Summer 2018

# Sociopolitical development and career interventions: comparing two conditions of a career intervention with rural middle school students

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# SOCIOPOLITICAL DEVELOPMENT AND CAREER INTERVENTIONS: COMPARING TWO CONDITIONS OF A CAREER INTERVENTION WITH RURAL MIDDLE SCHOOL STUDENTS

by

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A thesis submitted in partial fulfillment
of the requirements for the Doctor of Philosophy
degree in Psychological and Quantitative Foundations in the
Graduate College of
The University of Iowa

August 2018

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Iowa City, Iowa

CERTIFICATE OF APPROVAL

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PH.D. THESIS

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This is to certify that the Ph.D. thesis of

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To all the trail blazing women before me and to all the innovative women who will come after me. Nevertheless, she persisted.

## ACKNOWLEDGEMENTS

They say it takes a village to raise a child, and I think that is also true about the writing of a dissertation. I want to thank the Project HOPE research team, which began before I even applied for graduate school. They the laid the foundation for this intervention and trained me on how to implement it. I owe a special thanks to Yun Loh Garrison, Soeun Park, and Nikki Grunewald for spending an entire year of early Thursday mornings implementing this intervention. I appreciate your feedback, your critical reflection, your dedication, your authenticity and your friendship.

Thank you to my committee, Drs. William Liu, Megan Foley Nicpon, Stewart Ehly, and Lori Adams for your feedback and support. I appreciate you giving me permission to do an intervention study and the confidence to follow it through. I have learned so much from each of you over the past six years and am grateful to be a member of the counseling psychology community. I especially want to thank my committee chair, Dr. Saba Ali. From the first day I started to work with you, you called me a junior colleague. Your belief and trust in me to do my work helped me to develop my confidence in and love of research. Your mentorship as a woman and advocate in this field has helped shape my professional identity and helped me to grow personally. I am grateful for our shared values and the lessons I have learned as your student.

Thank you to my best friend and graduate school sister, Michelle Nanji. You have always supported and encouraged me, even when I cannot make up my mind and decide to stay an extra year. Graduate school would have been a much duller and more serious experience without your light and laughter. I am grateful for the deep friendship we have cultivated and the opportunity to have experienced graduate school with you by my side.

Thank you to my parents, Tom and Lela Brown. You taught me to value hard work and to always maintain my integrity. You showed me the importance of caring for others, which largely contributes to my interest in this field. Thank you for always supporting me and believing in me. I could not have done this program if it weren't for you. Thank you to my bigger, little brother, Alex Brown. Your capacity for caring always amazes me. Thank you for letting me bounce ideas off of you and helping me to expand my way of thinking.

Finally, thank you to my partner, Maneesh Kumar. You always believe in me and my abilities, even when I don't believe in myself. Thank you for valuing my career as much as your own and showing me the meaning of true partnership. I appreciate your sense of humor and your quick wit. Your creative puns have helped sustain me, even when graduate school and dissertation writing becomes challenging. Thank you for your logic and your love.

## ABSTRACT

Health disparities continue to persist in the United States, with individuals in rural areas often experiencing greater health concerns and health outcomes than individuals living in suburban or urban areas. Lack of access to healthcare providers is one contributing factor to these disparities. Studies have shown that healthcare providers from rural areas are more likely to return to those areas to work. Increasing pipeline education programs within K-12 settings may help create a larger pool of rural individuals interested in healthcare professions. Connecting education and careers to the well-being of a community may help students to see how their future careers can contribute to the vitality of their community, such as through sociopolitical development. This dissertation evaluated and compared the effectiveness of two conditions of an existing healthcare career education program, Project HOPE. The seven-week intervention was implemented with rural 8$^{th}$ grade students within the context of a seminar class. The results of the study showed, overall, that the intervention is effective at increasing healthcare career search self-efficacy; however, the findings suggest that it decreases community engagement. In contrast to the hypothesis, the results showed that the standard condition of the intervention was more effective at increasing socio-cognitive variables than the sociopolitical development condition. The findings are discussed in context of existing literature and with consideration to the sociopolitical context in which the intervention was implemented. Implications of the findings for vocational psychologists, as well as future directions of study are discussed.



*Keywords: rural, adolescents, career/vocational intervention, SCCT, health care careers*

## PUBLIC ABSTRACT

Health concerns are on the rise for individuals living in rural areas. Access to necessary healthcare services can be a challenge, due to a lack of providers in rural areas. Encouraging individuals from rural areas to pursue careers in healthcare is one way of increasing the number of providers. Career exploration begins at a young age, which means supporting the career development of adolescents can be an important step towards getting students interested in healthcare careers. Previous studies have shown that awareness of social inequalities and oppressions, or sociopolitical development, can benefit students' career outcomes. Project HOPE is a healthcare intervention used with middle school students to help introduce them to the variety of healthcare careers and help them explore their own interests. This study compared two versions, a standard version and a sociopolitical development version, of the intervention to better understand what activities are the most beneficial at increasing middle school students' interest and sense of confidence for pursuing healthcare careers. The intervention lasted for seven sessions and included self-exploration games and activities that provided information about the world of healthcare. The results of the study showed that the standard condition, as compared to the sociopolitical development condition, was more effective at increasing students' beliefs about their abilities to pursue healthcare careers. This study can help researchers and educators to better know what career interventions work well for which clients.

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# CHAPTER 1: INTRODUCTION

Health disparities between those living in rural and non-rural areas are receiving more attention in the public discourse. Based on the 2013 *County Health Rankings and Roadmaps* data from the University of Wisconsin and the Robert Wood Foundation, people living in rural counties were more likely to have poorer health and health outcomes as compared to individuals living in non-rural areas (Anderson, Saman, Lipsky, & Lutfiyya, 2015). The largest disparities between rural and non-rural areas were related to the mortality rates and the availability of clinical care, with rural areas having greater pre-mature mortality rates and less access to and lower quality clinical care (Anderson et al., 2015). Similarly, a recent analysis of trends in mortality rates from 1969-2009 found that disparities between urban and rural areas had increased overtime, with even greater mortality rates from 2005 to 2009, than from 1990 to 1992 in rural areas (Singh & Siahpush, 2014). A variety of causes of death contributed to these mortality rates, including heart disease, unintentional injuries, lung cancer, stroke, suicide, diabetes, and Alzheimer's disease, suggesting that a wide-range of health problems are of concern.

In addition to these major health concerns, rural cancer survivors were more likely to self-report that they were in fair or poor health and that they had greater psychological distress as compared to urban cancer survivors (Weaver, Geiger, Lu, & Case, 2013). Further, health and health behaviors such as obesity and smoking may further contribute to these disparities. Obesity rates are higher amongst rural populations as compared with urban populations, with 39.6% of rural adults being classified as obese as compared with 33.4% of urban adults (Befort, Nazir, & Perri, 2012). Obesity has been associated with negative health outcomes such as cardiovascular diseases, type-2

diabetes, osteoarthritis, and psychological disturbances (Dixon, 2010). Studies report a higher rate of individuals in rural areas smoke cigarettes and are exposed to secondhand smoke as compared to individuals living in non-rural areas (Meit et al., 2014; Vander Weg, Cunningham, Howren, & Cai, 2011). Tobacco use is associated with several preventable illnesses, including chronic obstructive pulmonary disease (COPD). Death caused by COPD is highest in rural areas (Levin & Benzel, 2014). Given that 19.3% of the population of the United States, or approximately 59.5 million people, live rural areas (U.S. Census, 2010), these disparities in mortality, health, and health behaviors highlight the need for research and policy efforts towards ameliorating these significant public health concerns.

Many factors contribute to these health disparities, including limited health care options, "poverty, lack of transportation, occupational hazards, poor environmental conditions, lack of education, and behavioral factors" (Levin & Benzel, 2014, p. 8). Efforts by researchers, healthcare providers, educators, policy makers, and politicians are needed and will continue to be important to address each of these systemic issues. Reports show that the lack of access to adequate health care, which includes a lack of health care providers, accounts for 10-20% of health concerns (University of Wisconsin Population Health Institute, 2014). For example, individuals living in rural areas were less likely than their urban counterparts to receive routine preventative health care procedures, such as cholesterol or cervical screenings or visiting a dentist (Caldwell, Ford, Wallace, Wang, & Takahashi, 2016). Although this is only a small percentage of a larger problem, addressing the lack of access to health care providers and health care services will begin to address these significant public health concerns.

There are currently shortages of health care providers in rural areas, with 65% of rural counties designated as Health Professional Shortage Areas (HPSAs; Probst, Moore, Glover, & Samuels, 2004). HPSAs can include shortages in primary care providers, dentists, and mental health providers. This designation is given when there are a lack of providers for an entire population, a specific underserved population within an area (e.g. low income, minority, etc.), or within a particular facility (e.g. state mental hospital, correctional facility, etc.; Health Resources & Services Administration, 2016). The shortage of providers may be in part compounded by providers' perceptions of urban areas as being relatively more attractive, both personally and professionally, as compared to rural areas (Dussault & Francsecschini, 2006). Several efforts and initiatives have been made to address these systemic concerns. For example, the Health Resources and Services Administration allocates federal resources for three different programs, including a scholarship and loan repayment program, the Centers for Medicare and Medicaid Services (CMS) and the Rural Health Clinics. The scholarship and loan repayment program provides financial incentives to health care providers. The CMS provides bonus payments to providers in designated shortage areas. The RHCs provide enhanced reimbursements to help make rural clinics more sustainable (Health Resources & Services Administration, 2016). In addition to the economic incentives of these programs, medical schools have also made efforts to recruit students with particular backgrounds (e.g. being form a rural areas) and/or interests in rural medicine (e.g. Rabinowitz, Diamond, Markham, & Wortman, 2008). A systematic review of these programs indicate that these programs results in approximately 53% to 64% of these physicians practicing in rural areas, as compared to the 3% of physicians who plan to

work in rural areas. As argued by the authors, wide replication of these rural programs within medical schools has the potential for even greater impacts on the availability of and access to rural health care providers (Rabinowitz et al., 2008). While these results are promising, career exploration begins at a much younger developmental stages than college (e.g. Hartung, Porfeli, & Vondracek, 2005; Watson & McMahon, 2005). Further, since growing up in rural areas is a strong predictor of choosing to work in rural areas (e.g. Hancock, Steinbach, Nesbitt, Adler, & Auerswald, 2009; Laven & Wilkinson, 2003), an understanding of the career development of rural students is important.

## Career Development of Rural Adolescents

Adolescents' career development processes are influenced by the context in which they are raised, suggesting there are differences between the career development needs of rural adolescents and urban or suburban adolescents (e.g. Hetkner, 1995; Howley, 2006). Rural youth, as compared to their urban and suburban counterparts, tend to feel more conflict between their desire for higher education and their desire to live near their family (Hetkner, 1995). While rural youth aspire to attend post-secondary institutions at slightly greater rates than non-rural youth, they are much less likely to seek education at the post-graduate level as compared to non-rural youth (Howley, 2006). This may be in part because few jobs in rural areas require such high levels of education. Further, when compared to urban and suburban students, rural students are less likely to actually complete their degrees; however, this is in part associated with lower socioeconomic status (Byun, Meece, & Irvin, 2012). Rural adolescents' desire to remain close to their family in their rural areas may mediate their educational aspirations (e.g. Johnson, Elder, & Stern, 2005; Lichter, Roscingo, & Condron, 2003). Thus, recognizing the jobs that are

both available and relevant to their community may help rural adolescents achieve both their desire of remaining local and their desire to attain certain educational levels or certain occupations.

Further, researchers have suggested that rural areas may experience a "brain drain," in which the brightest and highest achieving students leave their hometowns in pursuit of educational and occupational aspirations that are unavailable in their hometown (Carr & Kefalas, 2009). While this may benefit the individual student, the rural community loses the student's potential future contributions, which can help with the vitality of the community (Ley, Nelson, & Beltyukova, 1996). Further complicating this issues of the "brain drain" are dualist beliefs that the pursuit of education and successful careers must be outside of the rural hometown and that remaining in the hometown is somehow a failure (Corbett, 2007; Looker & Naylor, 2009).

Some studies have suggested that individual economic and personal success is more important to rural students than a sense of commitment to the community (Ley et al., 1999). Other qualitative investigations have suggested that individuals from rural areas share in the collective responsibility of promoting the vitality of their hometown (San Antonio, 2016). Given the potentially conflicting desires of rural adolescents for the success of both themselves as individuals and their community for, finding a way to simultaneously achieve these goals may be important. Connecting stable, well-paying jobs and careers to the needs of the local community may be one opportunity to promote the success of the individual and invest in the vitality and well-being of the community. Thus, career interventions designed for rural students must address contextual factors.

Health care is one industry that is both desperately needed in rural areas and also can provide economic stability to individuals within those jobs and careers.

While much of the career development literature has emphasized the career processes of high school and college students, students in middle school and even younger stages have already begun this process and are similarly in need of attention and services (e.g. Fouad & Smith, 1996; Hartung et al., 2005; Jantzer, Stalides, & Rottinghaus, 2009). One option for early exposure to healthcare careers can occur through partnerships between health professional schools and hospitals with local businesses, communities, and public school systems may help to create more effective pipelines (Sullivan, 2004; Patterson & Carline, 2006). In a review of partnerships between public K-12 schools and health professional schools, Patterson and Carline (2006) outlined some of the difficulties that may occur and highlighted important elements in approaching these collaborations, including the hierarchy that may exist and the disparate approaches that K-12 education and health professional schools may take to address the issues of pipeline education. Bridging the significant difference in the cultures of health professional schools and K-12 public schools can be difficult, but is important for facilitating the implementation of needed pipeline programming. Counseling psychologists, given their training and background, are well positioned to help bridge these differences.

## Getting People Into Careers

Counseling psychologists, particularly those who identify as vocational psychologists, have made efforts to assist in addressing this problem through several approaches (e.g. Ali, 2013; Ali, Brown, & Loh, 2017; Ali, Yang, Button, & McCoy,

2012; Fouad, 1995). Many different professional collaborations will be needed to continue addressing the lack of rural health care providers and the ensuing health disparities. Given the historical foundations of the profession, vocational psychologists may have much to offer towards contributing to the multifaceted solution of this problem. In particular, vocational psychologists can offer empirically supported theories that can provide the foundation for career interventions to support the career development needs of rural adolescents and provide opportunities for them to learn about and explore health care careers.

## Career Theories

Several career theories have been developed over the years to help describe the career development process of individuals choosing careers. The theories and subsequent research supporting the theories have provided information about the factors that can help and hinder the process of individuals finding work. Among these theories is social cognitive career theory (SCCT; Lent, Brown, & Hackett, 1994; 2000) which focuses on the impact of social learning on individual beliefs about the self. Research that describes the presence of important theoretical constructs and the relationship of such constructs is an important foundation for understanding the process of career development. Using these theories, vocational psychologists are able conceptualize the experiences and processes of their clients. Additionally, these empirically supported theories are important for guiding the design and implementation of interventions with clients.

## Career Interventions

While much research has been conducted on career theories, significantly less research has been conducted on career interventions. Career interventions, most broadly,

can be defined as "any treatment or effort intended to enhance an individual's career development or to enable the person to make better career-related decisions" (p. 150, Whiston, Sexton, & Lasoff, 1998), a definition borrowed from Spokane and Oliver (1988). Based on this broad definition of interventions, several meta-analyses have concluded that career interventions are helpful for people, though are less clear about what in particular is helpful. One meta-analysis conducted for a dissertation by Ryan (1999) and reported in Brown and Ryan Krane (2000) reviewed the effectiveness of particular components in a career intervention. Through this analysis, Brown and Ryan Krane (2000) determined that five components were particularly critical to effective interventions. (Brown & Ryan Krane, 2000). In a later analyses, Brown et al., (2003) tested the hypothesis that "more is better", meaning that more critical and/or non-critical ingredients will lead to more effective career interventions. Through those analyses, Brown et al., (2003) determined that more is not always better, with results supporting the importance of the particular critical ingredients. Perhaps even more important than the components that are effective in general is determining which components are the most effective with particular subpopulations (Whiston, 2002; 2011). As such, one purpose of study is to evaluate the effectiveness of an intervention with rural middle school students at increasing their interest and self-efficacy of pursuing health care careers within a particular context.

## Statement of the Problem

Currently, health disparities exist for individuals living in rural areas as compared to non-rural counterparts. In part, the lack of access to a sufficient health care workforce contributes to these health disparities. Increasing the number of health care providers in

rural areas who are committed to serving individuals in rural areas can help address these health disparities by treating the illnesses and providing necessary preventative and early intervention services. Encouraging individuals from rural areas to pursue health care related professions that are both of interest to them and will help the health and well-being of their communities is one way to increase the number of providers in underserved areas. Connecting public schools with health professional schools can help increase exposure and aid in exploration of potential health care careers for rural individuals who may not always be exposed to the vast range of healthcare professions. Given the training and expertise of vocational psychologists, career interventions that are designed for rural adolescents to increase sociopolitical development and to increase their health career self-efficacy and outcome expectations may be beneficial. Thus, the purpose of this study is to evaluate the effectiveness of a theoretically based career intervention for rural adolescents at increasing their healthcare career related interest, self-efficacy, outcome expectations, and community engagement. The second chapter of this study will discuss the relevant theoretical literature and the current state of the adolescent career intervention literature.

# CHAPTER 2: LITERATURE REVIEW

The purpose this chapter is to discuss the relevant career intervention literature and the theoretical approach underlying the career intervention. The vocational components of the intervention are based upon Social Cognitive Career Theory (Lent et al., 1994, 2000), as well as research surrounding the sociopolitical development of adolescents (e.g. Diemer & Blustein, 2006; Diemer & Hsieh, 2008). Because of the importance of and current lack of theoretically guided interventions for rural middle school adolescents, the theoretical underpinnings will be discussed first. Following this, a review of the current intervention research will be discussed. This section will review both the strengths and limitations of the intervention research, as well as highlight the current gaps in the literature.

## Theoretical Framework

### Social Cognitive Career Theory

**Socio-cognitive factors.** Social Cognitive Career Theory (SCCT; Lent, Brown, & Hackett, 1994, 2000) provides an explanation for how career interests develop and career choices are made. Based on Albert Bandura's (1986) social learning theory, career development is conceptualized as a dynamic process that involves the interaction of three major components: personal attributes, external environmental factors, and overt behaviors (triadic reciprocality; Bandura, 1986). Personal attributes can include thoughts, emotions, self-beliefs and biological aspects. External environmental factors include opportunities, role models, and reinforcing/punishing consequences. Overt behaviors include actions, facial expressions, and verbal responses. Triadic reciprocality refers to the dynamic interaction of these factors, where each factor can impact the two other

factors. Thus, SCCT goes beyond other career theories that primarily emphasize person-environment fit (Lent, Brown, & Hackett, 1994).

These reciprocal interactions can impact social cognitive mechanisms that are relevant to the career development process (Lent, Brown, & Hackett, 1994). Of these mechanisms, self-efficacy, outcome expectations, and goals have been identified as particularly important. As can be seen in Figure 1, these three socio-cognitive mechanisms can impact the development of interests and subsequent behaviors. As the figure suggests, this is a cyclical and dynamic process. The purpose of this study is to investigate the changes in rural middle school students' self-efficacy, outcome expectations, and goals/intentions for entering health care careers, thus each of these will be discussed in more detail below to provide more information about the individual constructs and the relevant links between the constructs.

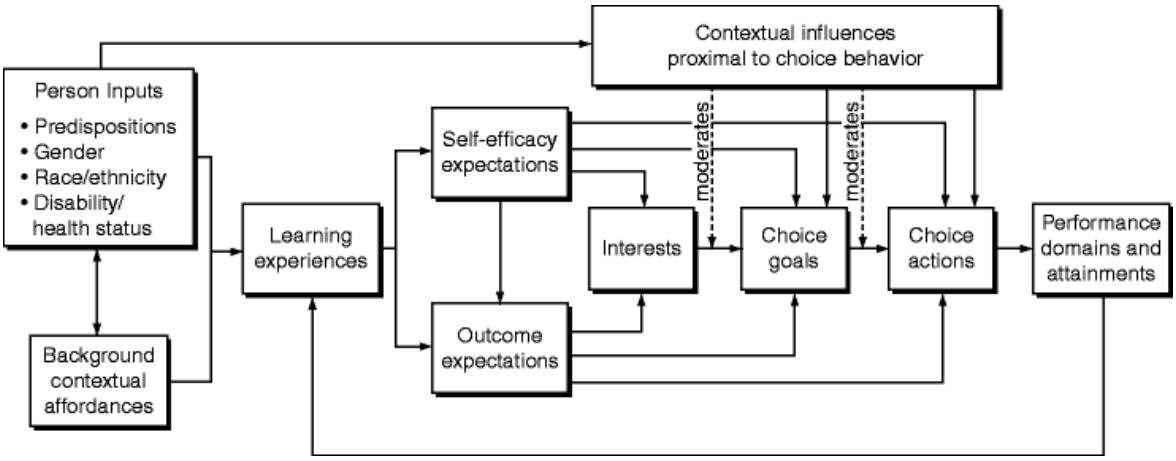


Figure 1. SCCT Model from Lent, Brown, and Hackett, 1994

***Self-efficacy.*** Defined as one's confidence in one's ability to perform a specific task, self-efficacy is a domain specific construct. This means, unlike the global construct of self-esteem, self-efficacy refers to specific tasks or areas of competence (e.g. career search self-efficacy, career task self-efficacy, math self-efficacy, etc.). Self-efficacy is

conceptualized as fluid and, in part, as influenced by the interactions of personal factors, the environment, and overt behaviors (Lent, Brown, & Hackett, 1994). Bandura (1986) proposed four sources of self-efficacy: mastery experiences, positive feedback, vicarious learning experiences, and physiological arousal. As hypothesized by the theory, self-efficacy is directly linked to outcome expectations (Lent, Brown, & Hackett, 1994).

***Outcome expectations.*** Outcome expectations refer to what one believes will occur as a result of a particular behavior (Lent, Brown, & Hackett, 1994). While self-efficacy is more about confidence in one's abilities, outcome expectations relates to the perceived consequences of one's behaviors. These two beliefs work together to explain the development of interests and subsequent behaviors. For example, an individual may have high self-efficacy in his ability to play an instrument; however, he may believe that becoming a musician will not be a secure occupation or will receive little familial support (Lent, Brown, & Hackett, 1994). Thus, this individual may choose not to pursue a career as a musician. The construct of outcome expectations has been studied far less than self-efficacy (Fouad & Guillen, 2005; Lindley, 2005) and has primarily been investigated as a dependent variable that is predicted by self-efficacy
(e.g. Fouad & Smith, 1995; Lent et al., 1994). In contrast to the original SCCT model which directly connects self-efficacy to goals and interests, researchers have argued that outcome expectations may be important predictors of choice goals and interests within racial and sexual minorities, as compared to majority groups (Chartrand & Rose, 1996; Morrow, Gore, & Campbell, 1996).

***Goals.*** According to social cognitive theory, goals refer to what an individual intends to accomplish and are related to behaviors (Bandura, 1986; Lent, Brown &

Hackett, 1994). In both social cognitive theory and SCCT, self-efficacy and outcome expectations are hypothesized to play important roles in shaping goals. As can be seen in Figure 1, goals an important factor that ultimately leads to action (Lent, Brown, & Hackett, 1994).

**Contextual factors.** In addition to these socio-cognitive mechanisms within the individual, SCCT emphasizes the importance of the contextual environmental factors that can influence the individual. SCCT highlights both the objective and perceived environmental factors that can influence the career development process (Lent, Brown, & Hackett, 2000). Objective factors might include the opportunities available within a school or the availability of financial assistance. Perceived environmental factors relate to how people understand the environment and interpret the support available. As stated above, SCCT has a basis in constructionism, which emphasizes the importance of the individual's understanding of his or her career development process (e.g. a phenomenological approach; Lent, Brown, & Hackett, 2000). The contextual factors can further be understood based on *when* they are most relevant (e.g. in the past vs. currently).

Thus, SCCT (Lent, Brown, & Hackett, 1994, 2000) highlights the importance of both distal and proximal factors. Distal factors include background influences (e.g. role models, emotional/financial support, and socialization) that help account for interest development and self-beliefs. Distal factors begin to occur early in development and are less directly related to career decision making, unlike the proximal factors. Addressing distal factors within the context of the career intervention, particularly by discussing the importance of healthcare providers in rural areas and finding ways to increase perceptions

of emotional and financial support, may be beneficial to addressing the development of interests and self-beliefs (e.g. self-efficacy, outcome expectations).

Proximal factors encompass such ideas as the structure of opportunity and the social construction of race and gender. According to the SCCT model, proximal contextual factors may moderate the processes by which interests lead to choice goals and goals lead to actions (Lent, Brown, & Hackett, 2000), meaning the perception of barriers may prevent an individual from implementing their interests and goals into actions. Lent, Brown, and Hackett (2000) argue the opposite is also true, meaning that the perception of supports may facilitate the process of implementing one's interests into goals and actions. Proximal contextual factors can impact the actual movement toward and realization of an individual's career choice, which may help contribute to the lack of health care providers in rural areas. Thus, this thesis suggests that addressing both distal and proximal contextual factors may be one important step in increasing the number of rural healthcare providers. Sociopolitical development is one way of addressing these factors that can impact the career development.

**Sociopolitical Development and Career Development**

Within the career literature, sociopolitical development has been defined as "the analysis of and motivations to change sociopolitical inequity" (p. 258, Diemer & Hsieh, 2008). Specifically, Diemer & Hsieh (2008) identified four components from models of sociopolitical development of relevance:

> "(a) an awareness of and motivation to change social and economic inequality (Ginwright & James, 2002), (b) a growing recognition of the connection between external sociopolitical events/issues and one's own life (Watts & Flanagan, 2007),

> (c) a motivation to help others in one's community (Watts, Griffith, & Abdul-Adil, 1999), and (d) the expression of this motivation to reduce sociopolitical inequity through participation in community/social-action groups (Morsillo & Prilletensky, 2007)" (p. 259).

Critical consciousness, "or the capacity to recognize and overcome sociopolitical barriers", was a precursor for sociopolitical development (Diemer & Blustein, 2006; p. 220). Critical consciousness has been linked to positive vocational outcomes (Chronister & McWhirter, 2006; Diemer & Blustein, 2006). While the focus of this study is on sociopolitical development, it is important to bring attention to the theoretical foundations of critical consciousness in order to best explain sociopolitical development. Critical consciousness arose out of liberation theology movements in Latin America (Freire, 1973) as a result of the significant oppression and political turmoil of many of these areas at that time. The main intent of Freire's (1973) work was to highlight the ways in which systems can oppress individuals and that this awareness needs to exist in order for attempts at change to be made. As applied to adolescents in the career literature, sociopolitical development has been operationalized and measured as sociopolitical control and social dominance orientation (Diemer & Blustein 2006). Sociopolitical control "refers to beliefs that actions in the social political system can lead to desired outcomes" (p. 736, Zimmerman, Ramirez-Valles, & Maton, 1999) while social dominance orientation refers to what "links the individual psychological level to the level of the social-political structure" (p. 371, Pratto et al., 2000). Low levels of social dominance orientation are reflective of higher levels of sociopolitical development.

Given these definitions, sociopolitical development has been studied in groups of adolescents.

Diemer and Blustein (2006) conducted a study with urban youth to assess the relationship between critical consciousness (e.g. sociopolitical dominance orientation and sociopolitical control analysis) and vocational factors. Participants include 220 urban high school students (115 females and 105 males). The participants attended one of two urban schools, both of which were racially diverse and located in working class neighborhoods. Of the participants, 61.8% were in $10^{th}$ grade and 38.2% were in $9^{th}$ grade. The participants self-identified their race/ethnicity as follows: 24.1% Black/African American/African/Cape Verdean, 24.1% Black/Caribbean, 26.8% as Latino/a, 8.6% White/European/European-American, 4.1% Asian, .5% Native American/American Indian, 1.8% Middle Eastern/Arabic, and 10% multi-ethnic/racial. The study used the following measures: SDO (Pratto, Sidanius, Stallworth, & Malle, 1994), SPCS (Zimmerman & Zahniser, 1991), Vocational Identity (Holland, Daiger, & Power, 1980), Career Commitment Measure (CCM; Carson & Bedeian), and the Work Role Salience Scale (WRSS; Greenaus, 1971). Based on a canonical correlation analysis, the authors reported results that suggested a strong association between a sense of sociopolitical control and the salience of the work role and connection to a future career. Additionally, a relationship, though more moderate in degree, existed between sociopolitical analysis and a sense of vocational identity. The authors report that these results collectively suggest that a "statistically significant relationships exist between urban adolescents' critical consciousness and their progress in career development" (Diemer & Blustein, 2006, p. 229). The implications of this study are that increasing

critical consciousness, and thus sociopolitical development, can have positive, perhaps liberating, impacts on oppressed groups of adolescents.

In addition to this study, two other studies (Diemer, 2009; Diemer & Hsieh, 2005) have taken data from the National Longitudinal Educational Study (NELS; Curtin, Ingels, Wu, & Heur, 2002) and analyzed it to study the relationship between vocational and sociopolitical development factors. Diemer and Hsieh (2005) focused on low SES (defined as the lowest socioeconomic quartile of the larger data) adolescents of color. The sample included 1,784 $12^{th}$ grade students, with 51.6% identifying as female and 51.2 % identifying as Hispanic, 32.7% as Black, not Hispanic, 12.3% as Asian American/Pacific Islander, and 3.0% as American Indian/Alaskan Native. Because this was archival data, the authors had to define their constructs based on the measures that had been previously given to the sample. Based on the above definition of sociopolitical development, four components were identified as relevant for this study (participation in community/social-action associations; importance of helping others in community; importance of correcting social and economic inequality; and frequency of discussions of current social and political events with parents and guardians). In addition to the sociopolitical development, the authors operationalized vocational expectations as the composite variable of student's expected occupation and expected level of education. Based on the regression conducted, the authors asserted that sociopolitical development was associated with higher vocational expectations in this sample. This suggests that, despite barriers and inequalities, sociopolitical development may empower oppressed populations to increase their vocational expectations. The authors suggested that incorporating ways to

increase sociopolitical development into career interventions may be beneficial (Diemer & Hsieh, 2008).

Similar to the study just reviewed, Diemer (2009) used NELS (Curtin et al., 2002) data to study the longitudinal impact of sociopolitical development on predicting adult occupational attainment using structural equation modeling (SEM). The study included 1,052 participants who were among the poorest one third of youth of color from the larger sample. Within this sample, 53.9% identified as female. Students identified their race/ethnicity as follows: 46.8% as Hispanic, 33.1% as Black, not Hispanic, 11.4% as Asian American/Pacific Islander, 2.2% as American Indian/Alaskan Native, and 6.6% as multi-racial. Three time points were included: 10$^{th}$ grade, 12$^{th}$ grade, and 8 years post-graduation. Sociopolitical development for 10$^{th}$ graders was operationalized as the participant's' perceptions of the acceptability of making racist or sexist remarks, perceived important of helping others, and working to correct social and economic inequality. For 12$^{th}$ grade students, sociopolitical development was operationalized as the participant's involvement in community or social action groups, perceived importance of helping others, and working to correct social and economic inequalities. The vocational expectations and occupational attainment were also operationalized. For both 10$^{th}$ grade and 12$^{th}$ grade students, vocational expectations were defined as expected job at age 30, expectation of future income, and expectation of future enjoyment of job. As in Diemer and Hsieh (2008), expected jobs were converted to usable variables based on the prestige of the job. Occupational attainment was recorded 8 years post-graduation, with participants self-reporting their occupation. The occupations were organized and categorized using Nakao and Treas (1994) occupational prestige index. Additionally,

participants reported income as a second indicator of occupational attainment. Based on the analysis, the structural model "suggested that 12th grade sociopolitical development has a positive influence on occupational expectations in 12th grade and has a positive longitudinal impact on the adult occupational attainment" (Diemer, 2009, p. 28). Diemer (2009) reported that the model fit for the combined male and female samples; however, it fit better for the female sample than it did for the male sample. Diemer (2009) suggested that future career interventions should target sociopolitical development as a way of increasing vocational expectations and outcomes. Based on these three studies, the authors (Diemer, 2009; Diemer & Blustein, 2006; Diemer & Hsieh, 2008) have suggested the importance of incorporating elements of sociopolitical development into career interventions. These studies have been conducted with urban youth of color from low socioeconomic status backgrounds. Currently, there is a lack of literature investigating the relevance of sociopolitical development, if any, to rural adolescents career development. The experiences of oppression of urban youth of color and white rural students cannot be directly compared. However, rural youth may disproportionately live in impoverished areas (Johnson & Strange, 2009) and the sense of community is important to rural individuals (e.g. San Antonio, 2016). This may have some overlap with sociopolitical development and testing this may help us to better serve rural individuals.

One example of the integration of SCCT and the concept of sociopolitical development involves the career intervention that was implemented with female survivors of domestic violence (Chronister & McWhirter, 2006). The evaluation of the intervention included 157 participants, with 72 participants included in the posttest analyses. Of these 72 participants, 54 identified as European American, 5 identified as

Latina, 1 identified as Pacific Islander, 4 identified as American Indian, 4 identified as biracial, 3 identified as multiracial, and 1 identified as other. The average age of participants was 37 years (SD = 9.40), with ages ranging from 18 to 62 years. The study reported that 48 participants reported not currently being in an abusive relationship, 19 reported currently being in an abusive relationship, and 5 had missing data. This intervention used the following measures: Hollingshead's (1975) Four Factor Index of Social Status, Abuse Experience Checklist, Career-Search Self-Efficacy Scale (CSES; Solberg, Good, & Nord, 1994), Career Outcome Expectations Scale (COES; developed for study), Critical Consciousness of Domestic Violence Measure (CCDV; developed for study), Battered Women's Perceptions of Barriers measure, Battered women's Perceived Career Support measure (developed for study), and goal identification and ranking measure.

The intervention, Advancing Career Counseling and Employment Support for Survivors (ACCESS) program, is a five session intervention. The ACCESS program has a standard curriculum and a standard plus curriculum, which includes sociopolitical development elements. The standard program included elements that facilitated exploration of career interests, awareness and development of career skills, knowledge and utilization of community resources, and identification and planning of career goals. The standard plus program included strategies designed to enhance critical consciousness by helping participants to become aware of and understand the effects of domestic violence on career development and power dynamics.

The results of the data analysis indicated that career search self-efficacy increased for participants in the standard intervention from pre to posttest. While the standard plus

intervention was not significantly higher than the standard or wait-list control, the standard plus intervention did see a significant increase in career search self-efficacy between post-test and follow-up. No significant difference was reported on the career outcome expectations scale. No treatment differences were reported at follow-up. The authors did report that participants in the standard plus intervention reported greater progress toward their career goals. This intervention provides preliminary support the benefit of incorporating sociopolitical elements into career interventions. Strengths of the intervention include the experimental design and the theoretical basis of the intervention. Limitations of the study include the small sample size and the use of measures designed for the study (because established measures were not available).While this intervention was conducted with adult female survivors of domestic violence and not adolescents, it does provide support for theoretical integration of SCCT and sociopolitical development components to inform interventions.

Much of the career intervention research on adolescents has not included elements of sociopolitical development. Despite lacking this component, it is important to review the current state of the literature in regards to career interventions implemented with middle school students. The following section will review these interventions, while discussing the limitations and the gaps in the current research.

## Career Intervention Research

While much research has been conducted to support the existing career theories, less research has been conducted on career interventions in general, and specifically even less with adolescents in middle school. According to calculations by Whiston (2002), the combined results of Oliver and Spokane (1983) and Whiston and colleagues (1998) meta-

analyses on career interventions report that 49% of those interventions were conducted with college students (with the other 51% being split between elementary, middle school, high school, and adults). Additionally, of the participants in these interventions, 43% did not involve actual clients seeking career guidance, but rather used convenient samples (e.g. introductory psychology courses in college). This suggests both a lack of research on interventions with adolescents, as well as limitations to the research on clients who are seeking services.

The meta-analyses conducted by Oliver and Spokane (1983), Whiston and colleagues (1998), and Brown and Ryan Krane (2000) all suggest that career interventions, broadly defined, improve career outcomes. Brown and Ryan Krane (2000) identified five critical ingredients for career interventions that have been shown to be associated with higher career choice levels. While this is helpful, particularly in designing interventions, it still has limitations for applicability. Three main limitations that warrant further analysis are examined below. First, the meta-analysis has limited information on what, if any, differences in needs/critical ingredients might exist for diverse (e.g. race, gender, ability, social class, etc.) populations (Whiston, 2002). Second, the meta-analysis includes interventions from across the developmental lifespan. While career development is important starting at a young age (Hartung et al., 2005), the combining of all developmental ages may limit the generalizability of results to the specific group of middle school adolescents. Finally, the meta-analysis focuses on interventions designed to impact career choice (e.g. decidedness, choice certainty, choice satisfaction, and indecision). Again, while these are important constructs when considering career development, it may also be limited when applied to adolescents, who may have different

developmental needs (e.g. exploration). Brown and Ryan Krane's (2000) meta-analysis is very important for understanding the critical elements needed in career interventions; however, the meta-analysis does not account for potential differences between developmental stages. While no meta-analyses exist that review career interventions with middle schools students, a review of career interventions will middle school students was conducted.

**Middle School Interventions**

A review of the literature to search for career interventions with middle school adolescents, defined as $6^{th}$-$8^{th}$ grade students, was conducted. The search was conducted using the search engine PsycInfo, searching specific career development journals (e.g. *Career Development Quarterly, The Counseling Psychologist, Journal of Counseling Psychology, Journal of Career Assessment*), and the reference lists of chosen articles and former meta-analysis. The keywords used for the search included: "career intervention" "vocational intervention" "career development" "adolescent" 'middle school". The inclusion criteria for interventions reviewed here was limited to school-based interventions implemented with middle school ($6^{th}$-$8^{th}$ grade). Because career interventions can encompass a wide variety of types of intervention, articles chosen were limited to those that were delivered in a group format, included some type of evaluative measure, quantitative or qualitative, and were based in a career theory.

As stated previously, a paucity of empirical and published research exists regarding career interventions implemented with middle school students fitting the inclusion criteria. Of the studies that do exist, the interventions tend to target aspects of the career development process that are relevant to middle school students, such as

relevant skills, exploration, and knowledge of the world of work. Articles reviewed in this section are those that have been implemented to target developmentally appropriate constructs. Five interventions are reviewed below.

Hirschi and Lage (2008) implemented an intervention to increase the career choice readiness of 7th grade students in Switzerland and evaluated the outcomes. The study was designed as a quasi-experimental, non-equivalent groups design (Heppner, Kivlighan, & Wampold, 1998), where the experimental condition included two schools and the control condition included three schools. The experimental condition included 156 participants (49% male, 82% Swiss nationality) and the control condition included 178 participants (51% male, 83% Swiss nationality). The first author conducted the intervention grounded in Cognitive Information Processing (CIP; Peterson, Sampson, & Reardon; Sampson, Reardon, Peterson, & Lenz, 2004) using a detailed instruction manual. The intervention includes nine modules that target self-knowledge, occupational knowledge, decision-making skills, and thinking about career decision-making process. The study collected data at three time points (pre, post, and three-months post) on scales of decidedness and commitment (from Career Maturity Inventory; Crites, 1973; Seifert & Strangl, 1986), career planning and career exploration (from Career Development Inventory; Seifert & Eder, 1985; Super, Thompson, Linderman, Jordaan, & Myers, 1981); and Vocational Identity Scale (Holland, Daiger, & Power, 1980). The results of the study indicated that participants in the treatment condition reported higher scores on all of the outcome measures of career decidedness, career planning, career exploration, and vocational identity. The results also indicated that the intervention was effective for all participants, meaning no differences were observed between various demographics

(e.g. gender, nationality). Strengths of the intervention include the preliminary support for translating the CIP, a college-aged intervention, for use with adolescents. Two important limitations include that lack of a direct comparison to another career intervention and that lack of random assignment. While these limitations are important to consider, they are also reflective of the inherently complicated nature of conducting intervention research.

Legum and Hoare (2004) implemented an intervention with at risk middle school students, with the goal of impacting their career maturity levels, academic achievement, and self-esteem. At-risk students in $6^{th}$-$8^{th}$ grade (i.e. identified as in danger of failing in the upcoming academic year) were randomly assigned to participate in the experimental or control group. The school was located in a suburban area on the East coast, with 98% of all students identifying as African-American and 56% of the school's students were on free or reduced lunch. Students in the experimental condition were administered the intervention once a week for nine weeks. The control group continued in classes as usual and did not engage in any type of career exploration activities. Career targets (Durgin, 1998), a program that aims to connect the exploration of future occupations to high school course planning, was chosen as the intervention. It was implemented by the authors of the article. The three stages of the program include a career interest inventory (likes/dislikes), information about career clusters, and information about the prerequisites (e.g. skills, training, and education), needed for particular occupations. The intervention measured pre and post assessments of career maturity (Crites & Savickas, 1994), self-esteem (Coppersmith Self-Esteem Inventory, Coopersmith, 1989), and academic achievement (quarterly report cards. The results of the study indicated no treatment effect

and no significant difference between the experimental and control groups, though the participants' career awareness and competency levels increased. The authors argue that more time is needed to monitor and assess career maturity and self-esteem, as 9-weeks may not be enough time observe measurable differences. While the results of this study did not indicate any significant effects, it still provides important information about the types of interventions being conducted with at-risk populations and provides qualitative support for further exploration and implementation of career interventions with at-risk populations.

Nota and Soresi (2004) implemented a career intervention with middle school student in Italy with the goal of increasing students' general competence and decision-making abilities. The authors developed an intervention called "Difficulties: No problem" that aimed to effect indecision as related to both careers and general indecisiveness. The intervention was implemented with students identified as highly indecisive based on responses to the Ideas and Attitudes on Academic-Career Future Questionnaire (Soresi & Nota, 2001). This resulted in 24 participants (50% female), who were randomly assigned to the experimental group and the control group. All participants identified as middle class and had similar mean ages between experimental and control group (experimental $M = 11.71$; $SD = .52$; control $M = 11.62$; $SD = .49$).

The intervention included 15 didactic units on topics such as coping styles, making choices, characteristics of the effective problem-solver, and more. Students participated in a total of 15 two-hour weekly sessions and additional extracurricular activities for 30 hours. The researchers collected pre and post intervention data on the following instruments: career indecision (Soresi & Nota, 2001), problem solving survey

that presented hypothetical situations (Nota, 1999), and decision-making style survey that presented seven decisional dilemmas (Nota, 1999). The results of the intervention suggest a significant difference between the experimental and control groups on the types of reactions they have in difficult situations, with students in the experimental group reporting higher numbers of assertive/adaptive reaction and lower number of maladaptive responses in the post-test as compared to the pre-test. Additionally, the experimental group indicated a greater commitment/involvement with the decision-making process. While decision-making skills are important to develop and relevant for middle school students, this study has limitations. When considering contextual variables, there are inherently differences between schooling in northern Italy as compared to the United States, which may limit generalizability. Additionally, the intervention was implemented with a small sub-sample of indecisive students, which likely highlights the changes (as compared to a group of averagely decisive students) and limits the applications to other populations of students who may not identify as indecisive.

O'Brien and colleagues (1999) implemented an intensive summer program for at-risk students about to enter 7$^{th}$ grade. Participants in this study included 57 students (mean age =12/31, SD = 1/26). Of these students, 65% identified as female, 33% identified as male, and 2% did not respond. The sample was racially diverse, with 46% African American, 30% White, 9% Hispanic, 7% Other, 5% Asian American, and 2% Native American. Half of the parents responded to inquiries about income and of those, it was determined that the average family income was $20,026 (SD= $13,740). The program components were designed based on recommendations of the National Occupational Information Coordinating Committee (NOICC, 1989), as well as with

attention to self-efficacy and its four sources (Bandura, 1986). The intervention was implemented for 6 hours a day for 1 week on the campus of a Midwestern university. An assistant professor and doctoral student in counseling psychology administered the intervention to classes of approximately 9 students. The intervention included three career classes (exploration, self-awareness, and math/science careers), physical education session, and recreational activities. The activities were designed to increase students understanding of the world of work and of themselves. The math and science careers class was implemented in response to the lack of women and minorities in these types of careers. Pre and post intervention data were collected on the following measures: Missouri Comprehensive Guidance Evaluation Survey: Grades 6-9 (Gysbers, Lapan, Multon, & Lukin, 1992) to assess career self-efficacy in the areas of career planning and exploration, knowledge of self and others, and educational and vocational development, total number of future occupations considered, and Self-Directed Search Career Explorer (SDS-CE; Holland & Powell, 1994). The SDS-CE was used to examine the congruence between Holland codes and expressed occupations under consideration. The results of the study indicated that participants increased their career self-efficacy, the number of careers under consideration, and the congruence between their interests and their career choices. While not called sociopolitical development in this study, the authors indicated that discussions of external stressors (e.g. gang violence, teen pregnancy, unsafe neighborhoods, etc.) were discussed throughout the intervention. Limitations to this study include the small sample and the lack of an experimental design. As mentioned above, these are common limitations in intervention studies. Based on this study, the authors suggested that future career interventions include interactive career experiences,

individual career counseling, hands-on volunteer or work opportunities and begin as early as elementary school (O'Brien et al., 1999). These suggestions for future career interventions are worth noting because of the efforts of Project HOPE to include the interactive career experiences into the curriculum.

Turner and Conkel (2010) evaluated the effectiveness of a career intervention implemented with middle school students living in an inner city. The intervention was theoretically grounded in the Integrative Contextual Model of Career Development (ICM; Lapan, 2004). The intervention was designed with the goal of helping students living in an inner city context to effectively encounter and overcome career barriers. This evaluation included a control group and two treatment groups, with treatment one being treatment as usual for career interventions and treatment two being based on ICM and used only posttest assessments. Participants included 142 $7^{th}$ and $8^{th}$ graders who had an average age of 13.21 years (SD=.62). Of these participants 51.4% were female and 27.5% identified as African American, 21.1% identified as Asian American, 5.0% identified as Caucasian American, 10.6% identified as Hispanic/Latino, 35.2% identified as Native American, and .7% did not identify their race/ethnicity. The students were randomly assigned to control (n=65), treatment 1 (n=24) or treatment 2 (n=53) groups. Both treatment conditions included the SDS Assessment (SDS; Holland, 1994) and the Work Adjustment Inventory (WAI; Gilliam, 1994). Treatment 1 (traditional counseling) had participants explore person-environment fit by looking at occupations that fit with their interest areas. This intervention occurred during two 1-hour sessions. Treatment 2 (ICM) included the elements from Treatment 1 and added components designed to help

participants identify support people and develop skills for overcoming career barriers. This intervention occurred during 4 1-hour sessions.

Participants were administered pretest measures for demographic variables, academic achievement (GPA), and the Perceptions of Barriers Scale (POB; McWhirter, 1997). After the intervention, students completed the following posttest measures: The Structured Career Development Inventory-R (SCDI-R; Lapan, 2004), and the Proactivity Skills for the New Economy (PSNE; Turner, Conkel, & Siewert, 2004). The results of the study partially supported the hypothesis that students in Treatment 2 would report greater gains on the outcome measures than students in Treatment 1 or the control. Participants in Treatment 2 reported more Emotional Support than students in Treatment 1. Additionally, Treatment 2 participants reported significantly greater Person-Environment Fit, Social, Prosocial, and Work Readiness, Emotional/Instrumental Support, and Efficacy/Positive Attribution than the control group. The results of this study suggest that the incorporation of contextual factors is beneficial to the career development of adolescents. This evaluation provides valuable information about career interventions implemented with middle school students, with the experimental design with two treatments and a control being a particular strength. However, limitations exist, including the post-only design and the difference in amount of time for implementation of the two treatment conditions.

Turner and Lapan (2005) assessed the effectiveness of an intervention at increasing adolescents' interests in non-traditional careers (as conceptualized from Holland's theory) and career-related self-efficacy. Participants were divided into treatment (n=107) and delayed treatment-control groups. The treatment group included

107 participants, with 46% female, 12.1% African American, 9.3% Asian American, 71% Caucasian, 1.9% Hispanic/Latino, 3.7% Native American, and 1.9% International. The treatment group participants had a mean age of 12.50 years (SD=.68). The control group consisted of 53 participants. Of these, 49% identified as female, 15.1% as African American, 5.7% as Asian American, 69.8% as Caucasian, 7.5% as Native American, and 1.9% as International. This group had a mean age of 12.68 years (SD = .95 years). The authors of the study designed a computer-assisted intervention called Mapping Vocational Challenges Career Development Program (MVC, Lapan & Turner, 1997, 2000). The intervention includes three modules (Career Exploration, Career Mapping Module, and Interpretation Module). Participants "rate their level of interest in the associated occupation, their perception of the number of men and women who work in that occupation, their efficacy for pursuing the occupation, their perceptions of parent support for pursuing the occupation, and their valuing of the occupation" (p. 520). As a group, the facilitators helped with the interpretation of the results of the participants' answers and had discussions about how their interests and gender align with certain occupations and the typical gender representation in those occupations. Data was collected pre and post intervention on the following measures: Unisex American College Testing Interest Inventory Revised (UNIACT-R; Swaney, 1995) and the Missouri Comprehensive Guidance Survey, sixth to ninth grade edition (MCGS; Gysbers, Multon, Lapan, & Lukin, 1992). Analysis of the data indicated that prior to the intervention, boy reporting higher interest in Realistic careers and girls reporting higher interest in Social and Conventional careers. The post data indicated that the intervention was associated with increases in Artistic, Social, and Conventional career interests for boys and

Realistic, Enterprising and Conventional career interests for girls. Additionally, the results indicated that the treatment group had significantly greater increases in career exploration efficacy and educational and vocational development efficacy as compared to the control group.

While these studies offer promising support for the importance of career development interventions with middle school students, these studies represent a diverse array of contexts. The participants in these studies come from international settings and inner cities, which may limit the generalizability to rural adolescents. Given the importance of context, the following section will review the few intervention studies that have focused on the career development of rural adolescents.

**Interventions with Rural Adolescents**

Limited intervention studies have been designed to address the career development concerns of rural adolescents. A review of the literature indicated that no career interventions with rural middle school students, aside from work by Ali and colleagues (Ali, Brown, & Loh, 2017; Ali, Pham, Loh, & Brown, under review) which is discussed in the subsequent section, was found. However, two studies of career interventions with rural high school students were found. While the career development needs of middle school and high school students are different, these studies with high school students provide evidence for the relevance of career interventions within in the context of rural settings and are reviewed below.

Lapan, Tuker, Kim, and Kosciulek (2003) evaluated four career development curricular strategies designed to prepare rural adolescents for a successful transition out of high school and into their next phase of life, as well as emotional and instrumental

supports of students. The independent variables included the self-reported career development of students, the curricular strategies, and the self-reported emotional and instrumental support from important others. The curricular strategies included: a) using career goals to drive the organization of the class material (organized curriculum); b) making course work relevant to the real world (relevant curriculum); c) work-based learning experiences; and d) connected learning activities. The emotional and instrumental supports studied included: school counselors, teachers, and other important supports (e.g. parents).

The authors tested three research hypotheses: 1) the independent variables would explain significant portions of the variance in student satisfaction with preparation for their post-high school transition; 2) the independent variables would explain significant portions of the variance in the level of education required following high school graduation; 3) curriculum strategies and emotional and instrumental support would each explain a significant portion of career development. Participants in $8^{th}$, $10^{th}$, and $12^{th}$ grade from a rural area participated in the study. The $8^{th}$ grade participants included 347 students (206 girls, 92% Caucasian and 3.5% African American, M age = 13.96 years, SD = .70). The $10^{th}$ grade participants included 281 students (160 girls, 91% Caucasian and 3.6% African American, M age = 15.83, SD = .63). The $12^{th}$ grade participants included 256 students (143 girls, 92% Caucasian and 3.8% African American, M age = 17.79, SD = .48). This study used the following measures: Guidance Competency Self-Efficacy Scales (GCSE; Lapan, Gysbers, Multon, & Pike, 1997), the SCANS (1991), person-environment fit, interests, career development, choice goals and choice actions, work based learning, job shadowing, connected learning, counselor support, teacher

support, and overall support (all designed for current study using standards from the School to Work Opportunities ACT, 1994).

Additionally, students responded to single items regarding their parents' education, sex, grades, satisfaction with their current education, and the level of education needed to attain their career goals. Within all three samples increased career development was associated with greater satisfaction with education. The results also suggested that students who saw their current school work as related to their future careers were more satisfied with their education. Differences were noted between rural girls and boys, with girls being more likely to report higher grades, participation in work-based learning activities, and intentions to pursue post-high school education opportunities. However, the authors reported limitations related to the homogeneity of the sample and the challenges associated with collecting data within a school system. Despite these limitations this study provides evidence that rural students can benefit from career development activities and are more satisfied with their education as it relates to their preparation in the future when they have these activities.

The study conducted by Ali and colleagues (2012) provides an example of how a career intervention can be implemented with rural high school students. The intervention, "A Future in Iowa Career Education" (FICE) program, is an early predecessor of Project HOPE and is, thus, relevant for understanding the historical development of Project HOPE and the current proposed intervention. FICE was a career intervention based in SCCT (Lent, Brown, & Hackett, 1994; 2000) that was implemented within three diverse high schools in a rural Midwest area (Ali, Yan, Button, & McCoy, 2012). The intervention implementations were researched as case studies. Because of the emphasis

on the importance of context, participants from each school were described separately. Participants in School 1 included 27 males and 25 females, with an average age of 14.50 (SD=0.58). Of these participants, 25 identified as Caucasian, 23 identified as Hispanic, and 4 identified as Other. For School 2, the sample included 17 males and 13 females, with an average age of 14.34 (SD=0.48). Within this sample, 15 identified as Caucasian and 15 identified as Hispanic. For School 3, the sample included 19 males and 32 females, with an average age of 14.47 (SD=0.54). Of this sample, 38 identified as Caucasian, 7 identified as Hispanic, and 6 identified as Other.

The authors described the process of collaboratively developing the FICE program with the school personnel and the ninth-grade students. The authors met with these stakeholders and requested feedback from them to help guide the goals of the programs (Ali et al., 2012). Once the needs were assessed and goals were established, the research team developed a curriculum for the career education program, again eliciting feedback from the other constituents before actually delivering the program content. The curriculum was designed using the basic tenets of SCCT (Lent, Brown, & Hackett, 1994). The final program consisted of nine sessions and was designed to be flexible enough so that it could be adapted to the individual needs of each of the schools.

In order to assess the program, several types of data were collected, including: pre-post SCCT quantitative data, student evaluations, and focus groups with students and school personnel. The measures for the quantitative data included the following: demographic information, academic self-efficacy beliefs (ASE; Hoover-Dempsey & Sandler, 2005), vocational skills self-efficacy beliefs (VSSE; McWhirter, Rasheed, & Crothers, 2000), career decision outcome expectations (CDOE; Betz & Voyten, 1997),

perceptions of educational barriers (PED; McWhirter et al., 2000), and career aspirations scale (CAS; O'Brien, 1996). In addition to these pre-post intervention surveys, a student evaluation was conducted in which students responded to two open-ended questions: "(1) One thing I learned from this program is….and (2) One thing I found helpful from this program was" (p. 370, Ali et al., 2012).

Focus groups were also conducted with school personnel and students in order to gather qualitative data about the strengths, weaknesses, suggestions for improvements, and general information about the program. The focus groups were audiotaped and transcribed. For Schools 1 and 2, the results showed that vocational skills self-efficacy and career aspirations increased from pre to post assessment. For School 3, the study reported that vocational skills self-efficacy and academic self-efficacy beliefs increased and perceptions of barriers decreased from pre to post assessment. In addition to this quantitative data, the student evaluations and focus group data suggested that participants and school personnel appreciated the wide variety of information that was discussed, including types of education (e.g. community colleges, universities, and trade-schools) and ways to address potential barriers. Additionally, school personnel reported they found value in the personal relationships developed with facilitators and the role modeling that the graduate students were able to provide. The authors suggest that some change may have been accounted for by the fact that the program was designed to target change at the individual, school, and community levels—a point that is illustrative of the emancipatory communitarian approach (Ali et al., 2012). The results suggest that empowering individuals and communities can have an impact on career development of high school adolescents. Much can be learned from both the process of implementing this

intervention and the presented results; however, important limitations must be acknowledged. The study lacked a control group at each of the high schools, which limits the attributions that can be made about the changes from pre to post intervention. Additionally, limited information on the validity of the two of the measures and the lack of follow-up data are limitations of the study. Despite this, the successful implementation and positive initial results suggest that using SCCT based career development programs may be beneficial with adolescent populations.

Each of these studies in these previous two sections describes the effects that career interventions can have on increasing general career constructs, such as career planfulness and decision making. Yet, none of these interventions directly targets specific content areas or specific types of careers. Particularly, none of these focus on science/math or healthcare career development aspects, which may be important for eventually increasing diversity in the health care fields. As such, interventions designed with these specific career outcomes targeted will be reviewed next.

**Healthcare and Science/Math Career Interventions**

While the general career interventions provide initial support for potential for benefits of career interventions for adolescents, they remain too broad and too general. Thus, understanding how interventions designed to target healthcare and science/math subjects affect adolescents is of greater importance when working to diversify the healthcare field. Thus, this section will focus on the few studies that have targeted math/science or healthcare interventions.

Hong, Lin, and Veach (2008) implemented a science career intervention with 8$^{th}$ grade students from single-parent households in Taiwan. The goal of the study was to

both assess gender differences in self-worth, social skills, sexist attitudes, and learning in science and the post intervention impact on these aspects and science performance. Participants included 28 8th grade students (16 boys, 12 girls) from single parent households. The mean age of boys was 13.92 (SD = .83) and the mean age of girls was 13.26 (SD = .54). The study reported that 7% of boy and 7.7% of girls were from high SES families, 81.3% of boys and 61.6% of girls were from moderate SES families, and 12.5% of boys and 15.4% of girls were from low SES families. All students received the intervention. Due to the small sample size, single group design, and cultural context factors, this intervention has limitations to its applicability to middle school students in the United States. Additionally, this study does not meet the criteria listed above for inclusion in this review because the intervention is not based in career development theory; however, it is one of a few interventions for middle school students that focus on math or science. Despite limitations of this study, it still provides important information about the impact that science intervention can have on middle school students. In particular, the intervention is associated with an increase of female students' science performance and the decrease in gender stereotyping for both boys and girls.

Dawes, Horan, and Hackett (2000) evaluated a school-based career intervention implemented during a technology course. The study evaluated a commercially available technology education program (Herlihy & Co., 1992) that included elements relevant to self-efficacy theory (Bandura, 1986). Participants in the study included 97 7th grade and 72 8th grade students from a large southwestern city. The mean age of participants was 12.67 (SD=NR). Of the participants, 62% identified as white, 20% as Mexican American, and 7% as African American. As this is an intact intervention, it was implemented by a

technology education teacher every day for 50 minutes over the course of 7 weeks. Students were able to choose three modules to complete from a total of 21 modules. Examples of these modules included: aerospace, computer fundamentals, electronic publishing, engineering and more. The modules were each designed to be completed in a 10-day period and included hands-on activities relevant to the topic. Students worked with partners and were able to use the teacher as a resource. The following measures were administered pre and post intervention: general and specific self-efficacy (modified version of Lent et al., 1984, 1986, 1987), general and specific career interest (based on Rotberg, Brown, & Ware, 1987), list of intended career choice and intended major, and demand characteristics (Borkovec & Nau, 1972). The demand characteristics scale was used to measure differences between the control and treatment groups, where differences would suggest a placebo effect. The analysis resulted in no significant treatment effects, suggesting there were no differences between the treatment and control groups.

The researchers reported a careful analysis of responses to the demand characteristic scale suggest that students were endorsing items to indicate the course as important and valuable for later in life. As they suggest, further investigation into the demand for these types of class-based interventions is warranted. Although this study reported no significant results, several important aspects of it are worth noting. First, this study illustrates the importance of the match between intervention content and study measures (Lent, Brown, & Hackett, 2006). As the intervention was already intact and not theoretically derived (though it was reported to be theoretically congruent), the measures may not have fully captured the effects of the study. Second, this study suggests, though

based on limited data, that middle school students are interested in interventions and find the experience valuable.

Fouad (1995) implemented a math and science intervention, Career Linking, with 8th grade students at an urban inner-city middle school. The goal of the intervention was to increase students' career knowledge, self-esteem, math and science achievement, choice of high school, and high school course selection in math and science. Participants included 81 8th grade students. Of these participants, 58% were females, 5% were Native American, 7% were Asian American, 24% were Hispanic American, 27% were African American, and 31% White. The author used a control group of similar racial and gender distribution. The intervention was designed using a 6-week model that "included an introduction to the career field, field trip, speakers, shadowing experiences, and evaluative exercises" (p. 73). The 6-week model was used with several different fields (e.g. health careers, field trip, speakers, etc.). Each of these 6-week periods was incorporated into existing math, science, and English courses.

To evaluate the impact of the intervention, the study collected pre and post intervention data on the following paper-and-pencil measures: the Cognitive Vocational Maturity Test (CVMT; Westbrook & Parry-Hill, 1975) and the Coopersmith Self-Esteem Inventory (CSEI; Coopersmith, 1987). The results of the study showed that students reported an increase in career knowledge. Additionally, the students in the experimental group were shown to magnet schools at a rate of 70%, in comparison to only 39% of students in the control group choosing a magnet school. Finally, minority students in the experimental condition were significantly more likely to enroll algebra, geometry, and advanced algebra than minority students in the control group, who most typically

enrolled in applied math or pre-algebra. Thus, the intervention associated with taking more difficult math courses, though no differences were found for taking science courses. Fouad (1995) suggests that the intervention may have "remediated low self-efficacy in math and science for girls and minority students" (p. 533). Limitations include the small control group and differential use of measures that did not allow for comparison of the group prior to the intervention. Despite these limitations, this intervention suggests that science and math interventions may be particularly helpful for female and minority adolescents.

Ali, Brown, and Loh (2017) evaluated the impact of a math/science career intervention, Project HOPE, on middle school students from a rural Midwest town using two separate samples. As Project HOPE is based on SCCT (Lent, Brown, & Hackett, 1994, 2000), the goal of the intervention was to increase the career self-efficacy, outcome expectations, intentions, and interests of the students. Participants in the first sample included 73 eighth-grade students in a Midwest rural community, with 49.4% identifying as female and a mean age of 13.33 (SD = 0.47) years. Participants indicated their ethnicity/race as 53.2% Hispanic/Latino and 39.2% White. The following measures were used: Math/Science Self-Efficacy Scale (MSSE; Fouad & Smith, 1996), Math/Science Interests Scale (MSITR; Fouad & Smith, 1996), and the Vocational Skills Self-Efficacy Scale (VSSE; McWhirter, Rasheed, & Crothers, 2000). The study examined whether the intervention increased the outcome variables over time and how the intervention influenced outcomes based on the race/ethnicity of the participants. This was the first implementation of Project HOPE, which was developed from the Future in Iowa Career Education program (Ali et al., 2011). The intervention consisted of five sessions within

the school and a final session at a large Midwestern university that included hands on activities for the students. The results of the first study indicated that all students reported increases in Math/Science Self-Efficacy from baseline to follow-up. No significant differences between ethnic groups (White and Hispanic/Latino) were found.

Participants in the second sample included 50 eighth grade students from a different rural Midwest community enrolled in a science class. The sample consisted of 62.0% females, with an average age of 13.61 years (*SD* = 0.57). The participants identified their ethnicity as follows: 56.0% as Hispanic/Latino American, 44% as White American. Four participants did not identify as either White or Latino and were excluded from the analysis. The study used the following measures: the Health Science Self-Efficacy Scale (HSSES; modified version of Math Science Self-Efficacy Scale; Fouad & Smith, 1996), the Health Career Consideration Scale (HCONS; Fleming, Berkowitz, & Cheadle, 2005), the Math-science Outcome Expectation Scale (MSOES; Fouad & Smith, 1996), the Math-Science Intention Scale (MSIS; Fouad & Smith, 1996), and the Math-Science Interest Scale (MSITR; Fouad & Smith, 1996). This implementation of Project HOPE included a heavy emphasis on the importance of math/science to healthcare careers. The intervention consisted of six sessions, where the first five sessions were implemented at the middle school over the course of one week. The sixth and final session was a field trip to a large Midwestern university that included hands-on simulations in math/science-related professions (e.g. medical school, dentistry, physics, etc.).

Ali and colleagues (2017) reported that there were no significant changes from baseline to follow-up for the group as a whole. Further exploration of the outcomes of the

intervention based on ethnicity was conducted. The results suggested that the intervention was associated with greater increases in Health Science Self-Efficacy for White students as compared to Latino students. The results also suggested that there were greater increases in Math/Science Interest scores for Latino students when compared to White students. Further, Latino students reported increases in health career consideration scores on the Physician domain, while White students reported a decrease. Limitations of these studies include the small sample size and the lack of a control group. Additionally, the measures did not match with the content of the intervention. Despite these limitations, the results suggested that the intervention, Project HOPE, is associated with positive increases on a variety of socio-cognitive outcomes for diverse middle school students. This provides preliminary support for the viability of Project HOPE as an intervention to be modified and implemented with a different rural community.

Ali, Pham, Loh, & Brown (under review) compared the effectiveness of two conditions of Project HOPE at increasing math/science self-efficacy beliefs, outcome expectations, interests and intentions, as well as healthcare self-efficacy beliefs, outcome expectations, and interests. This was the fifth implementation of Project HOPE, which aimed to compare a standard condition (SCCT) and a sociopolitical development condition (SCCT + SPD). The primary difference between the conditions was the fifth session, where community members discussed their experiences of going to college, resources within the community, and how their careers can contribute to and help better the community. Participants in this intervention included 91 eighth grade students. The sample consisted of 56% female students, ranging from 13-14 years of age ($M$ = 13.26, $SD$ = .51). Participants self-identified their ethnicity as: 39.6% white and 60.4% non-

white (i.e. 43 Hispanic/Latino, 2 Asians, 9 biracial/multiracial, and 1 “other”). This study used the following measures: the Healthcare Career Task and Healthcare Career Search Self-Efficacy Scales (HCTSE and HCSSE; modified versions of Math Science Self-Efficacy Scale; Fouad & Smith, 1996), the Math-science Outcome Expectation Scale (MSOES; Fouad & Smith, 1996), the Math-Science Intention Scale (MSIS; Fouad & Smith, 1996), and the Math-Science Interest Scale (MSITR; Fouad & Smith, 1996).

The results of this study found that overall, regardless of condition, students reported significant increase in Healthcare Career Interests from baseline to follow-up. No other significant differences from baseline to follow-up were reported. No differences between conditions were reported. In the SCCT only condition, White participants reported significantly greater increases on Math/Science Outcome Expectations than did ethnic minority students. In contrast both White participants and ethnic minority participants reported greater increases in Math/Science outcome expectations in the SCCT+SPD condition. These findings suggest that the SCCT+SPD condition is beneficial for all students at increasing outcome expectations, while the SCCT only condition helped to increase only the outcome expectations of White students and not Latino students. Limitations of this study include that participants were not randomly assigned to their classrooms, data was only collected at two time points, and the SCCT+SPD condition could have included more elements of sociopolitical development. This study, however, provides support for future research regarding the infusion of sociopolitical development into career interventions.

## Conclusion

The current research on career interventions for rural adolescents is lacking. At this time, no career interventions have been theoretically derived from SCCT and implemented with middle school students, with the exception of Ali, Brown & Loh (2017) and Ali et al., (under review). Additionally, despite the recommendations from researchers (e.g. Diemer & Blustein, 2006; Diemer & Hsieh, 2008), few interventions have directly and explicitly incorporated elements to increase sociopolitical development. O'Brien and colleagues (1999) may have organically discussed certain sociopolitical development issues; however, this appears to have been unintentional. However, this may indicate the interest and willingness of adolescents to discuss sociopolitical topics. Ali and colleagues (under review) reported that the sociopolitical development condition of Project HOPE helped increase math/science outcome expectations of both White students and ethnic minorities, as compared to the standard condition which only increased the outcome expectations of White students. These findings indicate the positive effects of career interventions with sociopolitical development for students, regardless of racial or ethnic background, from rural areas. As Project HOPE has already been shown to increase SCCT constructs for adolescents (Ali, Brown, & Loh, 2017; Ali et al., under review), it has the potential for appropriate modifications to be made to incorporate sociopolitical development and community engagement.

# Introduction to This Study

## Purpose

The purpose of this study is to compare evaluate the effectiveness of an SCCT-based career intervention infused with sociopolitical development elements on the career development of rural adolescents from a small Midwestern town.

## Hypotheses

1. All participants, regardless of condition, will report significant gains of healthcare career self-efficacy, outcome expectations, interests, intentions, community engagement, and sociopolitical development from baseline to follow-up.
2. Participants who receive the sociopolitical development condition will report greater increases in healthcare career self-efficacy, outcome expectations, interests, intentions, community engagement, and sociopolitical development from baseline to follow-up as compared to participants who receive the standard intervention.

# CHAPTER 3: METHODOLOGY

The purpose of this study was to test and to compare two conditions of a pre-existing career intervention, Project HOPE (Ali, 2013; Ali et al., 2017). The study was a quasi-experimental random design, consisting of four groups. The following section describes the methodology and procedure of this study.

## Procedure

### Power Analysis

An analysis was calculated using G*Power (Erdfelder, Faul, & Buchner, 1996) to determine the overall size of sample needed to detect an effect of the career intervention. The analysis effect size estimates came from an earlier iteration of Project HOPE (Ali et al., under review). As several measures are used, the measure with the smallest effect size and the measure with the largest effect size were used to estimate the range of the sample. The power analysis revealed that in order for an effect to be detected (80% chance) as significant at the 5% level a sample between 12 to 150 participants would be required.

### Recruitment

Participants were recruited from a mandatory seminar class that all eighth grade students take. The seminar class meets every day for a semester and is taught by the middle school counselor. Some parents were recruited during a “Back to School Night” for middle school students and their parents. The school counselor helped to facilitate recruitment of the additional parents. Parents and students were given opportunities to learn more about the program and the research. They were provided contact information for this author in case they had additional questions.

**Participants**

All participants attended a middle school located in small rural Midwest town (population 2,322; U.S. Census, 2010). The small town is approximately 20 minutes from a large university town. Over 95% of the residents of this town identified as white. The median income of this town is $62,421, which is almost $8,000 than the estimated median income in all of Iowa. For individuals over 25, 95.9% report high school degrees or higher, with 33.9% reporting Bachelor's degrees or higher. The most common industries for males include construction (12%), transportation and warehousing (12%), retail trade (12%), manufacturing (11%), accommodation and food services (8%), educational services (8%), and administrative and support and waste management services (7%). The most common industries for women include health care and social assistance (28%), educational services (23%), retail trade (7%), finance and insurance (7%), accommodation and food services (7%), manufacturing (5%), and construction (4%). The reported unemployment rate is 2.9%, which is below the unemployment of the entire stated of Iowa (3.3%; City Data, 2017).

The initial sample included 62 participants. Of these participants, three did not complete the post-test, resulting in a final sample of 59 participants. Within the sample, 26 (44.1%) students identified as female, 29 (49.2%) students identified as male, and 4 (6.8%) students did not respond. The average age of students was 13.13 years (SD = .474); four students did not respond to this item. The sample consisted of 45 (76.3%) White/Non-Hispanic students, 2 (4.3%) Black/African American, 1 (1.7%) Latino, 2 (3.4%) Asian/Asian American, 3 (5.1%) Native American, 2 (3.4%) Biracial, 1 (1.7%) reported Other, and 3 (5.1%) did not respond to the item. According to the Iowa

Department of Education (2017), 23.2% of students in this school were eligible from free and reduced lunch, which is less than statewide (47%).

The standard condition had a final sample of 30 students. Within this condition, 16 (53.3%) students identified as male, 13 (43.3%) students identified as female, and 1(3.3%) student did not respond. The average age of this group was 13.14 years (SD = .52). Students reported their race as 23 (76.7%) White/Non-Hispanic, 1 (3.3%) Black/African American, 1 (3.3%) Latino, 3 (10%) Native American, 1 (3.3%) Biracial, and 1 (3.3%) Other. The sociopolitical development condition had a final sample of 29 students. Within this condition, 13 (44.8%) students identified as male, 13 (44.8%) students identified as female, and 3 (10.4%) students did not respond. The average age of this group was 13.12 years (SD = .43). Students reported their race as 22 (75.9%) White/Non-Hispanic, 1 (3.4%) Black/African American, 2 (6.9%) Asian/Asian American, and 1 (3.4%) Biracial.

The four groups received the interventions at four different times, following the 9-week quarter system of the school district. Two groups received the modified Project HOPE curriculum that included the sociopolitical development elements during the Fall of 2015. The other two groups received the standard Project HOPE intervention during the Spring of 2016. The intervention was implemented within a seminar class taught by the school counselor. The class met daily for a quarter, with Project HOPE being implemented one day per week for the seven weeks necessary. The seminar is one of four elective courses that all students must take throughout their eighth grade year. According to the school and the school counselor, students are randomly assigned to one group and

then rotate together through the four elective quarters. For purposes of data analysis, the two groups within each condition were combined.

The four facilitators of the intervention included three Counseling Psychology doctoral students who had previously implemented Project HOPE ranging from 1-4 years. The fourth facilitator was a community volunteer who had a Master's in counseling and later was accepted as an incoming student into the Counseling Psychology program. All facilitators identified as women in their mid-20's to early 30's. The author identifies as White, while two women identified as international students from South Korea and one woman identified as Indian American. The other three facilitators besides the author were trained and directly supervised by this author. All four facilitators received approximately bi-weekly supervision from a faculty member in the Counseling Psychology program who is a licensed psychologist.

## Data Collection

Data from all groups were collected in two waves: one-week prior to the intervention and immediately following the final intervention session. Data was collected on computers using an online survey designed through Qualtrics. Students were assigned an identification number in order to match their pre and post surveys and to ensure the confidentiality of their responses. The data collection occurred in the middle school classroom where the intervention was implemented, during their seminar class.

## Measures

**Demographic questionnaire**. The demographic questionnaire includes the following information: age, sex, ethnicity, parent(s)/guardians(s) in the home, education level of each parent, and occupation of each parent.

**Healthcare career task self-efficacy**. The Healthcare Career Task Self-Efficacy Scale (HCTSE) is an 11-questions scale that measures an individual's confidence in his or her ability to perform various tasks. This scale was developed specifically for Project HOPE during the 4th iteration of the intervention (Ali, Fosenburg, Rowe-Johnson, Loh, Menke, & Brown, in prep). The questions were designed to assess self-efficacy related to assess self-efficacy on specific tasks that might be performed in science or healthcare-related careers. Participants are instructed to indicated their confidence in their ability to perform each task on a scale of 1 (Very Confident) to 5 (Very Unconfident). Examples of items include: "I feel confident I can show a younger student how a piece of laboratory equipment works" "I feel confident I can design and run a laboratory experiment" "I feel confident I can ask follow up questions to reach more specific conclusions." Ali and colleagues (under review) reported Cronbach's $\alpha$ of this scale at 0.89 at baseline and 0.92 at follow-up for a diverse sample of rural middle school students. For the present study, the internal consistency of this scale was 0.93 at baseline and 0.96 at follow-up.

**Healthcare career search self-efficacy**. The Healthcare Career Search Self-Efficacy Scale (HCSSE) consists of 20 items designed to assess an individual's belief in his or her ability to search for and find information related to healthcare careers. This measure was also specifically designed for the fourth iteration of Project HOPE and is intended to align more appropriately with the focus of the intervention (Ali, unpublished manuscript). Participants indicate their level of confidence in their ability to perform a task on a scale of 1 (Complete Confidence) to 5 (No Confidence). Examples items include: "I feel confident that I can visit a website to gather more information about a possible future career in healthcare" "I feel confident I can set goals for a future career in

the healthcare field" "I feel confident I can talk to a school counselor about my healthcare career interests." Ali and colleagues (under review) reported Cronbach's α of this scale at 0.87 at baseline and 0.91 at follow-up for a diverse sample of rural middle school students. For the present study, the internal consistency of this scale was 0.93 at baseline and 0.92 at follow-up.

**Healthcare career outcome expectations**. The Healthcare Career Outcome Expectations Scale (HCOE) includes 15 items designed to measure how students believe their current actions will impact their future school and career choices. As such, the items are framed as "if, then" statements that connect actions to particular outcomes. Participants were asked to indicate to what degree they agreed with the statement on a scale of 1 (Strongly Agree) to 6 (Strongly Disagree). Examples of items include: "If I get good grades in high school, I will get into a college of my choice", "If I choose a college major with a lot of math and science, I will be able to pursue a career in healthcare", and "If I know my interests and abilities, then it will help me to decide if a career in healthcare is a good fit for me." This measure was developed specifically for use with the implementation of the Project HOPE intervention. Ali and colleagues (under review) reported Cronbach's α of this scale at 0.86 at baseline and 0.94 at follow-up for a diverse sample of rural middle school students. For the present study, the internal consistency of this scale was 0.92 at baseline and 0.94 at follow-up.

**Healthcare career interest**. The Healthcare Career Interest Scale (HCI) is a 14-item scale that aims to measure participants' interest in a variety of activities related to healthcare careers. The questions encompass a variety of activities that could indicate interest in healthcare careers. Participants were asked to report to what degree they were

like each activity on a scale of 1 (Like Extremely) to 6 (Dislike Extremely). Examples of items include: “Shadowing a healthcare professional”, “Discussing healthcare professions with my friends”, and “Watching a healthcare-related program on TV.” As with the other measures in this study, this scale was developed specifically for use with Project HOPE (Ali et al., in prep). Ali and colleagues (under review) reported Cronbach’s α of this scale at 0.94 at baseline and 0.95 at follow-up for a diverse sample of rural middle school students. For the present study, the internal consistency of this scale was 0.96 at baseline and 0.97 at follow-up.

**Sociopolitical development.** Two measures were used to assess sociopolitical development. The first measure, the Sociopolitical Control Scale for Youth (SPCS-Y; Peterson, Peterson, Agre, Christens & Morton, 2011), assesses adolescents’ leadership competence and sense of their ability to influence policies and their community. Participants were asked to indicate to what degree they agreed with the statement on a scale of 1 (Strongly Disagree) to 5 (Strongly Agree). Examples of items include: “I can usually organize people to get things done”; “I like trying new things that are challenging to me”; and “Youth like me can really understand what’s going on with my community or school.” Peterson and colleagues (2011) reported an internal consistence on this scale of .89. For the present study, the internal consistency of this scale was 0.85 at baseline and 0.93 at follow-up. For the purpose of this study, this scale will be referred to as Community Engagement.

The second measure used to assess sociopolitical development is the Critical Consciousness Scale (CCS; Diemer, Rapa, Park, & Perry, 2014). The scale consists of three subscales: Critical Reflection: Perceived Inequality, Critical Reflection:

Egalitarianism, and Critical Action: Socio-political Participation. The subscales are designed to be independent, such that scores are calculated for each scale, but no overall score is calculated. Participants rate all items on a scale of 1 (Strongly Disagree) to 6 (Strongly Agree). The Critical Reflection: Perceived Inequality scale has eight items that measure adolescents' understanding of how social identities (e.g. race/ethnicity, gender, and socioeconomic status) can influence educational and occupational opportunities. Sample items include: "Certain racial or ethnic groups have fewer chances to get good jobs" and "Women have fewer chances to get ahead." The Critical Reflection: Egalitarianism scale includes five items that measure adolescents' level of agreement that all groups should be treated as equal. Sample items include: "It is a good thing that certain groups are at the top and other groups are at the bottom" and "We would have fewer problems if we treated people more equally." The Critical Action: Sociopolitical Participation scale consists of eight items and measures the extent to which adolescents participate in social and political activities in an effort to change perceived inequalities. Sample items include: "Participated in a political party, club, or organization" and "Participated in a discussion about a social or political issue." Diemer and colleagues reported internal consistencies of 0.89 for the Critical Reflection: Perceived Inequality subscale, 0.76 for the Critical Reflection: Egalitarianism subscale, and 0.87 for the Critical Action: Socio-political Participation subscale. For the present study, the internal consistency of Critical Reflection: Perceived Inequality subscale was 0.95 at baseline and 0.96 at follow-up. The internal consistency of Critical Reflection: Egalitarianism subscale was 0.73 at baseline and 0.84 at follow-up. The internal consistency of Critical Action: Socio-political participation subscale was 0.90 at baseline and 0.92 at follow-up.

## Project HOPE: The Intervention

Project HOPE (Ali, 2013, Ali et al., 2017) is a seven week career education program designed to increase short term healthcare career-related socio-cognitive outcomes for rural middle school students. The purpose of this study was to infuse activities designed to increase sociopolitical development into the existing program and compare the effectiveness of it to the standard condition of Project HOPE. The following section will describe the activities from each day. The sociopolitical development activities will be highlighted within each session. These activities were only implemented within the sociopolitical development condition. Therefore, the sociopolitical development condition included both the new sociopolitical development activities and the standard condition activities within the same time frame as the standard condition. An overview of the activities, their purpose, and their theoretical foundations can be found in Table 1.

**Week 1: Healthcare jeopardy.** Facilitators introduced the purpose of Project HOPE and broadly discussed the healthcare field. Efforts were made to begin developing rapport with the students by have students and facilitators introduce themselves to each other. Facilitators provided information about healthcare jobs and the importance they have in communities by playing a modified version of jeopardy that includes categories such as WOW (World of Work), R & B (Resources and Barriers), and Community Connections. Facilitators briefly introduced the Holland Code (Holland, 1994) so that students could complete a self-ranking of their interests based on the RIASEC (realistic, investigative, artistic, social, enterprising, and conventional).

***Sociopolitical development activities.*** Facilitators introduced a photo activity, where participants were asked to take pictures or google images of healthcare in their community. This activity was based on a qualitative community-based participatory research methodology called photovoice (e.g. Hannay, Dudley, Milan, & Leibovitz, 2013; Strack, Magill, & McDonagh, 2004). Photovoice gives voice to youths' opinions and perspectives on their communities by asking them to take pictures of their community that illustrates its strengths and areas of growth. Students in the current study were asked to take one picture a week of a healthcare strength or growth area in their community and submit it to their teacher electronically. They were told that this would be used in a later presentation. Due to limited resources, students were asked to find ways to take these pictures on their own. Since some students did not have access to cameras or a way to take these photos, students were allowed to find pictures on google images to help fulfill the requirements of this project.

**Week 2: Holland career fair.** This activity was designed to help students explore their career interests (e.g. working with people. working with your hands, asking questions, etc.) and how those career interests relate to particular healthcare careers. Students were divided into three groups and cycled through six different stations. Each station represented an interest area on the RIASEC. Facilitators briefly summarized each interest area and provided specific examples within the healthcare field. For example, "C", or conventional, was described as an interest area where people like to keep things in order and organized. Medical librarian, medical transcriptionist, and medical office administrator were provided as examples of healthcare careers that match the conventional interest area. Students then played games that exemplified the interest area.

For example, students played 20 Questions for the "I", or investigative, interest area and they played Pictionary with healthcare-related terms for the "A", or artistic", interest area. Once students completed all six games, the re-ranked their interests on the RIASEC. As a group, they discussed what stayed the same, what changed, and why that occurred.

***Sociopolitical development activities***. Students were reminded to continue taking photos in their community of things they are proud of and things they would want to change related to healthcare services.

**Week 3: Career game.** Participants played a game with the goal of finding a job. The game was designed to help them explore the possible resources and "road blocks" they might encounter on their educational journey. Students earned points by reading different scenarios from different life stations (e.g. two-year college; work experience; volunteer; family and friends, etc.) and by finding solutions to possible road blocks. Students were asked to reflect on what roadblocks they believe they may encounter in the future.

***Sociopolitical development activities***. Students were reminded to continue taking photos in their community of things they are proud of and things they would want to change related to healthcare services.

**Week 4: Occupational research.** Participants gathered information about a chosen healthcare career, including level of education, job skills, salary, and typical job tasks. Students were provided a pseudo-job application and instructed to research this information on the website: iseek.org. Students were given specific instructions on how to find the information on this website and asked to limit their web research to this website. This was done to help students remain focused on the task and help them to find

the information they needed without being overwhelmed by all of the possible information available on the web.

***Sociopolitical development activities.*** Facilitators guided conversations about participants' perceptions of stereotypes that people may have about individuals living in rural areas. This author provided personal examples from her background of growing up in a small rural town. In order to facilitate this discussion, one implementation used sentence stems to prompt the students ("Because I live in a small town, people think _____"; "Because I live in rural Iowa, people think _____"). This provided a framework for students to think about how they might be perceived by other people who are not from rural towns. This discussion was also connected to their pursuit of education and attainment of particular careers. Based on qualitative observations, several students were able to easily respond to the stems. Examples of their responses include "Because I live in a small town, people think I'm a farmer" and "Because I live in rural Iowa, people think I can't make it in the big city." While students were able to identify stereotypes, it was unclear if and to what extent these stereotypes were internalized or personalized by these students.

**Week 5: Presentation creation.** Students created PowerPoint presentation using the information they collected during the previous session. They were instructed to discuss the career they choose, including the specific details of the career and what made them interested in it. They were asked to look at how well they believed they would fit with that particular career. All students in this school had been issued a laptops, which helped facilitate the creation of these PowerPoints.

***Sociopolitical development activities.*** Students included their images that they took or found on the internet and were asked to discuss what they were proud of about their community and what they would like to change as related to healthcare. Students were asked to articulate how their future job might contribute to and better their community.

**Week 6: Presentations and wrap-up.** Students presented their PowerPoints to their peers in small groups. Peers and facilitators asked questions of the individuals. Facilitators provided individualized feedback to every student about something that he or she did well. Facilitators briefly summarized the intervention to date and provided students more information about the field trip.

***Sociopolitical development activities***. Students shared their pictures about their communities and discussed ways in which their careers might contribute to their future community. Facilitators highlighted these connections as students presented.

**Week 7: Field trip.** For the final session of Project HOPE, students visited a large Midwestern university and participated in hands-on simulations. They had the opportunity to observe professionals in their work setting and to participate in "hands on" activities (e.g. make lip balm with pharmacists, build light-seeking robots with physicists). Presenters connected the information gained from the career intervention to the real world of work. The experience exposed students to a variety of occupations and provided them with an opportunity to discuss the associated educational requirements and job responsibilities with actual healthcare workers.

Table 1: Overview of Intervention

| **Lesson Title** | **Activities** | **Purpose** | **Five critical components & SCCT** |
|---|---|---|---|
| Pre-test | Students take computer surveys | Collect baseline data about students before intervention begins | Baseline SCCT |
| Session 1: Introduction /Healthcare Jeopardy | Jeopardy using questions relevant to health care; students compete in teams | Introduction to healthcare work; Increase understanding of healthcare field | World of work information; outcome expectations |
| Session 2: Holland Career Fair | Students rotate through stations that each focus on a Holland interest area; Compare self-assessments of interests | Show students that interests may guide career choice; Help students to find codes that fit them | Personalized individual information, feedback; interests |
| Session 3: Career Game | Students read different scenarios, some that help them on their career path and some that hinder them | Expose students to barriers that may exist on their career path; help students to generate solutions and resources | Supports; Barriers; |
| Session 4: Research and Job Application | Students use internet resources to research information about health care career; Complete a "job application" using that information | Provide students with practice of searching for relevant information and mastery experiences of completing an application | World of work information; career search self-efficacy |
| Session 5: Poster Creation | Students work with other students to design materials related to their health care career of choice | Determine ways to communicate what has been learned about their occupations and their relevance to communities | World of work information; career task self-efficacy |
| Session 6: Presentation | Students will present their career materials to their peers and other observers. | Students practice communicating their interests and relevance of careers to their community | Self-efficacy; Personalized feedback |
| Simulation experiences/ Field Trip | Student visit a nearby university to participate in two on-site simulations related to healthcare careers | Allow students to gain hands-on experience with healthcare occupations and experience a college campus | World of work information; hands-on experience |
| Post-test | Students take computer surveys | Collect data about students after intervention | SCCT outcome Data |

# CHAPTER 4: RESULTS

Prior to data analysis, responses were checked for missing items. Three participants did not complete the follow-up survey, so their cases were removed prior to data analysis. Less than 10% of the data was missing for any participant. This missing data was handled by utilizing serial mean imputation to input the missing data points. Table 1 shows the correlations, means, standard deviations, value ranges, and alpha levels of the scales used in the study for both baseline and follow-up test scores. This section includes a brief highlight of the significant correlations that were reported. As shown in the table, the socio-cognitive vocational variables (e.g. self-efficacy, outcome expectations, interest, etc.) tended to have strong correlations with each other. For example, Healthcare Career Interests at follow-up was strongly and positively correlated with Healthcare Career Task Self-Efficacy, Healthcare Career Search Self-Efficacy, and Healthcare Career Outcome Expectations (all $p$'s < .01). Healthcare Career Interests was also positively correlated with Community Engagement ($p$ < .01) and Critical Reflection: Egalitarianism ($p$ < .01). Additionally, of the critical consciousness scale at follow-up (i.e. Critical Reflection: Perceived Inequality, Critical Reflection: Egalitarianism, and Critical Action: Sociopolitical Participation), only Critical Reflection: Egalitarianism was positively correlated with the socio-cognitive vocational variables. Specifically, it was positively correlated with Healthcare Career Interest and Healthcare Career Outcome Expectations (all $p$'s < .01), as well as Healthcare Career Search Self-Efficacy ($p$ < .05).

Table 2. Correlations of Outcome Variables

| Variables | 1. HCI | 2.HCTSE | 3. HCSSE | 4. HCOE | 5. CE | 6. INEQ | 7.EGAL | 8. ACT |
|---|---|---|---|---|---|---|---|---|
| 1 | (.29*) | .28* | .29* | .32* | -.02 | -.10 | .00 | -.03 |
| 2 | .47** | (.41**) | .75** | .73** | .08 | .02 | .13 | .29* |
| 3 | .61** | .53* | (.20) | .79** | .001 | .06 | .22 | .34** |
| 4 | .67** | .65** | .65** | (.31*) | .04 | .09 | .39** | .31* |
| 5. | .35** | .14 | .46** | .31* | (.36**) | -.12 | .12 | -.03 |
| 6. | -.11 | -.06 | .05 | -.15 | -.06 | (.52**) | .27* | .36* |
| 7. | .36** | .24 | .30* | .46** | .20 | .23 | (.14) | .12 |
| 8. | -.05 | -.16 | .11 | -.15 | .08 | .36** | .30* | (.28*) |
| Baseline | | | | | | | | |
| *M* | 51.38 | 42.17 | 65.46 | 36.92 | 26.91 | 21.19 | 22.09 | 13.82 |
| *SD* | 17.10 | 13.36 | 18.18 | 11.19 | 8.02 | 10.63 | 4.70 | 6.26 |
| Minimum | 14.00 | 12.00 | 22.00 | 10.00 | 9.00 | 8.00 | 5.00 | 9.00 |
| Maximum | 84.00 | 66.00 | 100.00 | 54.00 | 44.00 | 46.00 | 30.00 | 36.00 |
| Cronbach's $\alpha$ | .956 | .927 | .934 | .924 | .848 | .950 | .730 | .901 |
| Follow-up | | | | | | | | |
| *M* | 49.01 | 45.47 | 71.08 | 39.12 | 24.35 | 23.91 | 21.80 | 13.09 |
| *SD* | 18.88 | 14.32 | 17.96 | 11.30 | 8.73 | 12.41 | 6.35 | 6.39 |
| Minimum | 14.00 | 11.00 | 24.00 | 9.00 | 8.00 | 8.00 | 5.00 | 9.00 |
| Maximum | 84.00 | 66.00 | 97.00 | 54.00 | 40.00 | 48.00 | 30.00 | 45.00 |
| Cronbach's $\alpha$ | .966 | .960 | .921 | .940 | .930 | .964 | .839 | .916 |

*Note*. Correlations coefficients of the baseline scores (n = 59) were displayed above the diagonal and those in the follow-up tests (n = 59) were displayed in the below the diagonal. Correlation coefficients of the repeated measures were displayed in the parenthesis. HCI = Healthcare Career Interest; HCTSE = Healthcare Career Task Self-Efficacy; HCSSE = Healthcare Career Search Self-Efficacy; HCOE = Healthcare Career Outcome Expectations; CE = Community Engagement; INEQ = Critical Reflection: Perceived Inequality; EGAL = Critical Reflection: Egalitarianism; ACT = Critical Action: Sociopolitical Participation. $^{*}p < .05$, $^{**}p < .01$ (two-tailed).

The first hypothesis stated that, regardless of treatment condition, all students would report increases from baseline to follow-up on all outcome measure (e.g. Healthcare Career Interest, Healthcare Career Task Self-Efficacy, Healthcare Career Search Self-Efficacy, Healthcare Career Outcome Expectations, Critical Reflection: Perceived Inequality, Critical Reflection: Egalitarianism, and Critical Action: Sociopolitical Participation). This hypothesis was tested by a one-way repeated measures analysis of variance (Table 2). Partial eta-squared ($\eta_p^2$) effect sizes are reported and interpreted according to Cohen's (1969) guidelines: Small, $\eta_p^2 = .0099$; medium, $\eta_p^2 = .0588$; and large $\eta_p^2 = .1379$. Two significant changes in outcome variables were found. Results indicate that the overall sample reported a 5.62-point increase on the Healthcare Career Search Self-Efficacy Scale from baseline ($M = 65.46$, $SD = 18.18$) to follow-up ($M = 71.08$, $SD = 17.96$) [$F = 4.42$, $p < .05$, medium effect size ($\eta_p^2 = .072$)]. Students reported a 5.72-point decrease on the Community Engagement Scale from baseline ($M = 26.91$, $SD = 8.02$) to follow-up ($M = 21.19$, $SD = 10.63$) [$F = 4.23$, $p < .05$, medium effect size ($\eta_p^2 = .069$)]. No other significant changes were observed on the scales of: Healthcare Career Interest ($F = .70$, $p = .40$); Healthcare Career Task Self-Efficacy ($F = 3.55$, $p = .06$); Healthcare Career Outcome Expectations ($F = 2.15$, $p = .15$); Critical Reflection: Perceived Inequality ($F = 1.15$, $p = .29$); Critical Reflection: Egalitarianism ($F = .09$, $p = .77$); Critical Action: Social Participation ($F = .521$, $p = .47$).

Table 3. Repeated Analyses of Variance by Measurement Time

| | Baseline | | Follow-up | | *F* | Sig. | Partial $\eta_p^2$ |
|---|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | | | |
| HCI | 51.38 | 17.10 | 49.01 | 18.88 | .70 | .40 | .012 |
| HCTSE | 42.17 | 13.36 | 45.47 | 14.32 | 3.55 | .06 | .059 |
| HCSSE | 65.46 | 18.18 | 71.08 | 17.96 | 4.42* | .04 | .072 |
| HCOE | 36.92 | 11.19 | 39.12 | 11.30 | 2.15 | .15 | .036 |
| CE | 26.91 | 8.02 | 21.19 | 10.63 | 4.23* | .04 | .069 |
| INEQ | 21.19 | 10.63 | 23.91 | 12.41 | 1.15 | .29 | .057 |
| EGAL | 22.09 | 4.70 | 21.80 | 6.35 | .09 | .77 | .002 |
| ACT | 13.82 | 6.26 | 13.09 | 6.39 | .521 | .47 | .009 |

*Note*. HCI = Healthcare Career Interest; HCTSE = Healthcare Career Task Self-Efficacy; HCSSE = Healthcare Career Search Self-Efficacy; HCOE = Healthcare Career Outcome Expectations; CE = Community Engagement; INEQ = Critical Reflection: Perceived Inequality; EGAL = Critical Reflection: Egalitarianism; ACT = Critical Action: Sociopolitical Participation. * $p < 0.05$, effect size: small, $\eta_p^2 = .0099$; medium, $\eta_p^2 = .0588$; and large $\eta_p^2 = .1379$ (Cohen, 1969)

Hypothesis two, which stated that participants in the standard plus sociopolitical development condition would report greater increases at follow-up on all outcome variables as compared to participants in the standard condition, was tested using a one-way analysis of covariance (ANCOVA). The independent variable was the treatment condition (standard or sociopolitical development) and the dependent variables were the outcome variables that were measured following the completion of the intervention. Participants' scores on the outcome variables as measured prior to the implementation of the intervention were used as the covariate in this analysis. The data met the ANCOVA assumption of homogeneity of slopes among intervention groups [Healthcare Interests ($F = 1.296$); Healthcare Career Task Self-Efficacy ($F = .934$), Healthcare Career Search Self-Efficacy ($F = .051$); Healthcare Career Outcome Expectations ($F = .131$); Community Engagement ($F = 1.015$); Critical Reflection: Perceived Inequality($F = .867$); Critical Reflection: Egalitarianism ($F = .478$); and Critical Action: Sociopolitical Participation ($F = .000$), all *p*s > .05.

Hypothesis two was not supported, as the sociopolitical development condition did not show greater increases on the outcome variables than the standard condition. In

contrast to the prediction, participants in the standard condition reported greater increases on outcome variables as compared to participants in the sociopolitical development condition. These greater increases were reported on the following socio-cognitive vocational outcome measures: Healthcare Career Task Self-Efficacy [$F_{1, 56} = 5.85$, $p = .02$, medium effect size ($\eta_p^2 = .095$)]; Healthcare Career Search Self-Efficacy [$F_{1, 56} = 4.37$, $p = .04$, medium effect size ($\eta_p^2 = .072$)]; and Healthcare Career Outcome Expectations [$F_{1, 56} = 4.55$, $p = .04$, medium effect size ($\eta_p^2 = .075$)]. The analysis of the data demonstrated no difference between intervention conditions on the socio-cognitive vocational outcome variable of Healthcare Career Interests ($F_{1, 56} = .11$, $p = .74$). Similarly, the results demonstrated no differences between the intervention conditions on the outcome variable of Community Engagement ($F_{1, 56} = .05$, $p = .83$) or the sociopolitical development variables of Critical Reflection: Perceived Inequality ($F_{1, 56} = .44$, $p = .51$), Critical Reflection: Egalitarianism ($F_{1, 56} = .58$, $p = .49$), and Critical Action: Sociopolitical Participation ($F_{1, 56} = .27$, $p = .61$).

Table 4. Results of ANCOVA by Condition

| | Standard (n = 29) | Sociopolitical Development (n = 30) | *F* | Sig. | Partial $\eta_p^2$ |
|---|---|---|---|---|---|
| HCI | 49.83 (3.42) | 48.22 (3.37) | .11 | .74 | .002 |
| HCTSE | 49.76 (2.42) | 41.33 (2.38) | 5.85 | .02 | .095 |
| HCSSE | 76.12 (3.29) | 66.22 (3.23) | 4.37* | .04 | .072 |
| HCOE | 42.32 (2.04) | 36.01 (2.00) | 4.55* | .04 | .075 |
| CE | 24.58 (1.54) | 24.12 (1.51) | .05 | .83 | .001 |
| INEQ | 24.87 (2.01) | 22.99 (1.98) | .44 | .51 | .008 |
| EGAL | 22.44 (1.18) | 21.17 (1.16) | .58 | .45 | .010 |
| ACT | 13.54 (1.19) | 12.66 (1.17) | .27 | .61 | .005 |

*Note*. HCI = Healthcare Career Interest; HCTSE = Healthcare Career Task Self-Efficacy; HCSSE = Healthcare Career Search Self-Efficacy; HCOE = Healthcare Career Outcome Expectations; CE = Community Engagement; INEQ = Critical Reflection: Perceived Inequality; EGAL = Critical Reflection: Egalitarianism; ACT = Critical Action: Sociopolitical Participation. Means were provided in each cell and standard errors are presented in parentheses. * $p < 0.05$, effect size: small, $\eta_p^2 = .0099$; medium, $\eta_p^2 = .0588$; and large $\eta_p^2 = .1379$ (Cohen, 1969)

# CHAPTER 5: DISCUSSION

The purpose of this study was to evaluate and compare the effectiveness of a career intervention with rural middle school students. Project HOPE (Ali, 2013; Ali et al., 2017), an existing SCCT-based healthcare career intervention, was modified to include components of sociopolitical development, as has been recommended by researchers (Diemer & Hsieh, 2008). Two conditions of the intervention, a standard condition and a sociopolitical development condition were implemented, evaluated, and compared for effectiveness at increasing healthcare career-related socio-cognitive variables and sociopolitical development and community engagement variables from baseline to follow-up in a rural adolescent sample. This chapter will begin by discussing the statistical relationships between the outcome variables, as this has not been done in the literature with either these specific variables, or with this particular population of white, rural adolescents. Next, the results of the investigations of hypothesis one and hypothesis two will be discussed within the context of previous literature. Explanations, based in theory and research, will be provided for the outcomes of this study. Limitations of this study will be discussed, along with a call for future directions of research. The chapter will conclude with implications for counseling and vocational psychologists.

## Relationship Between Variables

As expected, all of the socio-cognitive healthcare career variables at follow-up had strong, positive correlations with each other. For example, Healthcare Career Interests at follow-up was strongly and positively correlated with Healthcare Career Task Self-Efficacy, Healthcare Career Search Self-Efficacy, and Healthcare Career Outcome Expectations (all *p's* < .01). This was true for other correlations between the other socio-

cognitive variables (e.g. Healthcare Career Task Self-Efficacy is strongly and positively correlated with Healthcare Career Search Self-Efficacy, and Healthcare Career Outcome Expectations, all *p's* < .01). This finding is congruent with previous findings, suggesting that there is often a close relationship between these variables (e.g. Fouad & Smith, 1996). These relationships are also congruent with the SCCT framework (Lent et al., 1994; 2000), where self-efficacy beliefs and outcome expectation beliefs contribute to interest and goals (i.e. intentions). Further, Flores and colleagues (2014) found within a college-age population that self-efficacy, outcome expectations, and interests are bi-directionally related, such that increasing any of the three constructs can contribute to increasing the other two constructs.

Sociopolitical development was measured in this study using Diemer and colleagues (2014) Critical Consciousness Scale (CCS), which was developed based on research and theory for high school adolescents. The CCS is comprised of three subscales, Critical Reflection: Perceived Inequality, Critical Reflection: Egalitarianism, and Critical Action: Sociopolitical Participation that represent the multiple facets of critical consciousness. The Sociopolitical Control Scale for Youth (SPCS-Y; Peterson et al., 2011) was used as an additional measure of sociopolitical development that focused on adolescents' contributions to their community and/or school. It was anticipated that using all of these scales would help capture a broader understanding of the sociopolitical development of rural adolescents, particularly in relation to their community. The results showed that Critical Reflection: Perceived Inequality was positively correlated with Critical Action: Sociopolitical Participation ($p < .01$). Critical Action: Sociopolitical Participation was also positively correlated with Critical Reflection: Egalitarianism ($p <$

.05). There was no significant relationship between Critical Reflection: Perceived Inequality and Critical Reflection: Egalitarianism. These results are both consistent and inconsistent with previous findings. Diemer and colleagues (2014) reported significant positive correlations between Critical Reflection: Perceived Inequality and Critical Action: Sociopolitical Participation; however, in contrast to the present study, they reported a significant negative correlation between Critical Reflection: Egalitarianism and Critical Action: Sociopolitical Participation. Similar to this study, Diemer and colleagues (2014) reported no significant relationship between the two reflective components of the CCS, Critical Reflection: Perceived Inequality and Critical Reflection: Egalitarianism. As suggested by Diemer and colleagues (2014), these scales likely capture very nuanced ways of thinking about the world and clearly capture different aspects of critical consciousness. No significant correlations were found between the Sociopolitical Control Scale for Youth (SPCS-Y; Peterson et al., 2011) that was used to measure Community Engagement and any of the subscales of the CCS (Diemer et al., 2014). This was unexpected as it was anticipated that at least the Critical Action: Sociopolitical Participation subscale would be similarly measuring the action part of critical consciousness. Given the lack of relationship between these variable, the scales are likely measuring different facets of sociopolitical development and community engagement. It is also possible that the lack of the relationship has to do with the sample. These findings must also take into consideration that the original sample norming the CCS subscales (Diemer et al., 2014) was conducted with urban and predominantly African American populations. The scale was also normed at a $10^{th}$ grade reading level.

These factors may account for some of the differences in findings between the previous and current studies.

This study was interested in the relationship between the socio-cognitive variables and the sociopolitical development variables because this has not been studied in previous research. The results indicated that some of the socio-cognitive variables were correlated with the Critical Reflection: Egalitarianism subscale and the Community Engagement scale. Specifically, Critical Reflection: Egalitarianism was positively correlated with Healthcare Career Interest, and Healthcare Career Outcome Expectations ($p$'s < .01) and Healthcare Career Search Self-Efficacy ($p$ < .05). The Community Engagement scale was positively correlated with Healthcare Career Interest and Healthcare Career Search Self-Efficacy ($p$'s < .01) and Healthcare Career Outcome Expectations ($p$ < .05). These findings partially corroborate previous research that reported that sociopolitical development was positively associated with vocational identity (Diemer & Blustein, 2006) and vocational expectations (Diemer & Hsieh, 2008). However, an important difference to note is that sociopolitical development was measured differently among all of these studies. The CCS scales are the most recent effort to measure the nuances of critical consciousness and sociopolitical development with adolescents (Diemer et al., 2014). In regards to the integration of SCCT and sociopolitical development, the results of this study are consistent with the findings from Chronister and McWhirter's (2006) career intervention study with survivors of domestic violence. The Critical Consciousness of Domestic Violence scale was strongly and positively correlated with Career Search Self-Efficacy and Career Outcome Expectations ($p$'s < .01) in their study. Future research will need to continue exploring and establishing

the relationship between socio-cognitive variables and sociopolitical development variables.

While these findings are descriptive and correlational in nature, they are one step towards establishing and better understanding the relationship between sociopolitical development and career development. Given that the previous findings that higher sociopolitical development is associated with higher vocational expectations and outcome (Diemer & Blustein, 2006; Diemer & Hsieh, 2008), this may continue to be an important area of study and intervention. This may continue to be particularly important for populations who experience oppression of any kind or lack important resources to assist in their career development. These findings also contribute to the literature because sociopolitical development and career development in adolescents have not been studied in rural white samples.

## Overall Effectiveness of Intervention

The first hypothesis predicted that the career intervention, regardless of condition, would increase the socio-cognitive variables and the sociopolitical development variables over time. This hypothesis was partially supported. The results showed that Healthcare Career Search Self-Efficacy significantly increased from baseline to follow-up for the overall sample. As described in the methods chapter, both conditions of the career intervention emphasize the process of finding a career of interest and finding information about how to attain a desired healthcare career. The intervention embeds resources that students can use to explore their career interests, as well as identifies aspects of career knowledge that would be beneficial to students as they go through the career development process. This finding is consistent with preliminary findings from a recent

iteration of Project HOPE in a diverse, rural sample where Healthcare Career Search Self-Efficacy was found to increase from baseline to follow-up (Ali, Brown, Loh, Pham, & Ho, 2016). Although minor differences existed between the curriculum in these two iterations of Project HOPE and the participants resided in different rural communities and sociopolitical contexts, the results were still similar. This continues to provide support that the basic foundation of Project HOPE can help to increase Healthcare Career Search Self-Efficacy.

Further, this result is consistent with Chronister and McWhirter (2006) who reported similar results from their SCCT-based career intervention, where participants indicated increased Career Search Self-Efficacy in the standard condition from pre-test to post-test and the standard plus condition (i.e. critical consciousness condition) from post-test to follow-up. However, it is important to note that Chronister and McWhirter's (2006) sample consisted of adult female survivors of domestic violence, which is different from this study's sample of rural middle school students. Despite the differences in samples, these results collectively provide support to suggest that career interventions can help participants to feel more confident in their abilities to seek out and find the information they need in order to attain their desired careers.

Other career intervention studies with middle school students reported similar results on different aspects of self-efficacy. Using the Missouri Comprehensive Guidance Evaluation Survey: Grades 6-9 (Gysbers et al., 1992), both O'Brien (1999) and Turner and Lapan (2005) reported significant increases in career planning and exploration self-efficacy beliefs and in educational and developmental self-efficacy beliefs of middle school students after exposure to different career interventions. An earlier iteration of

Project HOPE (Ali et al., 2017) reported increase in math/science self-efficacy from baseline to follow-up in a diverse sample of rural middle school students. In a second sample, Ali and colleagues (2017) reported increases on health science self-efficacy for White, rural middle school students, but not Latino students. While these studies measured different aspects of self-efficacy related to career development tasks, they corroborate the current study's findings regarding the effectiveness of an SCCT-based career intervention at increasing the career-related self-efficacy beliefs of middle school students. The present study builds on these previous studies by implementing an intervention related to a particular industry, healthcare, and measuring socio-cognitive variables that are specifically aligned with that curriculum.

In contrast to what was predicted by the first hypothesis, Community Engagement, as measured by the Sociopolitical Control Scale for Youth (SPCS-Y; Peterson et al., 2011) significantly decreased from baseline to follow-up. While participating in and bettering one's community was emphasized in the sociopolitical development condition of the intervention, both conditions made the connection between students pursuing healthcare careers and helping their community. It was unexpected that Community Engagement not only did not increase, but that it actually decreased after students received the intervention. This result is in contrast to preliminary results from other Project HOPE implementations, where Community Engagement did not change for the overall sample (Ali et al., 2016). Previous research has been equivocal about rural adolescents' connections with their community, with some studies suggesting that the community is important to students (San Antonio, 2016) and with other studies suggesting that individual success is prioritized more than the betterment of the

community (Ley et al., 1996). The results of this study may suggest that rural students in this sample value personal and economic success more than their community. It is also possible that students were unable to understand the connection between their future careers and helping their community, perhaps in part because of the distal nature of their future careers. Finally, the Community Engagement variable, as measured by the Sociopolitical Control Scale for Youth (SPCS-Y; Peterson et al., 2011) measures general community engagement and does not specify community engagement by way of healthcare careers. Later iterations of Project HOPE (Ali et al., 2016) have modified the community engagement scale to reflect ways of engaging in the community through healthcare careers. This revised scale may more accurately reflect the goals of the intervention and may provide a more clear connection for the students.

Besides Healthcare Career Search Self-Efficacy and Community Engagement, none of the other outcome variables (i.e. Healthcare Career Interest, Healthcare Career Task Self-Efficacy, Healthcare Career Outcome Expectations, Critical Reflection: Perceived Inequality, Critical Reflection: Egalitarianism, and Critical Action: Sociopolitical Participation) increased or decreased from baseline to follow-up. Previous evaluations of Project HOPE have shown that Healthcare Career Interest has increased from baseline to follow up (Ali et al., under review; Ali et al., 2016) as a result of this intervention. Inconsistent with the previous findings, Healthcare Career Interests did not increase in the overall sample in this study. One possible explanation for this may be the differences between the sample in the current study and the samples in previous investigations of the effectiveness of Project HOPE. The current sample is drawn from a predominantly White community that is located within close proximity (e.g. 20 minutes)

of a highly educated, Midwestern college town that has a positive reputation for its healthcare training programs and a renowned teaching hospital. Based on observations of facilitators who have implemented Project HOPE within different rural communities, students within the current study appeared to have more connections with the college town and more exposure to professional careers. Thus, their awareness and interest of healthcare careers may be more stable than students from communities with limited connections to the college town. Contrastingly, students in other communities may have had limited exposure to and understanding of the breadth of healthcare careers. Project HOPE, by exposing students in these other communities to the vast array of healthcare careers, may open up new possibilities and foster new interests within the field of healthcare. These are possible explanations for the different findings between samples that rely heavily on the context of the participants. Further research is needed to better understand the role of context and exposure in shaping healthcare interests, particularly as it relates to how the same intervention can differentially influence groups of students. This research will help vocational psychologists and educators to design interventions that most appropriately address the needs of participants within their particular contexts (Whiston, 2002; 2011).

## Comparison of Conditions

The second hypothesis predicted that participants who received the sociopolitical development condition of Project HOPE would report greater increases in Healthcare Career Task Self-Efficacy, Search Self-Efficacy, Outcome Expectations, Interests, Intentions, Community Engagement, and Critical Consciousness from baseline to follow-up as compared to participants who received the standard condition of the intervention.

This hypothesis was based on findings that greater sociopolitical development was associated with higher vocational expectations and outcomes (Diemer & Blustein, 2006; Diemer & Hsieh, 2008). The results indicated that the second hypothesis was not supported. Rather, the results indicated that the standard condition of Project HOPE was more effective at increasing healthcare career socio-cognitive variables. Specifically, participants in the standard condition of Project HOPE reported significantly greater increases in Healthcare Career Task Self-Efficacy, Healthcare Career Search Self-Efficacy, and Healthcare Career Outcome Expectations, as compared to participants in the sociopolitical development condition.

These findings are in contrast to calls by researchers to infuse sociopolitical development into career interventions (Diemer & Hsieh, 2008). The previous research regarding sociopolitical development and/or critical consciousness in career interventions is limited and variable. Chronister and McWhirter (2006) were the first known to this author to report on the integration of sociopolitical development and career interventions. Significant increases in Career Search Self-Efficacy were reported from post-test to follow-up in the standard plus sociopolitical development condition; however, this provides limited support for the effectiveness of career interventions infused with sociopolitical development as compared to the standard conditions of career interventions. Similarly, an iteration of Project HOPE that compared a standard condition to a sociopolitical condition that emphasized the community engagement and role models found no differences in outcome variables between the two conditions (Ali et al., under review). In contrast to these previous studies which found minimal or no differences between conditions, the present study found that the standard condition was more

effective at increasing healthcare career-related socio-cognitive outcomes. Reasons for this finding are discussed below.

Unlike the differences in findings related to the socio-cognitive variables, no differences were found between conditions in regards to the community engagement and sociopolitical development outcome variables between the two conditions in this study. This is inconsistent with previous research. Chronister and McWhirter (2006) reported significantly positive increases in critical consciousness in their study for participants in the standard and standard plus sociopolitical development conditions as compared to the wait-list control condition; however, there were no significant differences in critical consciousness between the standard and standard plus sociopolitical development conditions. In a preliminary analysis, Ali and colleagues (Ali et al., 2016) reported a significant increase in healthcare community engagement in a sociopolitical development condition as compared to a standard condition of Project HOPE. Several reasons for the discrepancies between this study and the extant literature may exist. Possible factors influencing these results include the design of the activities related to sociopolitical development and measurement considerations, factors related to implementation of the intervention, and factors related to the sample and the sociopolitical context of the implementation.

First, it is important to consider the construct of sociopolitical development, the activities designed to increase it, and how changes within sociopolitical development were measured. For the purposes of this study, as stated previously, sociopolitical development was defined as "the analysis of and motivations to change sociopolitical inequity" (p. 258, Diemer & Hsieh, 2008). This includes an awareness and desire to

change social and economic inequality, an understanding of the connection between the sociopolitical context and an individual's life, a desire to help others within your community, and actions taken to make changes within one's community (Ginwright & James, 2002; Morsillo & Prilletensky, 2007; Watts et al., 1999; Watts & Flanagan, 2007). The career intervention in the present study emphasized the awareness of potential social inequalities by discussing stereotypes and biases people may have about individuals from rural areas abilities to pursue different education and career pathways. The intervention focused on drawing connections between healthcare careers and one's ability to contribute to their community. While students were able to easily identify possible stereotypes of rural individuals, it was not measured. It is not clear if students internalize these messages and to what extent (if at all) these stereotypes influence their sense of self and their abilities to attain their career goals. The intervention emphasized how their future career, and thus *future* actions, may be able to help address health concerns within their local community. When contextualized in this way as a future opportunity, the action piece of sociopolitical development is far removed from the middle school student's current actions. It is possible that by focusing on the future, this intervention does little to influence current experiences of community engagement or actions towards social change within one's community. The Sociopolitical Control Scale for Youth (SPCS-Y; Peterson et al., 2011) and the subscales of the CCS (Diemer et al., 2014) may be capturing different aspects of sociopolitical development than were emphasized in the intervention.

Second, challenges related to the actual implementation of the intervention are important to consider. In particular, time was an important factor that may have

influenced the outcomes of this intervention study. Project HOPE was implemented within the context of a standard middle school class period, which was approximately 42 minutes at this school. The limited time and the number of activities made it challenging initially to develop strong rapport with students. Lapan and colleagues (2003) reported on the importance of both instrumental and emotional support in supporting the career development process of rural adolescents. The interpersonal nature of this work requires time for trust and security to be established. Further complicating the time constraints is that the sociopolitical development condition infused its activities within the existing framework of Project HOPE without accounting for additional time. Therefore, students within the sociopolitical condition were exposed to more information and completing more activities than students in the standard condition, but within the same timeframe.

Given these extra activities and the nature of these activities, students likely would have benefited from additional time to complete the activities and to reflect on what they were learning. Related to this reflection piece, it is also important to consider the amount of time that it takes to make a significant impact on sociopolitical development. Sociopolitical development, by nature, is a process that involves awareness of social inequalities and injustices, motivation to make changes, and committed action to helping one's community (Diemer & Hsieh, 2008). It takes time and exposure to a variety of experiences and ideas for sociopolitical development to grow and even more time for the committed action to occur. Likely this is the first time for many students that they have been exposed to these ideas. A seven-week career intervention may not allow enough time or exposure to these types of ideas to make a significant impact on sociopolitical development. More time and repeated exposure to these concepts, coupled

with hands-on activities that can help students to immediately take action within their community may be beneficial.

Finally, it is important to consider the students who received this intervention and their current sociopolitical context. As discussed previously, students living in rural communities may be at a disadvantage in regards to career development as compared to their non-rural counterparts (Hetkner, 1995; Howley, 2006). Some of these challenges arise from the lack of educational opportunities and the lack of availability of jobs that require higher education in many rural areas (Carr & Kefalas, 2009). While Project HOPE was implemented in a rural community of 2,322 people, this town has some distinctive qualities based on its location that likely make it differ from other, more isolated rural communities. This town is located within 20 minutes of a college town that is well-known for its educational opportunities, as well as for its healthcare facilities. Based on informal observations of the facilitators, multiple students indicated that their parents are employed within the university town. The close connection to the university likely changes the students' perceptions of rurality, as well as their expectations of their options for higher education. This is particularly relevant when compared to students from other rural towns that have limited connections with the university and few parents employed within the university setting.

In addition to the elements mentioned previously, the rural town in the present study is predominantly White, unlike other rural towns where Project HOPE has been implemented. These other towns primarily have industries in manufacturing and have significant immigrant and minority populations (Ali et al., 2017; Ali et al., under review). Additionally, the median income is higher than other towns that Project HOPE has been

implemented. Students in the current study may experience privileges not only because of their location to a well-resourced university-town, but also because many of them have not experienced additional oppressions based on the color of their skin, their status as immigrants, or their social class. Critical consciousness and sociopolitical development was born out of a need for individuals experiencing oppression to be aware of the inequalities within their social realities and to begin to be liberated from them because of their awareness (Freire, 1973). This was born out of movements of liberation psychology in rural areas in South America. The integrations of sociopolitical development and career interventions in the United States has primarily been studied with low-income, minority youth residing in urban areas (e.g. Diemer & Blustein, 2006; Diemer & Hsieh, 2008). It has had limited application to rural adolescents in the United States (Ali et al., 2016; Ali et al., under review) and the relevance of sociopolitical development has not been delineated between different types of rural communities (e.g. level of isolation, racial composition, economic resources, etc.).

Because of the possible privileges of many of the students in the current study, they may be less likely to "need" to be aware of the current sociopolitical realities as compared to adolescents who hold other minority statuses and are already keenly aware of inequalities and injustices. Furthermore, Ley and colleagues (1996) reported that individuals living in rural areas highly valued personal and economic success, whereas the success and betterment of their community was less valued. When combined with the findings of this study, it may suggest that, at least for some individuals from rural areas, the good of the collective community and community engagement are less important than individual pursuits. When prompted to consider the future betterment of their community,

students from this particular rural community may not connect with these concepts because they do not envision themselves as staying in their rural community. Because of some of their privileged statuses, they have been socialized to view themselves as individuals pursuing their own successes and dreams, as opposed to individuals who are connected and responsible for the well-being of their community. Again, in comparison to other communities in which Project HOPE as been implemented, this has qualitatively differed. Students in these other communities have appeared to see themselves as more likely to stay and more responsible for the vitality of their hometown.

The results of this study emphasize the importance of context both while implementing an intervention and working to understand the results of intervention. Project HOPE was originally designed to consider the contextual factors surrounding participants, which was in predominantly minority and immigrant communities with limited resources. Race and social class, along with level of rurality and proximity to resources, are all important factors that must be considered when implementing a career intervention. Sociopolitical development, while important for many, may not resonate with students whose values are based in individuality.

## Limitations

This study is not without its limitations. A primary limitation is the quasi-experimental design of the study. The researcher was unable to randomly assign students to the two conditions; rather, the researcher was informed that students are supposed to be randomly assigned to one of the four classrooms. As this is done by school administrators, there was no way to independently confirm how the students were assigned to their given classrooms. True random assignment and experimental design are

needed to confidently know the impact of the intervention on students' short-term socio-cognitive outcomes.

Additional limitations of this study occurred as a result of conducting research within a K-12 setting. The naturalistic environment introduces a variety of variables that make it challenging to strictly control the implementation of the intervention. Unlike a laboratory setting, the naturalistic setting of the middle school determines the time of the intervention, the space used, and the number of participants. The intervention had to be implemented during the first period of the day every Thursday. However, the school schedule changed during parent-teacher conferences and when the local high school basketball team made it to the state basketball tournament. These influenced the intervention in different ways. For example, the implementation was delayed a week due to shortened schedules. It was also implemented on a different morning with only one facilitator due to the changed schedule. Time was also a challenge in this study, as each day of the intervention was only allotted 42 minutes.

The school setting also determined the space that was available for use for the implementation. A laboratory setting would keep space consistent, so that all participants experienced the intervention in the same way. This would limit the random error that could occur. With the school, however, the intervention was beholden to the classroom space that was available. During the sociopolitical development conditions, the days of implementation switched between three different spaces. While this may seem like a minor difference, space can be very important in this intervention because it influences how easily students can speak to facilitators and even how the intervention is implemented. As this could not be controlled, it is a limitation of this study because it is

unknown how the space issues influenced the students' experiences. From the facilitators' perspectives, time almost always went too quickly and significant efforts were made to diligently manage time to ensure that all components of the intervention were implemented for a given day. The extra activities in the sociopolitical development condition put a strain on the time allotment, which impacted the ability of facilitators to develop rapport and relationships with the students early on in the implementation.

The naturalistic setting also limits the number of participants available for the study. Although an a priori power analysis was calculated, this study was limited to the number of 8$^{th}$ grade students enrolled in this particular rural school. Given this context, additional students are not able to be recruited. The final sample fell within the range of students deemed necessary to see an effect given the a priori power analysis. The sample size is small, which is a limitation of the study.

Final limitations of this study are related to measurement and dosing. Due to restrictions within the school, students were only able to be tested at two time-points. Additional time points would allow for more robust statistical analyses. This study is by nature only a short-term measurement of the outcome variables. Longitudinal studies, with more time points, would help provide more substantial evidence for the effectiveness of Project HOPE as a career intervention. Additionally, there are measurement limitations related to the scales used to measure sociopolitical development. The Critical Consciousness Scales (CCS; Diemer et al., 2014) were written at a 10$^{th}$ grade level. The participants are only in eighth grade, which means these scales are likely above some of their reading abilities. A modified version of the CCS subscales (Diemer et al.,

2014) would be more appropriate. This discrepancy may partially contribute to the lack of finding related to sociopolitical development.

A limitation of this study is the potential difference in dosing between the two conditions. Since the sociopolitical development condition was the same number of sessions and included all of the standard activities plus the sociopolitical development activities, the actual dosing of the standard activities was decreased. The students in the standard condition had more time to think about and complete the standard activities, which may have given them more time to integrate the information. The students in the sociopolitical development condition had less time on each activity because and had more activities to complete. Given the limited time, the number of activities may have been overwhelming and made it difficult to deeply process and integrate the information. This is an important limitation to note and an important consideration for future research.

## Implications

Despite these limitations, this intervention study and its findings can positively contribute to efforts to increase the rural healthcare workforce and to the field of counseling psychology. This study, in conjunction with previous research on career interventions (e.g. Brown & Ryan-Krane, 2000; Whiston et al., 1998), provides support for the effectiveness of theory-based career interventions at increasing short-term career outcomes. It provides continued support for the effectiveness of career interventions specifically with middle school students (e.g. Ali et al., 2017; Turner & Conkel, 2010; Turner & Lapan, 2005). This study also adds to the growing research foundation of the specific intervention, Project HOPE (e.g. Ali et al., 2017, Ali et al., under review, APA 2016). Career and work interventions have the potential to help people to better achieve

their goals and enter gainful employment. Early exposure to career exploration and an emphasis on career development processes (Hartung et al., 2005) can help support adolescents along their career journey.

Further, this study highlights the importance of context. Efforts were made in this iteration and previous iterations of Project HOPE (Ali et al., 2017; Ali et al., under review) to consider the context in which the middle school students who participate in this intervention live. These considerations include the intersection of culture and geographical location. Although the present study did not provide the anticipated results, it emphasizes the importance of the context. While the students in this study lived in a rural area, it differed in several ways from other Project HOPE schools. These differences, both in culture and geographical location, may have influenced the outcomes of the study. As interventions are designed, careful attention to the context and the participants is needed in order create career interventions that can appropriately address the needs of the participants.

**Implications for Vocational Psychologists**

There are specific implications of this study that are relevant to counseling psychologists and vocational psychologists. This study highlights the value of interdisciplinary collaboration between vocational psychologists, K-12 educators, and healthcare professionals. Vocational psychologists are experts in theories and research related to the career development process, while K-12 educators are experts in instructing youth and healthcare professionals are experts within their specific healthcare areas. Collaboration among these expert areas was critical in the present study and is important for future endeavors. K-12 educators assisted with seamless introduction of the career

intervention into the curriculum, as well as provided support with classroom management. Vocational psychologists less frequently have training in presenting to middle school students and benefit from the expertise of K-12 educators. Further, healthcare professionals can offer role modeling and insider knowledge of the healthcare system and healthcare processes. This gives students access to real healthcare professionals and the most accurate information about what it would be like to pursue careers within these fields. This collaboration allows vocational psychologists to focus on the career development processes, without needing to know all the details of specific healthcare professions. Vocational psychologists can serve as intermediaries between health professional schools and the K-12 system. Creating these relationships may also help to generate long-standing collaborations that can help support healthcare pipeline programs.

This study also highlights the importance of community engagement for counseling and vocational psychologists. The basic research and large data research needs to continue to be complemented by research that directly addresses challenges in local communities. Community engagement, or efforts to work with local communities and effect positive changes, is consistent with the multicultural and social justice values of counseling psychologists (Vera & Speight, 2003). The 50-minute therapy hour has been the most common point of intervention of counseling and vocational psychologists for several decades, which is at the individual level. Career interventions provide a different approach to intervening. They have the potential to reach more individuals, especially individuals who are unlikely seek individual therapy otherwise, and to help support the career development of entire communities. Interventions like Project HOPE

provide an example of a clear connection between research, theory, and practice, where all three inform each other and the intervention regularly changes as more research and experience with implementation occur.

The results of this study, along with the previous studies of Project HOPE (Ali et al., 2016, Ali et al., 2017, Ali et al., under review) provide support for the use of SCCT (Lent et al., 1994) as the theoretical foundations of career interventions. This study adds to the existing literature that uses SCCT to explain the career development process of rural adolescents (Ali & McWhirter, 2006; Ali & Saunders, 2006). SCCT (Lent et al., 1994) theoretically addresses both the individual and contextual factors that influence the development of interests, goals, and actions. The results of this study support that an SCCT-grounded career intervention is flexible enough to be modified for different, diverse groups of students because it considers the wide-range of factors that influence career development.

Specifically related to self-efficacy, the reported increases in Healthcare Career Search Self-Efficacy are consistent with the social learning foundations (Bandura, 1986) of SCCT. One way to increase self-efficacy is through hands-on experiences that help students to learn and recognize that they are capable of accomplishing particular tasks. Project HOPE is designed to immerse students in the process of searching for pertinent career information, such as job skills, required education, and salaries. The results suggest that the specific activities within Project HOPE gave students the beneficial hands-on experience to help increase their Healthcare Career Search Self-Efficacy. Thus, this study shows that specific aspects of self-efficacy can be directly addressed within the context of career interventions by students engaging in hands-on activities.

The findings of this study also provide greater understanding of the integration of SCCT (Lent et al., 1994) and sociopolitical development (Diemer & Blustein, 2006). In this study, the standard condition was more effective than the sociopolitical development condition within this sample of predominantly White, rural students. This is consistent with findings from Ali and colleagues (under review), where the standard condition increased outcomes for White students, but not diverse students. The sociopolitical development condition in that study, however, was shown to be similarly effective at increasing outcome expectations for both White and minority rural students. Taken together, these findings suggest that sociopolitical development is effective with minority students, who likely experience more oppression as a result of their social identities as compared to White, rural students. The results may also suggest that they "type" of rural town is important. Given the lack of clarity on what rurality can consist of, it may be important to consider size, proximity to larger cities, and connection with important resources. The findings of these two studies, in conjunction with Chronister and McWhirter's (2006) findings, demonstrate the relevance of integrating SCCT and sociopolitical development for participants who experience oppression. These findings provide more specific information about what interventions work, for which participants, and under what conditions (Whiston, 2002, 2011).

**Future Directions**

Future studies should continue to build and expand on the current body of literature. Based on this study, the author has suggestions for two areas of future research. First, continued research efforts surrounding career intervention need to be made. Compared to the large body of research on career theories and the career development

process, there are few intervention studies that provide information on how to promote positive career development. Interventions need to be implemented and tested at different stages of career development (Jantzer et al., 2009), and with different and diverse populations at each of these stages. Efforts need to be made to overcome the inherent challenges of career intervention research. Studies need to be designed to include control groups, as well as efforts need to be made to control any experimental "noise" that may influence the results of the intervention study. Intervention studies should also incorporate longitudinal components. Short-term outcomes do not provide information about the long-term impact of a particular intervention. Especially for adolescent interventions, it is important to learn what the potential for long-term impact is on career and vocational outcomes. New studies need to continue replicating and extending career interventions.

The second area of research focus is on the sociopolitical development of rural students in the United States. Limited research has been done in this area and the results of this study suggest that much is to be learned about rural students and their experiences (or lack of experiences) of oppression. Studying this construct within different rural communities will help provide information about the relevance of sociopolitical development to rural students. Further, comparing this construct between different subpopulations (e.g. minority vs. white; low-SES vs. high-SES; etc.) will provide important information that can help inform the development of relevant career interventions. If sociopolitical development is important to some or all rural students, a clear understanding of how it can support career development will help inform future intervention studies. Along with this, further studies of the integration of sociopolitical

development and theoretically grounded career interventions will continue to be important. The integration of SCCT (Lent et al., 1994) and sociopolitical development is promising. However, more evidence is needed to better understand this integration and its relevance to the career development process.

## Conclusion

Healthcare disparities continue to exist for individuals living in rural areas as compared to individuals living in non-rural areas (Anderson et al., 2015). Several factors contribute to these disparities, including a lack of access to healthcare services (Levin, 2014). This is in part due to a lack of healthcare providers (University of Wisconsin Population Health Institute, 2014). More healthcare providers are needed within these rural areas. Because growing up in a rural area is a strong predictor of returning to work in rural areas (e.g. Hancock et al., 2009; Laven & Wilkinson, 2003), the career development of students from rural areas needs to be addressed and supported. Project HOPE is one career intervention that can help expose students both to the healthcare industry and to the career development process (Ali, 2013; Ali et al., 2017). The purpose of this study was to compare the effectiveness of two conditions of Project HOPE, a standard condition and a sociopolitical development confused. It was hypothesized that the sociopolitical development condition would help students to make connections between their future careers and their community. Based on previous literature (Diemer & Blustein, 2006; Diemer & Hsieh, 2008), it was hypothesized that the sociopolitical development condition would help facilitate the short-term socio-cognitive career outcomes (e.g. healthcare career task self-efficacy, healthcare career search self-efficacy, healthcare career outcome expectations, etc.).

It was found that the intervention, regardless of condition, increased Healthcare Career Search Self-Efficacy and decreased Community Engagement in this group of adolescents. Contrary to the hypothesis, it was found that the standard condition was more effective at increasing short-term socio-cognitive outcomes than the sociopolitical condition. There are several possible reasons why this occurred. The lack of time may not have allowed for enough sociopolitical development activities to be infused into the curriculum. Further, sociopolitical development with rural white students has not been explored before. It is possible that that this concept is less important for these students than other students in terms of providing liberation amidst an oppressed circumstances. While this study has limitations related to conducting research within a school system and lack of tight experimental controls, it still contributes to the literature more evidence of what interventions are helpful with which participants (Whiston, 2002, 2011). For pre-dominantly White, rural students, the standard condition of Project HOPE is effective at increasing short-term socio-cognitive outcomes. Future research needs to further clarify which components of interventions are useful to which participants. Future studies should focus on further integration of sociopolitical development with diverse rural adolescents.

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