr,

Andrea Carr has my permission to collect data as part of her dissertation research site at this site. I am aware that Andrea Carr is a student and that she is being supervised by Dr. Steven Brown. I understand that this project is investigating the career development process of adolescents.

I am giving Andrea Carr my permission to recruit participants for her study at this site. She will obtain parental consent prior to data collection. Andrea will be allowed to administer the Futures Questionnaire, a 70-item survey that will take approximately 30 minutes. Survey data will be anonymous and participants have the ability to stop completing the questionnaire at any time.

Sincerely,

David L. Russo

David L. Russo
5-8 Principal
Fairview South School

April 15, 2014
Andrea Carr, M.Ed.
Doctoral Candidate School of Education
Loyola University Chicago
820 North Michigan Avenue
Chicago, IL 60611

Steven D. Brown, Ph.D.
Professor & Dissertation Chair School of
Education
Loyola University Chicago
820 North Michigan Avenue
Chicago, IL 60611

Dear Ms. Carr,

Andrea Carr has my permission to collect data as part of her dissertation research site at this site. I am aware that Andrea Carr is a student and that she is being supervised by Dr. Steven Brown. I understand that this project is investigating the career development process of adolescents.

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Sincerely,

A handwritten signature in black ink, appearing to read "Erika Mickelburgh". The signature is fluid and cursive, with a large initial "E" and a long, sweeping underline.

Erika Mickelburgh
Head of Secondary School
St Benedict Preparatory School
3900 N. Leavitt St.
Chicago, IL 60618
(773)539-0066 ext 317
emickelburg@stbenedict.com

**HELEN C. PEIRCE SCHOOL OF
INTERNATIONAL STUDIES**

1423 W. Bryn Mawr Avenue • Chicago, Illinois 60660 • Telephone: 773/534-2440 • Fax: 773/534-2577
Nancy Mendez – Principal Colin Murphy – Assistant Principal

February 13, 2014

Loyola University
Chicago Office of
University
Research IRB
Committee
Lake Shore Campus

To Whom It May Concern:

This letter is being written in support of Dr. Elizabeth Vera's prevention work at Helen C. Peirce Elementary School. Dr. Vera has been working with our students at Peirce for the past 15 years to enhance their decision making and conflict resolution skills. Students receive psychoeducational materials designed to enhance their ability to handle conflict, peer pressure, and the typical stressors of adolescence. The program is available to all the students in the 7th and 8th grades, and is presented to them as being completely voluntary.

Each year, a notice of the program and request for parental consent form is given to parents or guardians of the students. As a part of evaluating this program, students are given pre- and post-test measures to discern whether their attitudes toward difficult decisions have changed during the course of the program. On an annual basis, school administrators and the 7th and 8th grade teachers are consulted for their perceptions of what issues are most relevant to their students. While students are given the option to not participate in this program, the majority seem to enjoy the experience and show no negative effects. No students have ever asked to be reassigned during the program, although that option is always available to them.

We are happy to have Dr. Vera continue her work with our students and approve of her methods of recruitment, program evaluation, and consent. If you have any questions, please feel free to contact me at (773) 534-2440.

Sincerely,
Jillian Estanic
IB Coordinator
Helen C. Peirce Elementary of International Studies
1423 W. Bryn Mawr Avenue
Chicago, Illinois 60660
Telephone: 773/534-2440

APPENDIX C
RECRUITMENT DOCUMENTS

To be read to students when providing them with consent forms:

You are being recruited to participate in a study being completed by Andrea Carr. She is a Doctoral Candidate in Counseling Psychology Ph.D. program at Loyola University Chicago. She is currently conducting a research project on how adolescents feel about and develop goals for their futures. You have been contacted to participate in the study because of your enrollment at your school.

She wants to invite you to participate in a research project to help understand how young people develop goals for their futures. The data and conclusions of this project can be used to develop programs that promote academic achievement.

You are being provided with a consent form to take home to see if your parents/guardians will allow you to participate. Here are some key pieces of information:

Important Information to Know:

- Participation is voluntary and you can choose to stop survey at any time
- The study is completely anonymous
- You will be asked to complete a paper and pencil survey that will take approximately 30 minutes
- Surveys will be administered during the school day
- **Please have your parent/guardian sign and then return the attached consent form to school**

What questions do you have?

Thank you!

Dear Parent/Guardian,

My name is Andrea Carr, and I am a Doctoral Candidate in Counseling Psychology Ph.D. program at Loyola University Chicago. I am currently conducting a research project on how adolescents feel about and develop goals for their futures. Your child has been contacted to participate in the study because of his/her enrollment at this school.

I want to invite your child to participate in a research project to help understand how young people develop goals for their futures. The data and conclusions of this project can be used to develop programs that promote academic achievement.

Attached you will find a detailed consent form describing this project. Please read it thoroughly before deciding if you want your child to participate in the study. If you decide to allow your child to participate in the study please sign and return the attached consent form.

Important Information to Know:

- Participation is voluntary and your child can choose to stop survey at any time
- The study is completely anonymous
- Your child will be asked to complete a paper and pencil survey that will take approximately 30 minutes
- Surveys will be administered during the school day
- **Please sign and have your child return the attached consent form to school**

If you have any questions after reading the consent form that is attached to this letter please feel free to contact me at acarr2@luc.edu.

Thank you for your time and consideration.

Sincerely,

Andrea L. Carr, M.Ed.
Doctoral Candidate Counseling Psychology
Loyola University Chicago

APPENDIX D

GUARDIAN CONSENT DOCUMENT

CONSENT TO PARTICIPATE IN LOYOLA CAREER DEVELOPMENT STUDY

Introduction: Your child is being asked to take part in a research study being conducted by Andrea Carr, M.Ed. for her dissertation under the supervision of Dr. Steven D. Brown a faculty member in the School of Education at Loyola University of Chicago. Your child is being asked to participate because he/she is a student participating in the AAA Academy.

Purpose: The purpose of this project is to gather student perspectives on how they feel about their futures. The results of this study can be used to develop interventions to promote student success in and after high school.

Procedures: If you give permission for your child to be in the study, he/she will be asked to complete a paper and pencil survey that is expected to last no more than 30 minutes. The survey includes questions about your child's background (e.g., age, grade in school, gender, and ethnicity) and questions about how they perceive themselves and their futures.

Risks/Benefits: There are no foreseeable risks involved in participating in this research beyond those experienced in everyday life. There are no direct benefits to your child from participation, but an indirect benefit is that the data obtained can be used toward developing programs to help students succeed in high school and college.

Confidentiality: The privacy of those who participate in the research study will be protected. No identifying information of the participants will be shared with anyone who is not connected with the project. Data presented at conferences or for publication will not identify any individuals who participated. There are no questions on the surveys that ask for identifying information.

The consent forms will be stored by the dissertation supervisor away from the surveys. Surveys will be stored by the researcher. At the conclusion of the study the individual surveys will be destroyed and the resulting data will be kept in a password protected file on the computer of the primary researcher.

Voluntary Participation: Participation in this study is voluntary. If you do not want your child to be in this study, he/she does not have to participate. Even if he/she decides to participate, he/she is free not to answer any question or to withdraw from participation at any time without penalty.

Contacts and Questions: If you have questions about this research study, please feel free to contact Andrea Carr, School of Education, Counseling Psychology at acarr2@luc.edu or Dr. Steven D. Brown, School of Education, Counseling Psychology at (312) 915-6311 or at sbrown@luc.edu.

If you have questions about your child's rights as a research participant, you may contact the Loyola University Office of Research Services at (773) 508-2689.

Statement of Consent:

Your signature on the attached page indicates that you have read the information provided above, have had an opportunity to ask questions, and give permission for your child to participate in this research study.

Parent Permission for Loyola Career Development Study

Child's Name (Printed):

If you agree to let your child participate in the Career Development Study, please sign below and return this page to the AAA Academy. Keep the information on the other page for your records.

Signature

Date

APPENDIX E
ASSENT SCRIPT

Assent Script

Hello, my name is Andrea Carr and I am studying to become a psychologist at Loyola University Chicago. I am seeking your participation in this study because you are taking classes at your school. Your parent/guardian has already given us consent to recruit your participation in the study. I am conducting a study about how young people feel about their futures.

If you agree to participate I am asking you to volunteer to complete a page of demographic information (like your gender or grade in school) and then complete 63 items about you and working in the future. You are not required to complete this questionnaire and can skip any items you do not want to answer and can stop at anytime. You will not be penalized for not participating or withdrawing from participating in this study. You will be given time now to complete the questionnaire, it should not take more than 30 minutes.

I do not anticipate any risks to you, but if you become uncomfortable with the questions you are answering, let me know and you can speak with a school counselor. There are no benefits to you from this study, by answering these questions better programs can be developed for future young people to help them succeed in their futures.

You will not be asked to place your name anywhere on the questionnaires and the information that is collected will be confidential. Your teacher, school, and parents will not see any of your individual responses, but your school will get a summary the results from everyone who completes the survey.

What questions do you have?

If you are volunteering to participate in the study, by filling out any of the questionnaire, you are indicating that you understand what I have told you and are assenting to participate in this study.

After you complete the questionnaire, please hold on to it, I will collect them from everyone at the same time.

Thank you.

APPENDIX F
FUTURES QUESTIONNAIRE

Futures Questionnaire

We are interested in learning how young people think about themselves and their futures. There are no right or wrong answers so please respond to each item as honestly as possible. Thank you in advance for your help.

Part I. We would like to know about your background and educational plans. Please answer each of the following questions.

1. Age: _____ **2. Gender:**

_____ Male

_____ Female

3. Race or Ethnicity:

_____ Black or African American _____ Native American

_____ Latino/Latina _____ Mixed Race

_____ White or European American _____ Other (Please specify below)

_____ Asian/Pacific Islander-American _____

4. Please Indicate Your Year in School

_____ 7th or 8th grade _____ Junior

_____ Freshman _____ Senior

_____ Sophomore

5. Highest Level of Education You Want:

_____ I'll probably leave school before graduating

_____ Graduate from high school

_____ Graduate from a two year college or trade school

_____ Graduate from a four year college

_____ Get a graduate or professional degree (Examples: Master's, doctoral degree, law degree, or medical degree.)

6. Father's Highest Level of Education

_____ Did Not Complete High School _____ Bachelor's Degree

_____ GED _____ Master's Degree

_____ High School Diploma _____ Doctoral Degree

_____ Associate's Degree _____ Unknown

7. Mother's Highest Level of Education

_____ Did Not Complete High School _____ Bachelor's Degree

_____ GED _____ Master's Degree

_____ High School Diploma _____ Doctoral Degree

_____ Associate's Degree _____ Unknown

Part II. Read each statement and indicate whether you strongly disagree, disagree, are neutral, agree, or strongly agree.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	I trust that I'll have a meaningful job in the future.	1	2	3	4	5
2.	Thinking about my career frustrates me.	1	2	3	4	5
3.	It's a bad idea to have big dreams about my future career.	1	2	3	4	5
4.	It is unlikely that good things will happen in my career.	1	2	3	4	5
5.	I trust I will have a choice of good jobs in the future.	1	2	3	4	5
6.	I look forward to working in the future.	1	2	3	4	5

Part III. Using the following scale, please rate how confident you are that you could complete the following tasks. (Note: 1=Not at all confident; 3=Moderately confident; 5=Very confident)

		Not at all Confident		Moderately Confident		Very Confident
7.	I can find information in the library about five occupations I am interested in.	1	2	3	4	5
8.	I can make a plan of my educational goals for the next three years.	1	2	3	4	5
9.	I can select one occupation from a list of possible occupations I am considering.	1	2	3	4	5
10.	I can determine what occupation would be best for me.	1	2	3	4	5
11.	I can decide what I value most in an occupation.	1	2	3	4	5
12.	I can resist attempts of parents or friends to push me into a career I believe is beyond my abilities or not for me.	1	2	3	4	5
13.	I can describe the job skills of a career I might like to enter.	1	2	3	4	5
14.	I can choose a career in which most workers are the opposite sex.	1	2	3	4	5
15.	I can choose a career that will fit my interests.	1	2	3	4	5
16.	I can decide what kind of schooling I will need to achieve my career goal.	1	2	3	4	5
17.	I can find out the average salary of people in an occupation.	1	2	3	4	5

18.	I can talk with a person already employed in a field I am interested in.	1	2	3	4	5
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Part IV. Using the following scale, please rate how confident you are that you could cope with or overcome the following problems. (Note: 1=Not at all confident; 3=Moderately confident; 5=Very confident)

		Not at all Confident		Moderately Confident		Very Confident
19.	I can cope with others who think I am wasting my time trying to do well in school.	1	2	3	4	5
20.	I can keep trying to get into the career I want even though money is tight.	1	2	3	4	5
21.	I can overcome discrimination that I might face in getting a good job.	1	2	3	4	5
22.	I can overcome a lack of support from my friends about my work plans.	1	2	3	4	5
23.	I can cope with others who think I am wasting my time trying to get good work.	1	2	3	4	5
24.	I can balance the pressures of studying with the desire to have fun.	1	2	3	4	5
25.	I can overcome neighborhood problems in reaching my goals.	1	2	3	4	5
26.	I can cope with a lack of support from my family for my work plans.	1	2	3	4	5
27.	I can keep trying even though there are only a few good jobs where I live.	1	2	3	4	5
28.	I can overcome a negative school environment.	1	2	3	4	5

Part V. Using the following scale, please rate how confident you are that you could complete the following tasks. (Note: 1=Not at all confident; 3=Moderately confident; 5=Very confident)

		Not at all Confident		Moderately Confident		Very Confident
29.	I can learn material presented in lectures or other in-class activities.	1	2	3	4	5
30.	I can complete homework well for my classes.	1	2	3	4	5
31.	I can do well in school.	1	2	3	4	5
32.	I can perform well on my exams.	1	2	3	4	5
33.	I can pass all of my courses required for graduation.	1	2	3	4	5
34.	I can understand material assigned as reading.	1	2	3	4	5

Part VI. There are many things that you could do now to help you get a meaningful job in the future. Some of these things are doing well in school, getting information about different careers, or talking to a school counselor. Using the prompt “If I do things now to help me get a meaningful job in the future then,” with each item indicate whether you strongly disagree, disagree, are neutral, agree, or strongly agree.

If I do things *NOW* to help me get a meaningful job in the future like doing well in school, getting information about different careers, or talking to a school counselor, then...

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
35.	I'll be able to support my family in the future.	1	2	3	4	5
36.	I'll make a difference in the lives of others in the future.	1	2	3	4	5
37.	I'd have to spend too much time in school.	1	2	3	4	5
38.	I'll keep or gain the respect of my friends.	1	2	3	4	5
39.	Others will think I'm wasting my time.	1	2	3	4	5
40.	I still won't be able to afford the education or training required to get a good job.	1	2	3	4	5
41.	I will get a job that pays well.	1	2	3	4	5
42.	I'd miss out on other things I'd rather do.	1	2	3	4	5
43.	I'll be able to make my community better in the future.	1	2	3	4	5
44.	My friends won't respect me.	1	2	3	4	5
45.	I'll be who I want to be in the future.	1	2	3	4	5
46.	I'll feel good about myself.	1	2	3	4	5
47.	My family will be proud of me.	1	2	3	4	5
48.	I'll feel bad about myself if I try hard and don't get a good job.	1	2	3	4	5
49.	I would feel like I'm wasting my time.	1	2	3	4	5
50.	I will get a good job.	1	2	3	4	5

Part VI. Read each statement and indicate whether you strongly disagree, disagree, are neutral, agree, or strongly agree.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
51.	I plan to get best grades I can in high school.	1	2	3	4	5
52.	I plan to learn more about the things I'm good at.	1	2	3	4	5
53.	I plan to learn more about the things I like.	1	2	3	4	5
54.	I plan to learn about different career paths.	1	2	3	4	5
55.	I intend to develop a plan for my future.	1	2	3	4	5
56.	I plan to develop job skills.	1	2	3	4	5
57.	I plan to work hard to overcome problems that might limit my options.	1	2	3	4	5
58.	I plan to talk with lots of people about possible jobs I could get when I finish school.	1	2	3	4	5
59.	I plan to talk with others about colleges.	1	2	3	4	5
60.	I intend to seek help in planning my future.	1	2	3	4	5
61.	I plan to find information on jobs I might like.	1	2	3	4	5
62.	I plan to gain work experiences.	1	2	3	4	5
63.	I intend to get all the education I need to get a good job.	1	2	3	4	5

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VITA

Andrea Carr obtained a Bachelor's degree in Science Education from Ball State University and a Master's degree in School Counseling from Loyola University Chicago. After completing her Ph.D. in Counseling Psychology from Loyola University Chicago, she hopes to continue research in career development. Using her experience working with adolescents in educational settings, she is particularly interested in working with this population in both theory and intervention development.