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Impact of a leadership development intervention on career decision-making self-efficacy of community college students: A quasi-experimental research design

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IMPACT OF A LEADERSHIP DEVELOPMENT INTERVENTION ON CAREER DECISION-MAKING SELF-EFFICACY OF COMMUNITY COLLEGE STUDENTS: A QUASI-EXPERIMENTAL RESEARCH DESIGN

by

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Dedications

I dedicate this manuscript to my loving and supportive husband, father, mother, father in-law, mother in-law, family members, and friends. Thank you for your constant support during this doctoral journey! Above all, I dedicate this manuscript to my Lord and Savior Jesus Christ who makes all things possible.

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Abstract

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IMPACT OF A LEADERSHIP DEVELOPMENT INTERVENTION ON CAREER DECISION-MAKING SELF-EFFICACY OF COMMUNITY COLLEGE STUDENTS: A QUASI-EXPERIMENTAL RESEARCH DESIGN
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The overall purpose of this quasi-experimental research study was to determine if a formalized leadership development program had an effect on a community college student's level of career decision-making self-efficacy. This research study utilized the Career Exploration & Decision-Making Learning Experiences Scale (CEDLE) and the Career Exploration & Decisional Self-Efficacy Brief Decisional (CEDSE-BD) questionnaire to determine a student's level of career decision-making self-efficacy before and after participation in a leadership intervention (n = 411). Propensity Score Matching was utilized to account for a variety of confounding variables and self-selection bias. Results showed that community college students who participated in a leadership development intervention had lower levels of career decision-making self-efficacy than those who did not participate (p = .05). Although it was statistically significant, the data showed a very small treatment effect size (less than 2%). Additional variables were studied including gender, race/ethnicity, age, and the management of the leadership program. Results indicated that gender, race/ethnicity, and management were not statistically significant in relationship to career decision-making self-efficacy, however age was found to be statistically significant (p = .01). Research limitations, implications for policy and practice, and future areas of research are discussed.

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Chapter 1

Introduction

Decision-Making

An individual's career development can be defined as a series of decisions made developmentally across a life span, particularly during adolescence and early adulthood (Super, 1980; Super, Savickas, & Super, 1996). Decision-making regarding career choice is especially important during adolescence and early adulthood as it lends itself to potential employment and long-term career choices (Super, 1980; Super et al., 1996). However, there is a difference between making a decision and ultimately feeling confident in that decision. Decision-making as a skill can be taught through workshops, coursework, and other pedagogical methods; however, individuals also need to possess the confidence in their decision-making abilities and in the decisions they make to feel prepared and confident in their career choices (Bailey & Jaggars, 2016; Cuseo, 2005; Hollander, 2017; Vuong, Brown-Welty, & Tracz, 2010). This confidence in decision-making will be defined as career decision-making self-efficacy for this research study (Bandura, 1977a; Lent, Brown, & Hackett, 1983).

Employers and college personnel view decision-making as an important skill (Cruzvergara, Testani, & Smith, 2018; Leslie, 2009; Lumina Foundation, 2014; National Association of Colleges & Employers (NACE), 2016; National Research Council (NRC), 2012; Peck et al., 2016; Ramanathan, 2017). Additionally, prior research has found that young adults and college-aged students struggle with career decision-making due to a lack of career information, a lack of readiness skill building and potentially inconsistent information from families, peers, and advisors (Amir, Gati, & Kleiman, 2008; Gati,

Krausz, & Osipow, 1996). The importance of ensuring that students are provided with accurate information regarding a variety of career paths, offered skill building activities and courses, and provided opportunities to develop self-confidence in making decisions specifically regarding their careers is imperative to student success.

Prior research suggests that community college students in particular engage in complex, and potentially uninformed, decision-making when entering an institution (Goldin & Katz, 2008; Cohen, Brawer & Kisker, 2014; Scott-Clayton, 2011a). The community college student population is of specific interest due to research showing that community college students often face more complex decision-making and are provided with less assistance in making decisions than their four-year university counterparts (Scott-Clayton, 2011a). There are a wide variety of decisions necessary to navigate higher education including "deciding what to do", which includes making decisions about the institution to attend and an academic major in which to enroll; "planning how to do it", which includes making decisions regarding coursework, joining clubs, organizations, or other student activities; and "following through" which includes navigating financial aid, creating and maintaining an academic plan, and overcoming personal obstacles that may occur during an educational experience (Scott-Clayton, 2011a). As students are faced with these decisions within every aspect of their personal, academic, and professional life, they may need additional assistance to successfully make decisions.

Self-Efficacy

The concept of self-efficacy was first introduced by Albert Bandura (1977a) to provide a social cognitive framework through which to view an individual's motivation, confidence, and behavior expectations. Bandura (1977a) defined self-efficacy as the

degree to which one has self-confident beliefs or expectations of achievement in themselves. Bandura proposed that individuals with a low level of self-efficacy, or self-confidence in their abilities, would perform at a lower level and set out to achieve lower level goals than individuals with higher levels of self-efficacy (Bandura, 1977a; Frick, 1991). Self-efficacy beliefs factor into an individual's choices and decision-making behavior, activities, environment, persistence, emotional reactions, thoughts, and beliefs about one-self and personal capabilities (Bandura, 1977a). An individual's self-efficacy is derived from previous accomplishments and performance outcomes, by observing others vicariously, verbal persuasion from others, and physiological states and arousal (Swanson & Fouad, 1999). Lower levels of self-efficacy typically lead individuals to avoid making decisions, feel an inability to make decisions, or lack decision-making skills to make an informed, appropriate decision (Bandura, 1977a; Harlow & Bowman, 2016; Taylor & Betz, 1983). In many cases, feelings of fear or a lack of confidence in decision-making abilities may be indicative of a lower level of self-efficacy as it relates to decision-making. By contrast, higher levels of self-efficacy can lead individuals to make informed decisions in a timely manner (Harlow & Bowman, 2016; Taylor & Betz, 1983). Additionally, individuals who report less confidence in their ability to complete decision-making tasks are often more undecided than those who report more confidence in their ability to complete decision-making tasks (Taylor & Betz, 1983).

The concepts of self-efficacy and decision-making have been researched within a variety of populations; however, the proposed research study will focus on the community college student population (Abele & Spurk, 2009; Ballout, 2009; Betz, 2007; Hackett & Betz, 2006; Paulsen & Betz, 2004; Taylor & Betz, 1983; Wright, Perrone-

McGovern, Boo, & White, 2014; White & Perrone-McGovern, 2017; Zikic & Saks, 2009). The decisions that students need to make during their time in college have an impact on their academic major, career path, and career success (Betz & Hackett, 1981; Harlow & Bowman, 2016; Selingo, 2016). When students are indecisive or do not have confidence in their own decision-making abilities, they may choose an academic major or career path with which they are not satisfied or do not feel committed, ultimately leading them to change their majors or career choices several times (Eagan et al., 2016; Gambrell & Kessler, 2016; National Center for Education Statistics (NCES), 2017; Selingo, 2016). These changes delay graduation and entry into their career paths (Betz & Hackett, 1981; Harlow & Bowman, 2016; Selingo, 2016). Low levels of self-efficacy may prevent a student from engaging in experiences outside of their comfort level based upon their anticipation of an undesirable outcome expectation. Also, students with a lower level of self-efficacy have a lower level of self-expectation and set lower-level goals for themselves (Selingo, 2016). With a lower level of self-expectation, college students with low self-efficacy may not consider setting higher aspiration career goals (Bandura, 1977b; Betz & Hackett, 1981; Harlow & Bowman, 2016). Assisting a college student to raise their level of self-efficacy may assist them in setting higher level academic goals, achieving those higher goals, and therefore increasing their level of self-confidence and self-efficacy. Individuals with higher levels of self-efficacy have greater self-confidence and are more willing to engage in new experiences (Bandura, 1977b; Betz & Hackett, 1981; Harlow & Bowman, 2016). An increased level of self-efficacy may therefore afford a student a wider range of academic major choice options and career goal options (Bandura, 1977b; Betz & Hackett, 1981; Harlow & Bowman, 2016).

Student Decision-Making in Higher Education

College students are faced with a myriad of decision-making opportunities related to their academics, career, family and life, as well as social, financial, and other major life choices. Traditional-aged college students (students under the age of 25) may feel overwhelmed because of the number of decisions that they need to make, specifically regarding their academic and career paths. Students may decide that it is easier to avoid making decisions, due to a lack of confidence in their own decision-making abilities (Bailey, Jaggars, & Jenkins, 2015; Scott-Clayton, 2011b). Changes in academic major and career choice may increase the time that a student needs to complete their degree, increase the cost of education, and delay entry into a career. Approximately 28% of currently enrolled students in an associate degree program change their academic major at least once and approximately 10% of associate degree students changed their majors more than once (NCES, 2017). Additional research shows that 36% of community college graduates believe they should have changed their academic major and career path (American Association of Community Colleges (AACC), 2017b). This research shows that a large percentage of current community college students change their career paths and a large percentage of graduated students wish they had changed their career paths. This points to an opportunity for institutions of higher education to focus more on offering programs, initiatives, or interventions to assist students who may be unsure of their major or career choice, and who may need to develop confidence in their own decision-making abilities.

Not only does decision-making effect a student's choice of academic major, but it also has an effect on their career paths. Longitudinal research, conducted by the Higher

Education Research Institute from 1966 through 2015, suggests the career goals established by students during their first year of college are not consistent with their career outcomes (Eagan et al., 2016; Gambrell & Kessler, 2016). This may indicate that students are not properly prepared to make decisions regarding their careers while in college or lack the self-efficacy to make and commit to a decision regarding their academic major. For example, through this survey, researchers found that 10.3% of students intended to become a doctor/surgeon, while only 1.5% of those students went on to become a doctor/surgeon (Eagan et al., 2016; Gambrell & Kessler, 2016). Additionally, 2% of first year students intended to become a teacher, while 6.2% actually became teachers (Eagan et al., 2016; Gambrell & Kessler, 2016). More than 10% of first year students had no specific career in mind and were considered "undecided" by their institutions, and over 20.2% of students indicated they would change their career choice over time (Eagan et al., 2016; Gambrell & Kessler, 2016). This national research describes how college students are either undecided about their major and career path, avoid making a decision regarding their major, or are potentially pursuing a major that does not coincide with their eventual career path. Although research shows that a college major is not the only deciding factor that employers use for candidate selection (NACE, 2016), making the decision of what major to study and what career path to pursue requires complex decision-making skills and confidence in those skills (Selingo, 2016). Without this confidence and skill, a student's success may be negatively impacted.

In 2015, research regarding college students and entry into career fields was conducted with a sample of 752 college students (Selingo, 2016). This research found that students who struggled to start their careers, post-college, were often those students

who struggled with decision-making during their college education (Selingo, 2016). This research points to the importance of students recognizing that decision-making skills and confidence are important. Engaging in initiatives and interventions to assist in making decisions, especially career-related decisions, are integral to a student's success in the workforce. Colleges and universities have an opportunity to provide programming and services for students to assist them in gaining confidence in their own decision-making and gaining the skills needed to make informed decisions, thereby leading them to develop critical thinking/problem solving, leadership, and career management skills which are desirable in the job market (NACE, 2016).

Institutions of higher education attempt to assist students with decision-making through offering counseling services, advising services, career services, clubs and organizations, student life support, and other activities to engage students on-campus (Lent, Brown, & Hackett, 2000; Wright et al., 2014). Although these services are available at both two-year and four-year colleges/universities, two-year (community college) students are typically provided less assistance with decision-making than students attending four-year colleges/universities due to several factors including the population size, lack of appropriate number of advisors/counselors to manage caseloads, and the diverse and unique nature of the community college population attending community college (Goldin & Katz, 2008; Cohen et al., 2014; Scott-Clayton, 2011b). For example, a multitude of community colleges offer advising services to assist students with course selection, major selection, and career planning, but at many community colleges students must seek out this service on their own volition, as opposed to four-year universities where advisors or faculty members are assigned to each student (Scott-

Clayton, 2011a). A national survey showed that less than a quarter of community college students were assigned to a specific advisor or counselor (Center for Community College Student Engagement, 2009). This lack of structure in advising services leads community college students to individually make decisions without oversight or assistance from advisors at the college (Scott-Clayton, 2011a). In addition to the lack of structure in advising services, community colleges may not offer career counseling assistance to students beyond advising for course registrations and degree requirements, as opposed to more in-depth career specific counseling and advising that four-year university/college students receive (Grubb, 2006; Scott-Clayton, 2011a).

Career Decision-Making Self-Efficacy

When students are faced with a multitude of decisions regarding their education and career, higher levels of career decision-making self-efficacy are important for a student's success (Betz, 2004, 2007; Paulsen & Betz, 2004). Due to the overwhelming number of decisions that students need to make, community colleges need to focus on reinventing current initiatives or developing new initiatives to assist students in increasing their decision-making self-efficacy as it relates to their academic and career success. Increasing community college student's self-efficacy, specifically career decision-making self-efficacy, has been shown to have a positive impact on career direction, career goal attainment, and career success (Betz, 2004, 2007; Gati et al., 1996; Paulsen & Betz, 2004; Solberg, Hale, Villarreal, & Kavanagh, 1993). Research also shows that decisions that students make during their time in college have an impact on their employment and career path, supporting the importance of colleges and universities

to providing programming specific to these areas (Betz, 2007; Cohen et al., 2014; Selingo, 2016).

Decision-Making & Future Employment

Institutions of higher education prepare students through specific and general course work related to their academic major, which is meant to provide career-specific skills, also known as technical skills and knowledge (NRC, 2012). Research shows that employers are not solely seeking candidates with technical knowledge of their career field, but they are also seeking students who possess transferable skills, which can be applied to any career field (Lumina Foundation, 2014; NACE, 2017; Pinto & Ramalheira, 2017). These skills include leadership, organization, time management, critical thinking, teamwork, decision-making, and communication skills. Research shows that these skills can be acquired through both curricular coursework and co-curricular activities (Astin, 1984, 1993; NACE, 2016; Peck et al., 2016; Pinto & Ramalheira, 2017). In a recent study, approximately 144 employers rated several transferable skills in terms of "essential need" and several were identified: professionalism/work ethic, teamwork, oral/written communication, leadership, decision-making, and information technology application (NACE, 2016). Several of these skills can be learned through coursework at the college level, especially skills such as information technology applications, oral and written communication skills and teamwork; however, skills such as professionalism and work ethic, leadership, and decision-making may be learned more prominently in co-curricular activities outside of the classroom (Parrish, Fryer, & Parks, 2017; Peck et al., 2016; Peck & Preston, 2017).

Employers have also indicated that students who are engaged in co-curricular experiences outside of the classroom are both better prepared and more desirable to employers (American Association of Colleges & Universities (AAC&U), 2013; Hora, 2017; Peck & Preston, 2017; Peck at al., 2016; Pinto & Ramalheira, 2017). Transferable skills can be learned over the course of a student's college education, but understanding the connection between these skills, especially articulating and showing evidence of these skills, and their future employment may not be as easily understood. According to research from the Lumina Foundation (2014), only 11% of employers felt strongly that college students had the skills needed for success in the workplace. Specifically, both decision-making skills and leadership skills have consistently been cited skills that employers seek in job candidates but not necessarily skills that they possess (Cruzvergara et al., 2018; Leslie, 2009; NACE, 2017; NRC, 2012; Peck et al., 2016; Ramanathan, 2017). Research shows that when two candidates are otherwise equally qualified for employment, after academic major, "held a leadership position" is the top deciding factor (NACE, 2016). However, two-year and four-year college graduates were cited as being deficient in leadership skills as well as communication skills (Conference Board, 2006). With several research studies citing both decision-making and leadership as lacking but important skills for successful job candidates, colleges and universities who purport to prepare students for the workforce need to focus on developing these skills, among other transferable skills, within their student body (Cruzvergara et al., 2018; Leslie, 2009; NACE, 2017; NRC, 2012; Peck et al., 2016; Ramanathan, 2017).

With an increased focus upon transferable skills for job candidates, colleges and universities may need to provide more specific programming to better prepare their

students to enter the workforce with these skills. It is important for institutions of higher education to provide a variety of initiatives to help students to develop the skills employers are seeking in job candidates, including decision-making and leadership skills, but also to develop their confidence in and ability to utilize those skills.

Student Success Initiatives

A variety of initiatives have been developed within the community college setting with the primary purpose of increasing student retention, success, and graduation (Bailey et al., 2015). Research has shown that students who are involved at their institutions through orientations, first-year seminars, and learning communities have increased success at their institution (Astin, Vogelgesang, Ikeda, & Yee, 2000; Cuseo, 2005; Tinto, 1998, 2003). Several initiatives focus on strengthening these experiences for students during their first year of college, with the goal of increasing a student's integration and retention at the institution (Astin et al., 2000; Bailey et al., 2015; Cuseo, 2005; Tinto, 1988, 2003). In general, these initiatives are focused upon helping students become more acclimated to college, get involved on-campus, network with fellow peers and faculty, and learn about the college's offerings. Although these initiatives may have a positive impact on student success, they do not focus on defining and teaching confident decision-making, which is important for the success of college students. Guided Pathways is one of the few initiatives that tangentially focuses on decision-making and was created with the community college population in mind (Bailey et al., 2015).

Guided pathways initiative. One of the most widely discussed initiatives developed and implemented within the community college sector is the Guided Pathways initiative (Bailey et al., 2015). The development of "guided pathways" in the community

college setting is an example of an initiative designed to assist students in developing and achieving their academic and career goals. Bailey, Jaggars, and Jenkins (2015) point to the need for a "guided pathways" model because of the overwhelming amount of choices that a student faces when developing their academic and career goals. They coined the phrase "cafeteria model" (p.22) to describe the current method of community colleges providing an overwhelming number of choices for academic major, program, certificate, and degree to students, and posit that the current method is detrimental to a student's academic and eventual career success (Bailey et al., 2015). Additional research has shown that providing too many options to uninformed students results in poor academic choices (Bailey et al, 2015; Scott-Clayton, 2011a; Selingo, 2016). These choices cost students additional time and funding, which leads to frustration and potentially the student dropping-out of the institution (Fink, 2017). This abundance of choice is not only overwhelming but results in lack of confident and informed decision-making self-efficacy within the community college student population. Overall, the objectives of Guided Pathways is to clearly map out academic pathways at the institution (grouping closely related academic majors together), assist students more directly with choosing one of the created pathways, keep students on the chosen pathway, and ensure that students are learning throughout their program in that pathway (Bailey et al., 2015; Fink, 2017). Through this model, new students who are undecided about their academic major/program will be provided with an opportunity for exposure to a variety of careers and majors in choosing a "meta-major" (Bailey et al., 2015). Students have a shorter list of choices to make through this model, eliminating the number of decisions a student

needs to make regarding academic and career choices at an early stage in their college experience (Bailey et al., 2015).

With the guided pathways initiative and several other programs and activities offered by community colleges such as new student orientation, first year seminar, and learning communities, community colleges offer programs and services to assist students to be successful during their education. However, to make an informed and confident career decision, it is equally important for students to gain knowledge about careers, job duties, and the skills necessary to succeed in a particular career field (NACE, 2017). Guided Pathways provides a method for community colleges to reduce the number of choices for students; however, it does not provide students with the opportunity to develop decision-making skills or confidence in their decision-making.

Guided Pathways provides a surface-level solution to a more deeply rooted underlying issue in which students are not specifically taught how to make appropriate decisions, feel confident in the decisions made, or understand the choices made and the associated outcomes; as a result, many students have expressed frustration with the Guided Pathways model (Fink, 2017). Guided Pathways is meant to provide a way to focus a student's academic major choice on a general career area; however, this initiative does not provide assistance to students in understanding their career choices, building career decision-making skills, or understanding the specific career-related job market information (Fink, 2017; Jenkins, Jaggars, & Bailey, 2016; Rose, 2016). According to results from a recent study in 2017, students attending a community college with the Guided Pathways model describe their experience as frustrating, discouraging in the planning process, and limiting their choices in academics and career (Fink, 2017).

Students from this study also cited a fear of making the wrong academic or career decision and changing majors (Fink, 2017). Students felt that the assistance in choosing academic pathways was lacking from advising departments and did not fully understand how the pathway would assist them in obtaining employment (Fink, 2017). In addition, although the guided pathways movement has been anecdotally successful at several community colleges, it requires substantial administrative oversight, program and curriculum changes, and support from upper administration to implement (Bailey & Jaggars, 2016; Rose, 2016). Reducing the number of choices that a student has to make throughout their education does not provide them with a learning opportunity for confident decision-making and does not provide students with enough information regarding academic and career choices to assist them with these decisions (Fink, 2017; Rose, 2016). Additional career development initiatives are necessary, offered by many community college career departments, to assist students with learning career specific information, gaining employability skills, as well as job search skills. These areas are necessary components and skills for career success.

Career development initiatives. Programs and initiatives created through Career Services departments at community colleges and four-year universities provide opportunities for students to begin learning about decision-making as it relates to their academic majors and careers through career exploration, career development, and experiential learning opportunities in their majors (Contomanolis, Cruzvergara, Dey, & Steinfeld, 2015). These programs and services often provide a means for students to learn more about their interests, skills, values, and abilities, increasing the information they have to make an informed decision about their careers. Gaining knowledge about oneself

is one of the first and most important steps to understanding what career would be most appropriate to pursue (Katz, Joyner, & Seaman, 1999). Students learn information about themselves and possible careers through a variety of programs; however, developing confidence in decision-making is not necessarily a focus of college-level programs, but more often at a high school level (Rothman, Maldonado, & Rothman, 2008). It is important for students to have a high level of confidence in their decision-making overall, and especially in their career decisions, which will have an effect on academic major, course sequence, experiential and on-campus opportunities in which to engage, and other career-related decisions (Betz, Klein, & Taylor, 1996). Ideally, this should lead students to choosing an academic major early in their college experience, exploring this major and related career paths, and therefore deciding upon a potential career path earlier (Betz & Luzzo, 1996).

Career services and career counseling practitioners provide students with career interventions to assist students who struggle with making career decisions (Amundson, Harris-Bowlsbey, & Niles, 2005). Students who struggle with career decisions are typically experiencing feelings of the fear of failure, making the "wrong" decision, fear of disapproval from parents, family members, or even peers, and other feelings or beliefs tied to making a career decision (Amundson et al., 2005). These feelings and beliefs are the basis for a student's self-efficacy as it relates to career decision-making. Cognitive behavioral strategies are useful in assisting students with overcoming these negative feelings and beliefs regarding career decisions, and it is suggested that these cognitive strategies be employed with students before even addressing their career indecision (Amundson et al., 2005). Students need to feel more confident in their decision-making

before being able to actually make a decision regarding their major or career. This points to the importance of employing a cognitive strategy or intervention focused on increasing self-efficacy and confidence in decision-making.

Assisting students in developing a higher level of career decision-making self-efficacy is important not only for current students but also for graduates of community colleges, as can be seen in the results of a 2017 AACC research study showing that 36% of graduates wish they could change their major and career path specifically (AACC, 2017b). This study shows the importance of developing an intervention to assist students during their educational studies to make informed career decisions. It is important to point out that a high level of career decision-making self-efficacy is not always going to equate to making the "perfect" career decision; however, it will enable an individual to feel the confidence necessary to make a decision and continue to make decisions regarding career choices throughout the lifespan (Amundson et al., 2005). Not only will students continue to make decisions once finished with their education, but a high level of decision-making self-efficacy is often a skill which employers seek in job applicants. Overall, students may not be properly equipped to make career decisions at an early stage in their college education due to the overwhelming amount of choices, not being familiar with their own interests, skills, values, and abilities, not understanding the career decision-making process, lacking specific skills for employment, and not having confidence in their own decision-making regarding career choices. Decision-making is an important aspect of a student's education and career options and oftentimes has an impact, either positive or negative, on future employment and career decisions. Colleges and universities can play a role in assisting students in developing these desirable skills.

Leadership skills in particular are commonly cited as a key skill sought by employers (NACE, 2016). Leadership development is an initiative that several colleges have recognized an important workforce skill and career competency. Leadership development programs tend to have a positive impact on students and are offered in a variety of modalities at colleges and universities.

Leadership development initiatives. Leadership development programs have been shown to increase a college student's self-efficacy, personal and professional development, civic engagement interests, academic performance, and overall a student's success at the institution (Dugan & Komives, 2007; Fox, 2018; Komives, Owen, Longerbeam, Mainella, & Osteen, 2005; Owen, 2012). Leadership programs can vary significantly in structure, mission, content, and administrative management among colleges and universities (Dugan & Komives, 2007; Owen, 2012). Leadership development programs currently exist at several colleges and universities; however, most are managed and coordinated by Student Life and Activities offices (examples include Michigan State University, University of Cincinnati, Drexel University, The University of Iowa, City College of New York, Hudson Community College, etc.). This placement of leadership programs is supported by research through the Multi-Institutional Study of Leadership (MSL), showing that 83% of leadership programs are managed through Student Life & Activities, whereas a much smaller percentage, only 12%, of leadership programs are managed through Career Services departments with a focus on both leadership and career development (Owen, 2012). Leadership programs managed through student life departments focus on developing leadership skills through on-campus

executive board positions, student club involvement, and interaction with peers (Juanarajs & McGarry, 2018).

Most programs do not specifically focus upon career decision-making or the development and identification of transferable skills, such as team work, group dynamics, problem-solving, decision-making and goal-setting (Frost, Strom, Downey, Schultz, & Holland, 2010; NACE, 2017; Urso & Sygielski, 2007). A leadership development intervention that can provide students with a combination of these attributes as well as increase career decision-making self-efficacy, provide opportunities to learn 21st century skills for employment, and encourage career goal-setting would be an ideal program for community college student populations (Fox, 2018; Cruzvergara et al., 2018). Additionally, research has provided suggestions for future studies focusing on an intervention strategy that incorporates exposure to successful career role models, engaging and fun career exploration, information-gathering activities, self-exploration exercises, and peer support systems (Choi et al., 2012; Fox, 2018; Lent, Ezeofar, Morrison, Penn, & Ireland, 2016; Lent & Brown, 2006).

Implementing an intervention strategy, such as a leadership development program focused on career goal-setting, may have a positive impact on a student's career self-efficacy and career decision-making. This type of intervention strategy may assist students in developing the confidence and skills to make more informed decisions regarding their academic major and, subsequently, their career. Although there are several initiatives in place that provide opportunities for students to learn more about themselves, careers, and ways of gaining experience in those areas, most do not specifically focus on leadership development as it relates to career goals. An initiative

through which to engage college students is a leadership development program focused not only on leadership skill development, but also on transferable skill development, decision-making, career goal-setting, peer to peer interaction, and self-reflection (NSLS, 2017). The current research study proposes an intervention strategy that provides a combination of components from career development initiatives, leadership development initiatives, and 21st century skill-building, within the theoretical framework of Social Cognitive Career Theory (SCCT; Lent et al.,1983) and Bandura's (1977a) four sources of self-efficacy.

Proposed Study

The purpose of the present quasi-experimental research study is to determine if a relationship exists between a community college student's career decision-making self-efficacy and participation in a leadership development intervention within the community college setting. Primarily, this research study sought to answer the research question: What is the magnitude of the relationship between career decision-making self-efficacy and participation in a leadership development intervention program (specifically the National Society of Leadership & Success (NSLS), 2017) of students from two mid-size New Jersey community colleges. Additionally, the study sought to determine if a student's race/ethnicity, age, or gender effects a student's career decision-making self-efficacy. Finally, the study sought to determine if a student's career decision-making self-efficacy is affected by the total number of semesters completed at the institution.

Research suggests that an intervention strategy for students which addresses components found in current career development and leadership development interventions would be beneficial to students. The present research study utilized an

intervention combining portions of these initiatives with a focus on self-efficacy sources to provide an opportunity for students to develop necessary transferable/soft skills, understand and develop knowledge of career information and the gathering process, and develop leadership skills which can be applied to their future careers. The focus for the current research study was on the career decision-making self-efficacy of community college students and determine if the intervention strategy had an impact on that variable.

Proposed intervention. This research study utilized a leadership program developed by the NSLS (2017). This intervention consists of students attending and participating in the following activities at the college: one orientation, one leadership training workshop, three speaker broadcasts from famous/successful leaders (as chosen by the NSLS), and three Success Networking Team meetings (SNT).

Orientation. The orientation session typically lasts one hour and provides students with an overview of their membership benefits, the online member portal and email system to which they are given access when they become a member, and an introduction to their advisors and student executive board members. Students engage in a short communication activity, where they introduce themselves to the other students in attendance and work together in small groups to learn more about their own and others' leadership styles. At the conclusion of orientation, students are emailed a link to take an online communications style assessment, the DISC assessment (Inscape Publishing, Inc., 2008; Marston, 1928). The DISC assessment is a reliable and valid instrument utilized to measure personality styles of dominance, influence, steadiness, and conscientiousness (Inscape Publishing, Inc., 2008). The results of this online assessment provides students

with information about their personality styles and is utilized in the leadership training day workshop, which is the next step for student members.

Leadership training day. After attending orientation, students are expected to attend Leadership Training Day (LTD). This three-hour workshop provides students with an opportunity to explore and develop their passions, career goals, and leadership skills. This training is based on the National Society of Leadership & Success' six foundations of leadership, which are: clarify your purpose, create a shared vision, challenge the status quo, inspire positive action, empower others, and seek constant improvement (NSLS, 2018). Students partake in an activity related to their DISC assessment results and are introduced to their own as well as other communication styles. At the conclusion of LTD, students are placed in small groups to discuss a personal goal (either short-term or long-term) and action steps for progress toward their goal. By working in small groups, students hold each other accountable for reaching toward their set goals. These small groups have been named Success Networking Teams (SNT) by the NSLS and consist of approximately 6-8 students discussing their goals for about 30-45 minutes.

Success networking teams. After attending LTD, students are assigned to a small group of whom they will meet with at least three times to set personal goals for themselves and gain encouragement from their peers. The SNT meetings are meant to provide peer to peer interaction and accountability for each student. The SNT meetings are also a way to encourage students to set personal and career goals. After meeting with each other, students are required to submit an SNT report, where they report on their goal, their progress toward reaching that goal, and how their team has had an impact on their goals.

Speaker broadcasts. Students are required to attend three speaker broadcast events or watch three speaker broadcasts online. The speakers are chosen every semester by the NSLS national office. The national office sends out a short survey to advisors and current students to secure feedback related to the speakers. The speaker broadcasts are streamed live from a college in the United States and are videotaped for viewing at a later time as well. The speakers discuss building leadership skills, following career paths, setting goals, and overcoming obstacles. The speaker broadcasts are utilized for students to vicariously observe leadership from individuals who are typically well-known in the media or political arena. At the conclusion of each speaker broadcast, students discuss their key takeaways and how to apply what they watched to their own lives. Students are encouraged to attend broadcasts in person with other students to engage in a discussion with their peers; however, if students do not attend in-person, they are required to answer questions about the speaker after watching a broadcast online.

The NSLS leadership intervention was chosen because of the structure of the program. This program has a very similar structure at other colleges/universities across the United States and has been shown to have a positive impact on students. In a recent survey conducted by the NSLS with current student members, 92% of students stated that the program improved their decision-making skills, self-awareness, respect for others, ability to be assertive and interpersonal relationship skills (NSLS, 2017). Additionally, 96% of students indicated the Society impacted their likelihood of achieving their life goals and 89% of students were offered the job of their choice upon graduating (NSLS, 2017). Nearly 80% of students attributed their success to the Society's program (NSLS, 2017). The NSLS program structure does not differ across colleges but the managing

departments may differ. In this particular study, the NSLS program at Community College A is managed by the career services department and the program at Community College B is managed by the student activities department. One of the research questions of this study was to determine if there are any differences in the career decision-making self-efficacy of students participating in the same leadership intervention program at Community College A as at Community College B, which focuses upon the potential for difference in leadership program outcome based upon the managing department at each institution.

The present study intends to further research the impact that a leadership development intervention has on a community college student's confidence in decision-making, more specifically their career decision-making self-efficacy. As described above, there are several initiatives in place at community colleges to assist students in achieving success with their academic and career goals, however, there is a lack of research on the impact that these initiatives and interventions have on a student's confidence in their decision-making, ultimately their self-efficacy in decision-making. It is clear from the research above regarding decision-making and career outcomes, the importance of career decision-making and student success initiatives to assist students. Although there has not been a previous connection researched between leadership development programs and career decision-making self-efficacy, the aim of the current research study was to research the impact that a specific, leadership program may have upon community college students' career decision-making self-efficacy. The leadership development program, although considered an intervention as it will be discussed in relationship to the

quasi-experimental research design chosen, will also be considered a "learning experience" as part of SCCT (Lent, Brown & Hacket, 1994).

Significance of Research

This research study sought support for a relationship between a leadership development intervention and career decision-making self-efficacy. If a positive relationship was found, this would have implications for future programmatic offerings that community colleges provide to students. Additionally, career services offices at a variety of colleges and universities can begin to offer leadership programming in a student's first or second semester. These programs may be able to increase a student's career decision-making self-efficacy and provide students with the motivation and confidence in their own abilities to make an informed decision regarding academic major and career choice. Students may also gain the necessary and desired skills employers are seeking in candidates for employment, thus increasing a student's likelihood of increasing their career self-efficacy and ultimately, their employability.

The significance of this research is threefold. First, community college students struggle with an overwhelming number of decisions when choosing an academic major and making career decisions. For many students, this struggle may be related to a lack of confidence in decision-making abilities, a fear of making important decisions, or a lack of knowledge on how to make decisions. To better assist students in making these career decisions, career self-efficacy interventions have been developed to help students with this important task. Previous research studies have shown that student success interventions were successful in raising a student's career self-efficacy thereby assisting students with making career decisions (Betz, 2004). In much of the recent research,

interventions have been developed focusing on portions of self-efficacy theory (Bandura, 1994) concepts, however the current research study aims to focus on all four of the theoretical constructs of Bandura's (1977a) original theory of self-efficacy: performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal, while utilizing a leadership development specific intervention (Betz, 1992, 2004; Creed et al., 2006; Lent & Brown, 2006; Taylor & Betz, 1983).

Second, this research study will demonstrate the utilization of a leadership development focused intervention for community college students in increasing levels of career self-efficacy. If the leadership development program proposed correlates to higher levels of career decision-making self-efficacy, this program can be implemented across multiple colleges and universities to prepare students to make career decisions more confidently and potentially more quickly in their time at the institution.

Third, this research study is significant because it will add to the minimal research that exists on connecting career self-efficacy and leadership development interventions, which may ultimately assist practitioners in developing interventions. This research will add to the body of literature that exists regarding the utilization of SCCT and its application of learning experiences to an individual's self-efficacy. It may lend itself to a more in-depth review of the definitions and types of learning experiences within SCCT that have an impact on self-efficacy. It will also add to the growing body of research regarding community college students and intervention strategies specifically formulated with this population in mind. This research study utilized a quasi-experimental research design and this design has only recently gained popularity in studying intervention strategies specifically connected to self-efficacy (George, Locasto, Pyo, & Cline, 2017;

Glessner, Rockinson-Szapkiw, & Lopez, 2017; Holmberg, Larsson, & Backstrom, 2016; Martinez, Baker, & Young, 2017; Miles & Naidoo, 2017) and even less research conducted specific to the community college population (Amelink, Artis, & Liu, 2015; Harlow & Bowman, 2016; Kelly & Hatcher, 2013). A quasi-experimental design was utilized for this proposed study because it is one of the best methods for determining causal relationships without the ability to randomly assign participants to intervention and non-intervention control groups (Lane, To, Shelley, & Henson, 2012). Although quasi-experimental designs have internal validity threats, they will be minimized by utilizing propensity score matching (PSM) techniques (Lane et al., 2012). According to the United States Department of Education (2003), PSM is a supported method for evidence-based research when the groups are equivalent in size and nature, as they will be in the proposed research study.

A review of the literature proceeds that will define, describe, and outline the importance of decision-making as well as self-efficacy, and more specifically decision-making self-efficacy for community college students. The connections between career development interventions and higher levels of career decision-making self-efficacy will be reviewed throughout the literature, as well as the need for a new intervention strategy, such as the leadership development intervention strategy proposed in this research study.

Chapter 2

Literature Review

The purpose of this quasi-experimental research study was to determine if a relationship exists between community college students' career decision-making self-efficacy and participation in a leadership development intervention within the community college setting. Primarily, this research study sought to answer the research question: What is the magnitude of the relationship between career decision-making self-efficacy and participation in a leadership development intervention program (specifically the NSLS, 2017) of students from two mid-size New Jersey community colleges. Additionally, the study sought to determine if a student's race/ethnicity, age, or gender effects a student's career decision-making self-efficacy. Finally, the study sought to determine if a student's career decision-making self-efficacy is affected by the total number of semesters completed at the institution.

An in-depth literature review focusing on the theoretical framework of SCCT and career decision-making self-efficacy provides the context for the current research proposal. This literature review will examine the three segments of SCCT, namely the interest development, vocational choice, and task performance segments, with special focus on the vocational choice segment outlining the concepts of person inputs and learning experiences (Lent et al., 1983, 1994). SCCT provides a theoretical lens to view the history and literature regarding self-efficacy, the four sources of self-efficacy, and its relationship to career decision-making self-efficacy. Additionally, the overall concept of decision-making and more specifically career decision-making self-efficacy will be defined, along with the connection between career decision-making self-efficacy and

leadership development. The importance of these concepts for college students will be described and supported and will provide a focus for the research study. Finally, a quasi-experimental research design is presented, focusing upon the impact that a leadership development intervention may have on the career decision-making self-efficacy of community college students.

This research study employed SCCT as a framework. Lent, Brown, and Hackett (1994, 2002) researched a variety of career theories and took a constructivist approach to connecting these theories to form SCCT as a comprehensive career theory. SCCT proposes that a learning experience is identified early in the process of career decision-making and has an influence on an individual's self-efficacy and outcome expectations, which leads to a development of basic career interests, choice goals, choice actions, and eventually performance attainments and an ultimate career choice (Lent, Brown, & Hackett, 1994). An intervention program can be seen in the theoretical framework to fulfill the concept of a "learning experience". To date, there have been very few research studies focusing on the "learning experience" concept within SCCT (Brown & Lent, 1996; Lent, Brown & Hackett, 1994, 2002; Miles & Naidoo, 2017; Yeagley, Subich, & Tokar, 2010). As it is not clearly defined within SCCT, it is difficult to provide parameters for which to propose a learning experience intervention. However, although there are a very small number of research studies connecting leadership development to SCCT, the present research study intends to provide a research basis for future studies in this area (Machida & Schaubroeck, 2011; Paulsen & Betz, 2004; Soria, Roberts, & Reinhard, 2015; Yeagley et al., 2010). The current research study aims to provide a framework to better define the "learning experience" of SCCT and research connections

to increasing levels of career decision-making self-efficacy through a leadership development intervention, specifically the NSLS leadership program described above.

The NSLS leadership program consists of a variety of components which focus on the four sources of self-efficacy (Bandura, 1977a). Bandura (1977a) provides a framework of efficacy expectations through which individuals base their own personal efficacy, consequently having an effect upon their choices, behaviors, and cognitions as they relate to their choices regarding their academic major, engaging in activities on and off-campus, and choosing a career path. The four efficacy expectations include: performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal (Bandura, 1977a, p. 195). Several researchers have suggested utilizing the four sources of self-efficacy as a framework for an intervention strategy to attempt to raise self-efficacy levels of students and to understand their relationship to career decision-making self-efficacy (Betz, 1992, 2004; Creed, Patton, & Prideaux, 2006; Lent & Brown, 2006; Taylor & Betz, 1983; Wolf, Foster, & Birkenholz, 2009). Bandura's (1977a) four sources of self-efficacy provide the vehicle for developing higher levels of career decision-making self-efficacy among community college students through the proposed intervention strategy of the leadership development intervention.

Performance accomplishments are addressed throughout the leadership intervention through small achievements of completing a prescribed number of steps to gain induction status, as well as the accomplishment of being chosen for the leadership society. Vicarious experience is addressed through speaker broadcasts from successful individuals of which students are required to view and respond to three different speakers. Verbal persuasion is addressed through small peer-to-peer networking groups,

which are a required component of the leadership intervention. Students are required to meet with a small group of peers to positively motivate each other as well as provide peer support for achieving short-term and long-term goals. Emotional arousal is addressed through positive reinforcement through developing leadership skills, 21st century career skills, gaining confidence in themselves, and engaging with the college and their peers. There have been few research studies to date which have addressed all four of the sources of self-efficacy (Foltz & Luzzo, 1998; Sullivan & Mahalik, 2000); therefore, with this research study focusing on all four of Bandura's (1977a) sources of self-efficacy, it is addressing a gap in the current body of research.

Theoretical Framework: Social Cognitive Career Theory

This research study employed SCCT as a theoretical framework through which to view and analyze the proposed research topic of career decision-making self-efficacy. Lent et al. (1994, 2002) researched a variety of career theories and took a constructivist approach to connecting these theories to form SCCT as a comprehensive career theory. Specifically, Lent et al. (1994, 2002) reviewed and incorporated components of Albert Bandura's (1977a) social learning and social cognitive theories. Bandura's (1977a, 1977b, 1986, 1997) social cognitive theory centered around the concept of self-efficacy, an individual's conception of their confidence to perform specific tasks. Bandura (1977a, 1977b, 1986, 1997) postulated that an individual's belief in their ability to perform or accomplish tasks determines the actions that individual will take (Swanson & Fouad, 1999). Self-efficacy is derived from an individual's previous performance accomplishments, vicarious learning and observations of others, verbal persuasion from others, and physiological states of arousal (Bandura, 1977a). Lent et al. (1994, 2002)

utilized this basic tenet in their development of SCCT. Self-efficacy is especially important for an individual in regard to their career decision-making, as specified in SCCT (Lent et al., 1994). SCCT consists of multiple models to portray relationships among variables in regard to self-efficacy and the impact upon career decision-making.

Segments of Social Cognitive Career Theory. The SCCT model consists of three distinct segments, which contribute to the overall theoretical framework: the interest development segment, the vocational choice segment, and the task performance segment (Lent et al., 1994, 2002; Swanson & Fouad, 1999).

Interest development segment. According to Lent et al. (1994), the interest segment of SCCT defines a theoretical model where interests are predicted by both outcome expectancies and self-efficacy beliefs. Interests, in turn, predict goals, leading to behaviors related to choosing to participate in activities related to these interests, eventually leading to performance accomplishments. This pattern can be seen in Figure 1 below. Lent et al. (1994, 2000, 2002), also provide a rationale for the reasons an individual may not pursue an area of developed interest through background and contextual factors. These background and contextual factors may serve as a perceived barrier to a pursuit of interests based on potentially poor outcome expectations. Although these barriers may be objective or subjective, the perception of the barrier is important in this segment of the theory (Swanson, Daniels, & Tokar, 1996). For the purposes of this research study, a student's interest in the leadership development intervention provides the basis for their participation in the intervention, following the theoretical framework of the interest segment. The interest development segment of SCCT is an important component of the theory and provides a basis for development of the second segment,

through the framework that an individual's interests may predict an individual's vocational or career choice.

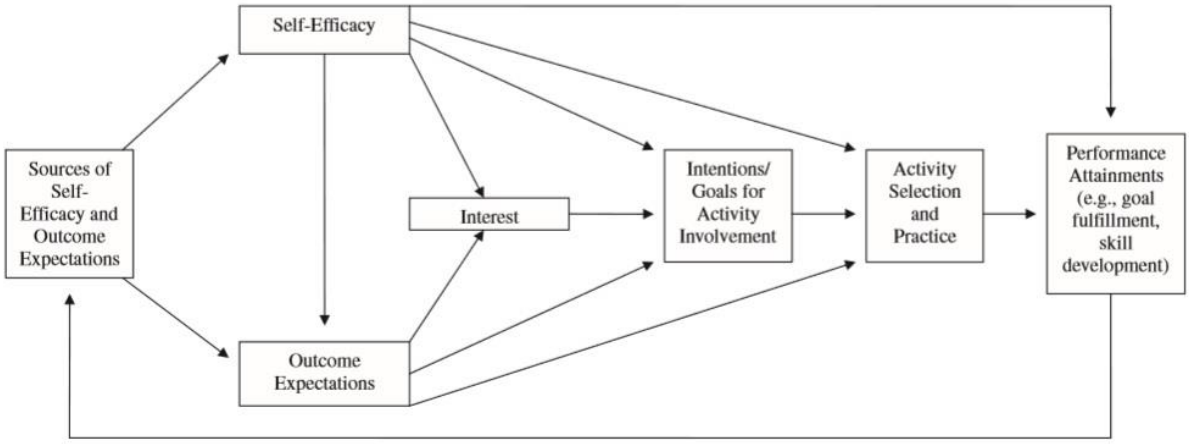

Figure 1. SCCT: Interest Development Segment (Lent et al., 1994)

Vocational choice segment. This research study will focus upon the vocational choice segment, represented below in Figure 2. The vocational choice segment of SCCT provides a theoretical overview of the influences of person inputs, learning experiences, interests, goals, actions, and performance attainments have on a person's choice of vocation or career.

Person inputs. As can be seen in Figure 2, person inputs such as predisposition or personality characteristics, gender, race/ethnicity, and health/wellness status combined with an individual's background have an effect on their opportunities for engaging in learning experiences, which consequently affect an individual's self-efficacy and outcome expectations (Lent et al., 1994, 2002). These inputs influence an individual's learning experiences, which in turn influence self-efficacy and outcome expectations as

they relate to career interests, career choice goals, actions, and overall performance (Lent et al., 1994, 2002; Schaub & Tokar, 2005). These "person inputs" provide a context through which to view the students who are invited and choose to become members of a leadership program, and those students who choose not to become members. In many ways, the person inputs as well as contextual background factors may point to a moderately high level of self-efficacy before even engaging in an intervention, specifically the leadership development intervention proposed in this study. Because of these influences, it is imperative to understand an individual's' level of career decision-making self-efficacy before and after an intervention. The use of a pre-and post-measure will be integral to understanding the impact that a leadership development intervention may have on the level of career decision-making self-efficacy of the student participants.

Learning experiences. A Learning Experience is identified and experienced early in the process of career decision-making, and has an influence on an individual's self-efficacy and outcome expectations, which leads to a development of basic career interests, choice goals, choice actions, and eventually performance attainments and an ultimate career choice (Lent et al., 1994). Through this segment of the theoretical framework it is clear that self-efficacy as well as outcome expectations have a significant influence on an individual's career through their interests, goals, actions, and eventual decision-making. SCCT was chosen for this research study as a theoretical framework based on the connections theorized between experiential learning and cognitive processing (Lent et al., 1994, 2002).

Learning experiences of SCCT include those experiences that are considered to serve as a source of self-efficacy and outcome expectations, as they are shaped by person

inputs and background contextual factors. These experiences are not well defined in the literature and most research has focused upon mathematical abilities and careers (Atadero, Rambo-Hernandez, & Balgophal, 2015; Lent, Lopez, & Bieschke, 1991; Lopez, Lent, Brown, & Gore, 1997; Gainor & Lent, 1998). Although this research provides empirical evidence that supports SCCT's predictions regarding the connection of self-efficacy beliefs and outcome expectations with relevant learning experiences and adds to the body of literature regarding learning experiences, they do not provide clarity on the definition, parameters, or types of learning experiences that may exist and impact career choice. Previous research has focused upon learning experiences in which students automatically take part through their curriculum or as a required experience, rather than experiences where students self-select participation.

The current study aimed to further define what constitutes a learning experience in the SCCT model by utilizing a leadership development intervention as a learning experience in which students self-select participation. In previous research a broad definition has been utilized to define learning experiences as part of SCCT, particularly any curricular or co-curricular experience (Gainor & Lent, 1998; Lent et al., 1983, 1994; Lent, Lopez, & Bieschke, 1991; Lopez, Lent, Brown, & Gore, 1997; Schaub & Tokar, 2005). For the purposes of this study, a learning experience will be defined as participation in a leadership development intervention.

The current research study proposes that a specific learning experience (such as a leadership development intervention) will positively impact an individual's self-efficacy as well as their outcome expectations. This positive impact will also influence an individual's interests, goals, and actions, thereby leading that individual in the direction

of their eventual career choice. Through this segment of SCCT it is also clear that the choice to participate in the learning experience proposed in this study may be influenced by an individual's person inputs, as well as their background contextual affordances.

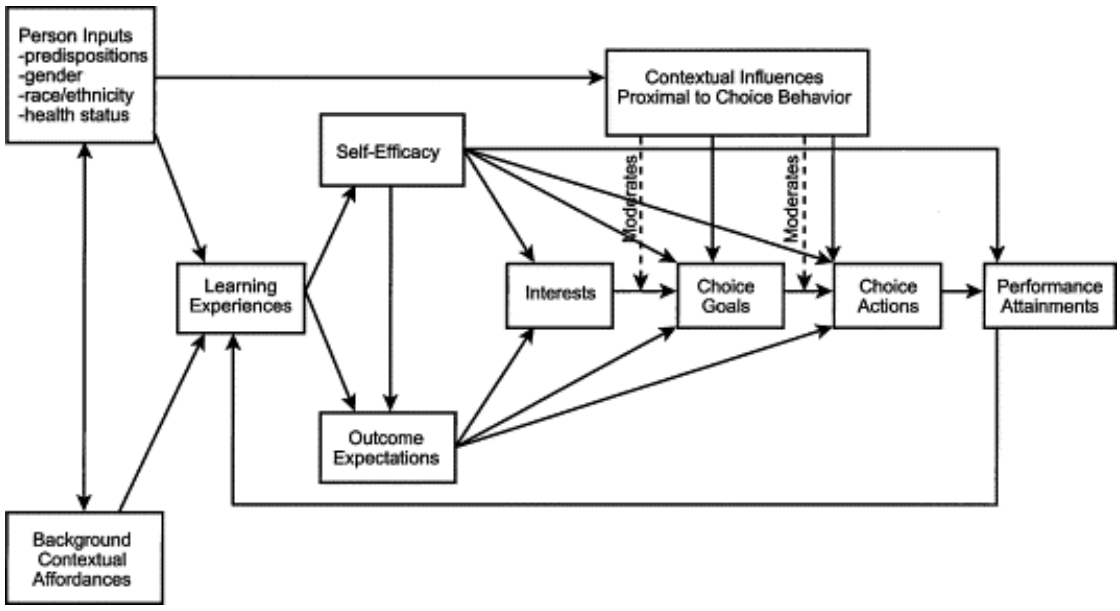

Figure 2. SCCT: Vocational Choice Segment (Lent et al.,1994)

Task performance segment. The task performance segment relates to the pursuit of goals. This segment illustrates the relationships between abilities and past performance of an individual and the impact on self-efficacy and outcome expectations (see Figure 3). This relationship, in turn, impacts the level of performance towards a goal, as well as the persistence and the eventual effect on performance attainment (Lent et al., 1994; Swanson & Fouad, 1999). In general, this segment will not be the focus of the present research study; however, this segment is related as it predicts the potential future path of the college student population. To further illustrate this segment, a student who scores

high in psychology class in high school has the confidence in the ability to do well in college and decides to choose that as an academic major. After performing well in the first college-level psychology class, this student sets higher and higher academic goals to achieve. This segment of the model is differentiated from the vocational choice model because of the emphasis on the prediction of the level of performance toward goals and aspirations, rather than vocational choice (Swanson & Fouad, 1999). In making a vocational choice, individuals need to have a realistic perception of their own skills and abilities, their interests, alternative choices and occupations that may need to be pursued and overall an individual's identity (Bandura, 1997).

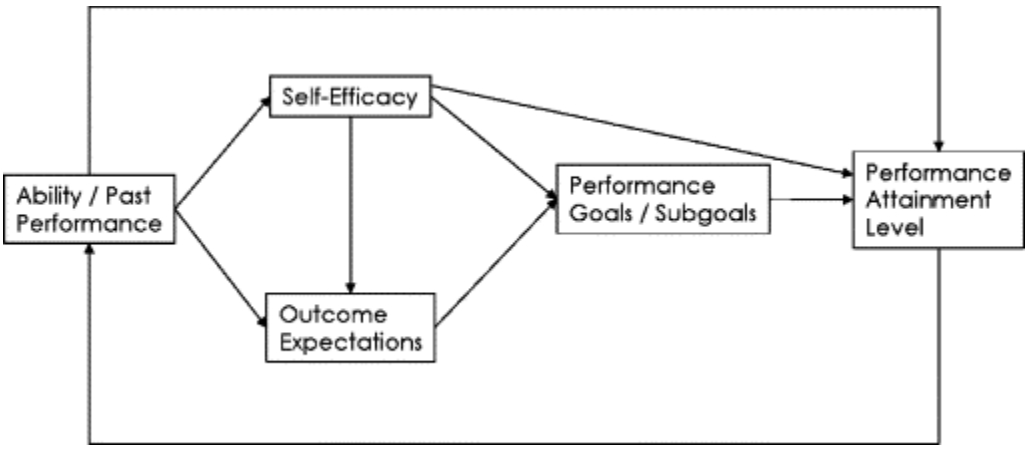

Figure 3. SCCT: Task Performance Segment (Lent et al., 1994)

Overall, this research study utilized a leadership development intervention to attempt to positively impact career decision-making self-efficacy, thereby potentially touching upon all three segments of the SCCT model, as self-efficacy is at the core of this

theoretical framework. For the community college student population, self-efficacy is especially important to understand decision-making related to career choice.

Theory of Self-Efficacy

Self-efficacy will be defined for this research study based upon Albert Bandura's (1986) definition, "people's judgements' of their capabilities to organize and execute courses of action required to attain designated types of performances" (p. 391). Self-efficacy beliefs factor into a person's choices in behavior, activities, environment, persistence, emotional reactions, thoughts, and beliefs about one-self and one's personal capabilities. An individual's self-efficacy is derived from previous accomplishments and performance outcomes, by observing others vicariously, verbal persuasion from others, and physiological states and arousal (Swanson & Fouad, 1999). In general, if a person's self-efficacy is low, they may not have confidence in their skills and abilities and/or may not develop an interest in a particular activity. Low levels of self-efficacy may prevent someone from engaging in experiences outside of their comfort zone based upon their anticipation of an undesirable outcome expectation. Whereas individuals with high levels of self-efficacy have a higher self-confidence in their potential skills and abilities and may be willing to engage in new experiences. Recent research studies involving a variety of college student populations has shown that increasing a college student's self-efficacy may assist them in setting higher level academic goals, achieving those higher goals, and therefore gaining a higher level of self-confidence and self-efficacy. While prior research specifically relating SCCT and leadership skill development is sparse, there is prior research on SCCT and career development (Ali & Menke, 2014; Kantamneni, McCain, Shada, Hellwege, Tate, 2018; Olson, 2014; Raque-Bogdan & Lucas, 2016). However,

these research studies have not included community college students as the population of interest.

Four sources of self-efficacy. Bandura (1977a) provides a framework of efficacy expectations through which individuals base their own personal efficacy, consequently having an effect upon their choices, behaviors, and cognitions. Figure 4 displays the four efficacy expectations include: performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal (Bandura, 1977a, p. 195).

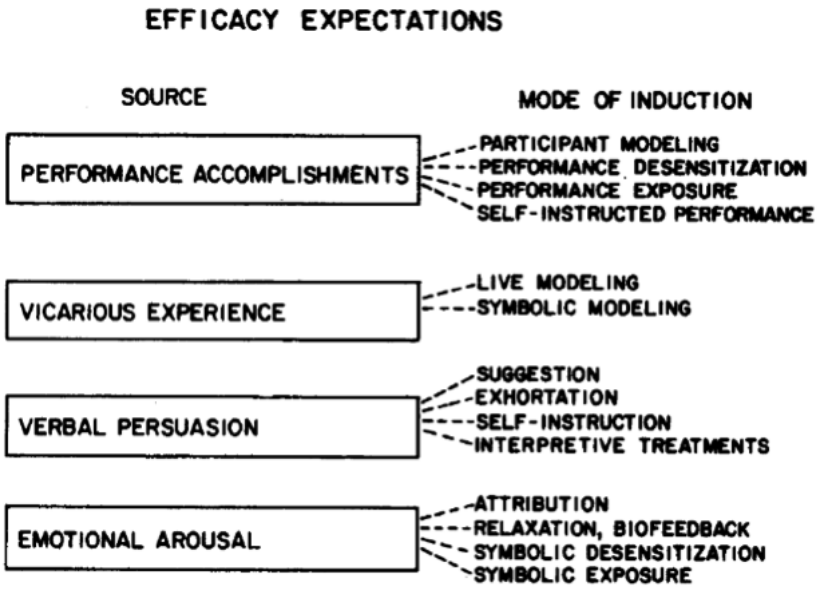

Figure 4. Four Sources of Self-Efficacy (Bandura, 1977a)

Performance accomplishments. Bandura (1977a) postulates that performance accomplishments are very influential to an individual's self-efficacy as it relates to an individual's view of their own accomplishments and mastery of tasks/skills. If an individual experiences success when performing a particular task, action, or skill, they gain confidence in their abilities and continue to master this particular task; however, if

an individual fails repeatedly at this particular task they lose confidence in their ability and they lose motivation to continue with that task (Bandura, 1977a). Bandura (1977a) suggest that individuals who overall succeed but have a few failures are able to overcome these failures and continue striving at the particular task, so the timing and overall experience is an important factor in the effect that performance accomplishments have on an individual's self-efficacy. A variety of induction modes are provided including: participant modeling, performance desensitization, performance exposure, and self-instructed performance (Bandura, 1977a, p. 195). In the proposed study, performance accomplishments will be addressed through the leadership development intervention in several ways including: the invitation sent to students eligible for membership, small accomplishments related to completing several steps towards induction status, and the ultimate accomplishment of becoming a fully inducted member. Students who join the leadership society will also be encouraged to create and achieve short-term career-specific goals. These tasks will assist in addressing the performance accomplishment source of self-efficacy expectations.

Vicarious experiences. Vicarious experiences are another source of self-efficacy expectations that Bandura (1977a) describes as having an effect on self-efficacy levels. This is seen through live modeling and symbolic modeling. An individual often derives confidence and self-efficacy through observing others engaging in or accomplishing successfully tasks, activities or learning skills (Bandura, 1977a). This vicarious experience can be connected to the present leadership development intervention through several speaker broadcasts that students are required to watch and discuss showcasing successful individuals who are considered leaders in society and in their career fields.

Students in the leadership intervention will also be able to observe executive board members and other members who have completed the steps towards becoming a fully inducted member of the leadership society and have been successful in their endeavors. Administrators, faculty, and staff at the college who are successful in their careers will also serve as role models.

Verbal persuasion. Bandura (1977a) describes verbal persuasion as another source of self-efficacy. This is seen through suggestion, exhortation, self-instruction, and interpretive treatments (Bandura, 1977a). Bandura (1977a) describes this source of self-efficacy as a widely used source where individuals may be led to believe they are capable of action through persuasive speech and rhetoric. Although verbal persuasion is a source of self-efficacy it may have a lower effect on an individual's self-efficacy as it is not a true lived experience but rather a spoken or verbal experience (Bandura, 1977a). Therefore, although an individual can be verbally persuaded or suggested, experiences of frequent failure or evidence of low outcome expectations may have more of an influence. The verbal persuasion should focus on raising an individual's self-efficacy rather than raising their expectations of the outcome of action (Bandura, 1977a). Bandura (1977a) describes the importance of not only providing verbal motivation to individuals, but also providing them with as much assistance as needed to help an individual achieve, showing that it is not verbal motivation alone that will raise self-efficacy. For the purposes of this research study, verbal persuasion is used to motivate students to achieve their short-term and long-term goals. This is evident through the small, peer-to-peer groups with whom each student is a member, where students provide feedback and motivation to each other through discussions regarding short-term and long-term goals of the semester and year.

Verbal persuasion is also evident in the nationally recognized speakers that are broadcast to each student throughout the program. Students are required to attend and/or view at least three speakers for motivation. Verbal persuasion also comes from the co-advisors of the leadership intervention, who are also administrators at the community college where the research takes place.

Emotional arousal. Emotional arousal is the final source of self-efficacy as defined by Bandura (1977a) and includes modes of induction of attribution, relaxation and biofeedback, symbolic desensitization, and symbolic exposure. This source of self-efficacy is related to the emotional response that individuals face when their emotions are highly aroused and their ability to perform tasks. In general, a fear reaction or emotions of stress may be debilitating to achievement (Bandura, 1977a). This could equate to an individual feeling as if they are not going to achieve a specific task if they are feeling fear or a high level of stress and emotions. In general, this feeling of fear may result in an avoidance of attempting a specific behavior or action, a lack of confidence, and a lower level of self-efficacy. The proposed research study will assist students in diminishing their emotional arousal and reaction of fear/stress by assisting students in discovering their level of "perceived self-competence" (p. 200, Bandura, 1977a) and raising this level of self-competence by encouraging and motivating students to develop leadership skills. With the reinforcement that any student can develop leadership skills, and with the confidence that comes from the development of these skills, emotional arousal will be diminished, potentially resulting in higher levels of self-efficacy specifically related to career decision-making.

The four sources of self-efficacy are important concepts to discuss for the purposes of this research study because there has previously been a lack of research focused on all four of the sources as pointed out by several researchers (Betz, 2004; Schaub & Tokar, 2005). This research study aims to utilize a leadership development intervention strategy focusing on the four sources of self-efficacy as defined by Bandura (1977a) to influence a student's career decision-making self-efficacy. Once self-efficacy has been established for an individual, it commands their overall performance. Higher levels of self-efficacy are related to a stronger belief in positive outcome expectations. This also affects how often, if at all, an individual attempts new initiatives or activities, as if the perceived outcome expectation is negative, an individual with low self-efficacy may not engage in the activity. It is important for community college students to engage in new initiatives and new research as this is one of the best ways to learn and experience a variety of academic major and career options. It is also important for students to have higher levels of self-efficacy so that they have the confidence and motivation to make their own career decisions. These career decisions and career goals, once set, help to move students toward their educational and career goals at a much quicker rate and in a more direct pathway. Overall self-efficacy has been connected to leadership development programs in several research studies (Jacob, 2006; Machida & Schaubroeck, 2011; Nguyen, 2016; Paulsen & Betz, 2004; Soria et al., 2015). This research has led to an in-depth look at the concept of leadership self-efficacy; however, not as much research has been conducted on the concept of career decision-making self-efficacy and leadership development specifically (Ali, Schalk, Van Engen, Van Assen, 2018; Chemers, Watson,

& May, 2000; Chopin, Danish, Seers, & Hook, 2013; Nguyen, 2016; Paglis & Green, 2002; Prussia, Anderson, & Manz, 1998; Semander, Robins, & Ferris, 2006).

Career Decision-Making

Career decision-making is especially important for college students during their late adolescence and early adulthood of their lifespan (Super et al., 1996). Research suggests that students make decisions regarding their academic major and future career paths during their time in college, which points to the importance of colleges and universities offering workshops or activities that focus upon career decision-making skills and career decision-making self-efficacy (Betz, 2007; Cohen et al., 2014; Cuseo, 2005; Selingo, 2016). Several researchers have found that it is important for college students to engage in several areas of career exploration to increase their career decision-making skills and confidence (Bailey & Jaggars, 2016; Cuseo, 2005; Hollander, 2017; Vuong et al., 2010). Career exploration is one way that students can engage in career decision-making by learning in-depth information about their career choices. Entering college students need to be introduced early in their education to a variety of career options, which they may know little about when they enter college (Bailey & Jaggars, 2016). For example, Bailey and Jaggars (2016) discuss how a student interested in the field of business may be enrolled in Business Administration or Business Management, but not understand or even be aware of the specific areas of business to pursue as a career, such as marketing, accounting, or finance. Throughout a student's career exploration it is important for a student to have the confidence to make a decision on the career areas that they may wish to pursue. Students are presented with a multitude of decision-making

opportunities with their academic and career goals at a high level of importance for their future success (Betz, 2007; Cohen et al., 2014; Selingo, 2016).

Research studies also show that students who are successful in their educational and career goals need to have clear and consistent information about their requirements, understand the "roadmap" to completion, be actively involved on-campus both socially and academically, and feel connected to the institution through peers, faculty, and staff (Cuseo, 2005; Selingo, 2016). Based on this research, it is important for colleges and universities to provide targeted programming for students to encourage a more specific and in-depth examination of academic goals, career goals, and future employment (Betz, 2007; Gati et al., 1996; Paulsen & Betz, 2004; Solberg et al., 1993). Without adequate career decision-making skills and career decision-making self-efficacy, college students may not be able to make informed decisions regarding their career choices, perpetuating the lack of career decision-making self-efficacy and potentially effecting their future employment choices due to lack of skills, confidence and career information.

Impact on future employment. Community colleges have a history focused upon developing a skilled workforce and preparing students for entry into the job market (Bailey et al., 2015; Cohen et al., 2014). In recent years there has been a renewed focus on the skills of the workforce, including transferable skills applicable across multiple careers. A multitude of recent research studies (Peck et al., 2016; Pinto & Ramalheira, 2017), NACE (2016), and the NRC (2012) have defined transferable skills in a variety of ways. For example, several research studies have cited transferable skills as including organization, time management, critical thinking, teamwork, decision-making, leadership, and communication (Cruzvergara et al., 2018; Leslie, 2009; Peck et al., 2016;

Pinto & Ramalheira, 2017; Ramanathan, 2017). The National Research Council (NRC) categorized transferable skills into three distinct domains. The cognitive domain (technical skills and knowledge specific to a career field), the intrapersonal domain (flexibility, initiative, and appreciation for diversity), and the interpersonal domain (teamwork, collaboration, communication, conflict resolution, decision-making, and leadership) (NRC, 2012). NACE identified and defined eight distinct Career Readiness Competencies (NACE, 2016). The competencies as identified include: critical thinking/problem-solving, oral/written communication, teamwork/collaboration, digital technology, professionalism/work ethic, leadership, career management, and global/intercultural fluency (NACE, 2016, 2017).

Although these transferable skills have been identified, defined, and recognized throughout the literature, among national associations, and among employers nationally, many employers do not believe that students possess these skills for success in the workplace (Lumina Foundation, 2014; NACE, 2016;). Employers suggest that new college graduates and the entering workforce do not possess the necessary transferable skills for success in the workplace, suggesting a skills gap (Cukier, 2016; Gatewood, 2017; Hora, 2017; Hurrell, 2016; Koc, 2018; Leslie, 2009; NACE, 2016; Ramanathan, 2017; Tulgan, 2015). More specifically, only 11% of employers surveyed felt strongly that new college graduates possessed the skills needed to be successful (Lumina Foundation, 2014).

Additional research from NACE found that students believed that they were extremely or very proficient in several career competency areas (NACE, 2016). However, there is a disconnect between a student's perceptions and an employer's perceptions.

Students may need to understand how to better articulate their competencies, as well as have the confidence to speak about these competencies, related to their high perceptions of possessing them. Transferable skills have been shown through research to be acquired not only through curricular coursework, but also through co-curricular activities (Astin, 1993; NACE, 2016; Peck et al., 2016; Pinto & Ramalheira, 2017). Employers often point to the lack of training and opportunities offered by colleges and universities as the reason for this lack of a skilled workforce (Koc, 2018; NACE, 2016).

Institutions of higher education prepare students through specific and general course work related to their academic major, which is meant to provide career-specific skills also known as technical skills and knowledge (NRC, 2012). However, training should focus upon providing students with the confidence necessary to articulate and showcase those skills once learned (AAC&U, 2013; NACE, 2016). These transferable skills can be learned over the course of a student's college education, but understanding the connection between these skills and their future employment may not be as easily understood, and could be introduced at an earlier stage in a student's development. Exposing students to these concepts early in their college education may promote greater student success. Specifically, two-year and four-year college graduates were cited as being deficient in leadership skills as well as communication skills (Conference Board, 2006). Additionally, both leadership and decision-making skills are identified in all of the above definitions and categories of transferable skills as well as in several recent research studies (Cruzvergara et al., 2018; Leslie, 2009; NACE, 2017; NRC, 2012; Peck et al., 2016; Ramanathan, 2017). As a result, the proposed research study will focus more specifically on leadership and career management as part of the proposed intervention.

Both leadership and career management will be the two transferable skills focused upon in the proposed research study based upon a review of research showing the importance of these skills for employers (Cruzvergara et al., 2018; Leslie, 2009; NACE, 2017; NRC, 2012; Peck et al., 2016; Ramanathan, 2017). Leadership is defined as an ability to manage emotions, use empathic skills to guide and motivate others, organize, prioritize, delegate, and use interpersonal skills to encourage others (NACE, 2016). Of the employers surveyed, 68.6% noted that leadership is considered an essential skill of candidates, but only 33% of employers noted that incoming employees were proficient in this skill (NACE, 2017). In terms of career management, defined as the ability to identify and articulate personal skills, strengths, knowledge and experiences; as well as navigate and explore job options, understand how to pursue career opportunities, and how to self-advocate (NACE, 2016). The definition of career management as provided by NACE (2016) is closely connected to the skill of career decision-making. Over 47% of employers stated this was an essential skill and only 17.3% of students showed proficiency in this area (NACE, 2017). Although employers deemed these competencies as desirable among new college graduates and job candidates, employers did not believe that a great number of students possessed these competencies (Lumina Foundation, 2014; NACE, 2017).

Both decision-making and leadership are important but lacking skills of successful job candidates (Cruzvergara et al., 2018; Leslie, 2009; Lumina Foundation, 2014; NACE, 2017; NRC, 2012; Peck et al., 2016; Ramanathan, 2017). Colleges and universities who purport to prepare students for the workforce need to focus on developing these skills, among other 21st century skills, within their student body

(NACE, 2016). With an increased focus on transferable skills in the 21st century for job candidates, recent graduates and college students may be better prepared to enter the workforce and fill the skills gap as identified by industry employers. Programs focused upon developing students through leadership programs which incorporate learning leadership skills, interacting with peers, and engaging in community service opportunities may lend itself to successful college students, and specifically first year students (Hollander, 2017).

The present research study utilized a leadership program that incorporates these best practices as well as several other programs focused on student success such as goal setting, career information, successful and well-known speakers, and specific leadership training for each student. The programs mentioned throughout the literature provide students with information regarding themselves, leadership, career options, and experiential learning opportunities. However, students need more than just information regarding career options, they also need to cognitively believe that they can and should be making their own individual career decisions (Betz, 2004; Fink, 2017; Rose, 2016). Career decision-making is an important component for college students, especially in their first and second year at an institution (Bailey et al., 2015; Bullock-Yowell, McConnell, & Schedin, 2014; Morgan & Ness, 2003, Nyamwange, 2016). Students should understand the importance of career decision-making and learn how to set career goals and feel confident in the pursuit of those goals. The proposed leadership intervention will be distinct from traditional leadership development programs described in the literature, as it will provide a means of addressing all of the important components

of career decision-making as well as the four sources of self-efficacy through the SCCT framework.

Leadership Development Programs & Interventions

A leadership development intervention framework was chosen for the present research study because of the importance of leadership skills in the job market, but also because of the overall positive impact that leadership development programs have on college students (Chestnut & Tran-Johnson, 2013; Dugan & Komives, 2007; Wisner, 2011). Research studies have found that students who participate in leadership development programs on a college campus have increased levels of volunteerism, development of personal character, academic achievement, personal and career goal attainment, and overall self-efficacy (Dugan & Komives, 2007; Fertman & Van Linden, 1999; Jacob, 2006; Komives et al., 2005; Kuijpers, Schyns, & Scheerens, 2006; Pascarella & Terenzini, 2005; Wisner, 2011).

Components of leadership development. Traditionally, leadership development programs are offered through a college's student activities or student life department (Juanarajs & McGarry, 2018). Although this organizational structure encourages students to participate in leadership development as an activity and as a means of getting involved on campus, it does not typically provide students with a career-centered approach. A combination of career programming and leadership development programming could provide students with a more well-rounded development of both leadership skills and career goal setting and attainment (Fox, 2018; Peck, 2018; Juanarajs & McGarry, 2018). This combination is one of the reasons that the NSLS leadership intervention was utilized

in the present research study, because it provides activities that focus upon all of the leadership components seen in the literature to have a positive impact on students.

Despite the lack of career-focused leadership development programs across college campuses, leadership programs have been shown to have a positive impact on students in a variety of ways such as encouraging self-exploration, increasing engagement on-campus, increasing interaction with peers and staff at the institution, and increasing overall self-efficacy (Chestnut & Tran-Johnson, 2013; Dugan & Komives, 2007; Fertman & Van Linden, 1999; Jacob, 2006; Komives et al., 2005; Kuijpers, Schyns, & Scheerens, 2006; Pascarella & Terenzini, 2005; Wisner, 2011).

Self-Exploration. Several leadership development programs contain a component of self-exploration, including a review of personal strengths and weaknesses (Soria et al., 2015). Research studies have shown that self-awareness is positively correlated with higher levels of leadership skill perception (Soria et al., 2015). This relates closely to the importance of students engaging in activities or programs that provide opportunities to learn more about themselves including their skills, strengths, weaknesses, and methods of growing as a leader. Leadership development programs can provide students with a means of gaining a higher level of self-knowledge, understanding of one's own strengths, and ultimately a higher level of self-efficacy (Jacob, 2006; Machida & Schaubroeck, 2011; Nguyen, 2016; Paulsen & Betz, 2004; Soria et al., 2015; Zimmerman-Oster & Burkhardt, 1999). Also, research studies have shown that students with higher levels of perceived strengths had higher levels of perceived leadership development (Soria et al., 2015; Zimmerman-Oster & Burkhardt, 1999). The component of self-exploration, and

more specifically a review of individual strengths, is a significant portion of the proposed leadership development intervention through the NSLS for this research study.

Engagement. Several research studies found a positive correlation between the amount of involvement that students have on campus and the level of leadership development. As students become more involved on campus their level of leadership skill development rises (Astin, 1984; Chestnut & Tran-Johnson, 2013; Fike & Fike, 2008; Fox, 2018; Dugan & Komives, 2007; NACE, 2017). Because of the positive impact that leadership programs have had on college student populations, it is important for colleges and universities to offer opportunities for students to become more involved on campus. Engagement with the campus community, faculty, staff, and peers is an integral component of the proposed leadership development intervention through the NSLS for the current research study.

Interpersonal skills. Leadership development programs provide college students with an opportunity to interact with each other as well as with the college faculty and staff involved in the program (Chestnut & Tran-Johnson, 2013; Elnagar, Perry, & O'Steen, 2011). Developing interpersonal skills is not only essential for leadership positions on-campus, but also essential for the workforce and a student's career goals (Jacob, 2006). Leadership programs encourage students to interact with one another through workshops, volunteer activities and a variety of group/team activities (Elnagar et al., 2011; McPhail, Robinson, & Scott, 2008). The leadership intervention through the NSLS provides a multitude of opportunities for students to interact with their peers through small group meetings focused on goal setting, as well as opportunities to interact with faculty and staff through several on-campus meetings, workshops, and programs.

Self-Efficacy. Research has found that participation in leadership development programs is connected to higher levels of self-efficacy, strengths, success predictors, and career decision-making skills (Jacob, 2006; Machida & Schaubroeck, 2011; Paulsen & Betz, 2004; Soria et al., 2015). Leadership development programs and initiatives have had a positive impact on several areas of a college student's success including their overall self-efficacy; however, there have been only a small number of research studies focused upon a college student's career decision-making self-efficacy specifically connected to participation in leadership development programs (Jacob, 2006; Nguyen, 2016; Paulsen & Betz, 2004). There appears to be a gap in the literature regarding the impact that leadership development has upon career decision-making self-efficacy, specifically.

Leadership self-efficacy has been researched at length with college student populations and has been positively correlated with leadership development programs (Ali et al., 2018; Chemers, Watson, & May, 2000; Chopin, Danish, Seers, & Hook, 2013; Nguyen, 2016; Paglis & Green, 2002; Prussia, Anderson, & Manz, 1998; Semander, Robins, & Ferris, 2006). However, although leadership self-efficacy and overall self-efficacy has been researched and connected to leadership development interventions, the concept of career decision-making self-efficacy has not been as heavily researched. It is important to promote a leadership development intervention with a focus on career decision-making self-efficacy because of the positive impact and importance of career decision-making self-efficacy for college students.

Research studies have shown the importance of both leadership development and self-efficacy for community college student success both academically and in their future

careers; however, there are only a limited number of research studies on the connections between leadership development and career decision-making self-efficacy (Dugan & Komives, 2007; Fox, 2018; Komives et al., 2005; Owen, 2012). Also, it has been several years since research was conducted regarding leadership development and career decision-making self-efficacy, and these research studies were not of an experimental or quasi-experimental method. In one of the few studies focusing on both areas, a positive correlation was found between career decision-making self-efficacy and leadership development regarding confidence predictors (Paulsen & Betz, 2004). The proposed research study intends to further research the impact that leadership development interventions have on a student's career decision-making self-efficacy with a stronger research design with the quasi-experimental method to fill this gap in the literature.

Purpose of Present Study

A leadership development intervention that combines leadership development components, a focus on career decision-making self-efficacy, opportunities to learn 21st century job skills, and encourages career goal setting would be an ideal program for community college student populations (Fox, 2018; Cruzvergara et al., 2018). Community colleges should offer leadership development programming to promote leadership skill development as well as increased persistence, confidence, decision-making skills, and motivation to serve in leadership roles on campus (Jacob, 2006; Milem & Berger, 1997; Nguyen, 2016). The present leadership development program offered components of all of the above-mentioned areas, as well as a framework of the four sources of self-efficacy, further highlighting the focus on career decision-making self-efficacy.

The purpose of the present quasi-experimental research study is to determine if a relationship exists between a community college student's career decision-making self-efficacy and participation in a leadership development intervention within the community college setting. Primarily, this research study sought to answer the research question: What is the magnitude of the relationship between career decision-making self-efficacy and participation in a leadership development intervention program (specifically the NSLS, 2017) of students from two mid-size New Jersey community colleges. Additionally, the study sought to determine if a student's race/ethnicity, age, or gender effects career decision-making self-efficacy. Finally, the study sought to determine if a student's career decision-making self-efficacy is affected by the total number of semesters completed at the institution. The methods, instruments, sample, and procedures will be defined in the following section.

Chapter 3

Methods

The purpose of this quasi-experimental research study was to determine if participation in a leadership development intervention at a mid-size New Jersey community college impacts a community college student's career decision-making self-efficacy.

Research Questions & Hypotheses

Outlined below is the primary research question along with four sub-questions. The primary research question is as follows: What is the magnitude of the relationship between career decision-making self-efficacy and participation in a leadership development intervention program (specifically the NSLS, 2017) of students from a mid-size NJ community college? The proposed hypothesis for the primary research question states that there will be a significant relationship between completion of a leadership development intervention and higher levels of career decision-making self-efficacy. The null hypothesis for this research study states there will be no significant relationship between the intervention of leadership development and level of career decision-making self-efficacy. The sub-questions and hypotheses for this research study include the following:

1.) Is there a difference between the career decision-making self-efficacy of students who engage in the leadership development intervention from a program managed by a career department and a student life department at a community college? The hypothesis is that students will have higher levels of career decision-making self-

efficacy after engaging in a leadership development intervention managed by a career services department than a student life department at a community college.

2.) Does race/ethnicity and/or gender effect community college student's career decision-making self-efficacy? The hypothesis is that race/ethnicity and gender will have a relationship with a student's career decision-making self-efficacy.

3.) Does age effect community college student's career decision-making self-efficacy? The hypothesis is that the age of a student will be positively correlated with a higher level of career decision-making self-efficacy, or that older students will have higher levels of career decision-making self-efficacy than younger students.

4.) Does the number of semesters completed at an institution influence a student's career decision-making self-efficacy? The hypothesis is that the number of semesters completed will be positively correlated with a higher level of career decision-making self-efficacy or that the higher the number of semesters a student has completed the higher their level of career decision-making self-efficacy.

Rationale of Methodology

The present study utilized a quasi-experimental research design. This methodology is appropriate for this study because of the desire to generalize the results of the study to a larger population of community college students through probability theory (Blaikie, 2003; Frankfort-Nachmias & Leon-Guerrero, 2015). Additionally, several researchers have used quasi-experimental designs to research career and leadership topics and are ideal in educational settings where random assignment is not an ethical possibility. (George, Locasto, Pyo, & Cline, 2017; Glessner, Rockinson-Szapkiw, & Lopez, 2017; Holmberg, Larsson, Backstrom, 2016; Martinez, Baker, & Young, 2017;

Powell, Hull, & Beaujean, 2019). The overall purpose of this study was to determine if students who completed a formalized leadership development program had higher levels of career decision-making self-efficacy than students who did not complete a formalized leadership development program or students who did not engage in the program. Generalizing these findings would provide several implications for the field of career services and leadership development. Generalizable research findings would provide a rationale for developing and implementing leadership development programs at other community colleges and/or four-year universities to provide a means for increasing student's career decision-making self-efficacy. Findings from this quasi-experimental study may also provide a rationale for career services departments at colleges and universities to manage leadership development programs at the institution.

A quasi-experimental research approach was taken in this study due to the limited ability of the researcher to randomly assign student participants into a treatment group and a control group. In many cases, educational research does not lend itself to random assignment due to ethical issues. For the purposes of this study, it would be unethical to prevent an eligible student from participating in the leadership development intervention and randomly assign them to the control group, therefore a quasi-experimental design was chosen (Holmes, 2014; Lane et al., 2012; Shadish & Steiner, 2010).

Scope of research. The scope of this quasi-experimental research study focused on determining if a relationship existed between career self-efficacy and a leadership development intervention as a "learning experience" as defined by Lent et al. (1994) within the SCCT framework. The leadership development intervention (independent variable) was defined as a "learning experience" through the SCCT framework, and

referenced the four sources of self-efficacy in Bandura's (1977a) theory of self-efficacy: performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal. More specifically, the leadership development intervention was defined as membership in a national leadership society at a mid-size New Jersey community college, as defined by the (NSLS, 2017). The leadership development intervention activities included one orientation meeting, one leadership training session, attendance at three speaker broadcasts related to leadership skill building, and attendance at three success networking team meetings in a small group setting with 6-8 peers. Career decision-making self-efficacy (dependent variable), is defined by Bandura (1977a) and Betz and Hackett (1981) through seminal research on self-efficacy and recent research utilizing a career-focused approach to self-efficacy through the SCCT framework. This quasi-experimental research study will assist in discovering if a leadership development program intervention will assist students in raising career decision-making self-efficacy.

Procedures

Community colleges make up a large portion of higher education institutions across the United States, with over 1, 076 locations (Cohen et al., 2014). Two mid-size New Jersey community colleges will be utilized in this research out of the nineteen New Jersey community colleges (respectively named Community College A and Community College B).

Population. Community College A and B were chosen specifically from the 19 community colleges in New Jersey because the management of the NSLS leadership intervention resides within different departments, and this will be researched in the study.

Community College A. Community College A states an enrollment of 12,790 students in both part-time and full-time programs (Community College A website, 2018). According to the public enrollment data of Community College A, the student profile shows that 52.3% are female, 47.7% are male (Community College A website, 2018), which is comparable to the national average of community college students were 55% are female and 44% (AACC, 2017a). Students from Community College A are 66.5% Caucasian, 9.7% African American, 13.9% Hispanic/Latino, 5.2% Asian/Pacific Islander, .8% American Indian, and 4% unknown (mid-size NJ community college, 2018). The national averages of community college students are 48% Caucasian, 13% African American, 23% Hispanic/Latino, 6% Asian/Pacific Islander, 1% Native American, and 7% are other, unknown, or multiple racial identities (AACC, 2017a). At Community College A, 63% of students are 21 years of age or younger, 24.5% aged 22-30 years, 7.6% 31-45 years, .8% 65 and over, and .6% is unknown (mid-size NJ community college, 2018). However, according to the AACC (2017a), the average age of a community college attendee is 28, which differs significantly from the average age of Community College A (AACC, 2017a). At Community College A, the NSLS leadership intervention is managed by the Career & Leadership Development department at the college, which focuses on providing students with career exploration, career services, and hands-on career learning experiences.

Community College B. Community College B states an enrollment of 8,586 students in both part-time and full-time credit programs (Community College B website, 2018). Of those students, 56.9% are female and 43.1% are male. Students from Community College B are approximately 55% Caucasian, 18% African American, 6%

Hispanic/Latino, 4% Asian, and less than 1% of Alaskan/Native American and Hawaiian. Approximately 8% are of a mixed racial identity and about 4% of an unknown identity (Community College B website, 2018). Community College B's average student age is 24 years old. Both community colleges were utilized for the currently proposed research. Overall, the population of interest at both mid-size NJ community colleges is relatively similar in nature to the national population of community college students and both colleges have fairly comparable student demographics. At Community College B, the NSLS leadership intervention is managed by the Student Life & Activities department at the college, which focuses upon engaging students through clubs, organizations, social events, and co-curricular programming.

Sample. The total sample size for this research study was 411 students (n = 298 Female, n = 104 Male, n = 6 Transgender, and n = 3 missing responses). The average age of respondents was 24.65 years with a standard deviation of 10.13 years. A total of 404 students responded to the pre-assessment survey in both online and paper formats, and a total of 186 students responded to the post-assessment survey in both online and paper formats. Despite this overall total, respondents who did not indicate their consent or did not complete the full survey were removed from the overall sample, resulting in the final sample size of 411 students (n = 264 Community College A, n = 147 Community College B). In total, 255 students were part of the control group and not involved in the leadership intervention being studied for this research, while 156 students were members of the NSLS leadership organization who were part of the treatment group.

The students in this sample completed between 6-30 credits at their respective colleges and had a GPA of 2.75 or above. Students were chosen with 6-30 credits

because this indicated that they were not first semester students, and that they had close to one year of study left at the college. Students who agreed to participate were surveyed at orientation meetings, held in September and early October (beginning of Fall 2018 semester) and final meetings of the semester, held in late November and early December (end of Fall 2018 semester) at both institutions via paper and pencil techniques as well as an online survey through Qualtrics for those students not in attendance. The students invited to join the leadership program represent a variety of ages, socioeconomic statuses, genders, races/ethnicities, academic majors, and career goals. Participants were both students who were not members and students who were members of the NSLS, an on-campus club and national chapter. Invitations are typically sent out to approximately 1000-2000 students every semester from both institutions respectively, who meet the criteria stated above. Students who choose to accept membership pay an $85 national membership fee.

Sampling method. The sampling method utilized in this quasi-experimental research study was a non-equivalent groups design, because the assignment to the control group and experimental groups was not through random assignment and the groups were not equivalent in size. It was difficult to predict the number of students who would become part of each of the groups for this study, as they self-selected to join the leadership intervention and either completed or did not complete the leadership intervention program. Typically, students who join the NSLS are from a variety of backgrounds, ethnicities, socioeconomic status, gender, and age. The present research study included one experimental group and one control group (treatment = 156; control = 255). The experimental group included students invited to the NSLS, paid a membership

fee of $85, and completed the majority of the program (defined as an orientation and leadership training day) or the entirety of the program (defined as an orientation, a leadership training day session, three speaker broadcasts and three SNT meetings) in one semester at either community college. If students indicated they had completed an orientation, and a leadership training day event, they were determined to have completed the majority of the program. This was used as the basis for completion, because the core components of the leadership program are discussed and taught to students in these two parts of the intervention program, and they are seen as the core requirements.

The control group included both students invited to the NSLS who chose not to participate and students who have not been invited to the NSLS from both community colleges. Control group participants received an email with a link to the online assessment at the pre- and post-assessment times (early Fall 2018 semester and late Fall 2018 semester) asking for participation. Informed consent was collected for both the intervention group and the control group participants, either in person or through the online survey. Students naturally grouped themselves at the beginning of the semester by the nature of their acceptance into the program. Therefore, ethically the sample strategy for this quasi-experimental research study was not a random sample due to the nature of the leadership program and the opportunity for any student invited to take part in the intervention.

Sample size. This research study surveyed approximately 5,000 students from both Community College A and B to account for attrition of participants and PSM data analysis techniques, with a goal sample size of at least 100 matched participants. The total sample size obtained for this research study was 411, with 255 students in the

control group and 156 students in the treatment group. After matching, the useable sample size for the primary analyses was 156 for the treatment group and 128 for the control group. For this research study, the minimum number of participants required was determined by an *a priori* power analysis using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007; Faul, Erdfelder, Buchner, & Lang, 2009). A sample size of at least 68 students (34 in the control group and 34 in the treatment group) was necessary to achieve a small effect size at the power level of .80, or 80% and an alpha significance at the .05 level (Faul et al., 2009). Utilizing this sample size provided a means of achieving an effective power size and assists in rejecting the null hypotheses.

Measures

Bandura's (1997a) four sources of self-efficacy were researched utilizing multiple instruments. The first instrument was the Career Exploration and Decisional Self-Efficacy Scale-Brief Decisional (CEDSE-BD) (Lent et al., 2016). The CEDSE-BD utilizes a two-factor solution of decisional self-efficacy (Chronbach's alpha = .98) and coping self-efficacy (Chronbach's alpha = .86) with high internal consistency reliability estimates in prior studies (Lent et al., 2016). It is an 8-item questionnaire answered on a 5-point Likert Scale from 0 (no confidence at all) to 4 (complete confidence).

The second instrument is the Career Exploration and Decision Learning Experience (CEDLE) (Lent, Ireland, Penn, Morris, & Sappington, 2017). This instrument contains questions specifically regarding the four sources of self-efficacy as defined by Bandura (1999) of personal mastery, verbal persuasion, vicarious learning, positive emotion, and negative emotion (Lent et al., 2017). The CEDLE contains a total of 20 questions answered on a 5-point Likert Scale. The first 12 questions are from 1 (strongly

disagree) to 5 (strongly agree) and the last 8 questions are from 1 (very slightly or not at all) to 5 (extremely). The Chronbach's alpha scores for the Mastery Experiences items was .82, Verbal Persuasion items .89, Vicarious Learning items .83, Positive Emotional Arousal items .81, and Negative Emotional Arousal items .82 in the development study. This suggests that the recently developed 20-item CEDLE has adequate internal consistency estimates in prior work, supporting its use in the present study (Lent et al., 2017).

Both the CEDSE-BD and CEDLE measures were combined and administered as pre-assessment and post-assessment measures for the proposed research. Although these instruments were created and tested recently, 2016 and 2017 respectively, studies have shown their consistency in reliability and validity (Lent et al., 2016; Lent et al., 2017). Studies have also compared these instruments with the more well-known and well-researched Career Decision-Making Self-Efficacy Scale: Short Form (CDMSE-SF; Betz, Klein, & Taylor, 1996) and found that they are comparable in measuring career decision-making self-efficacy (Lent et al., 2016; Lent et al., 2017).

Approvals to utilize both of these instruments as a combined measure for the current research study was sought and obtained by the primary author of both instruments. Permission was granted to utilize them as a single measure as well as in both paper and online formats.

Data Collection

Pre-assessment. The CEDSE-BD and CEDLE (Lent et al., 2016; Lent et al., 2017), as a combined instrument along with a demographic questionnaire, was administered via paper and pencil methods to all students in attendance at orientation,

which occurred at the beginning of the Fall 2018 semester, as a pre-test. Students were given 3-weeks to respond to the online survey, and paper surveys were collected at the conclusion of the orientation sessions. This data was used as a baseline to assess career decision-making self-efficacy before engaging in a leadership development intervention. The combined CEDSE-BD and CEDLE (Lent et al., 2016; Lent et al., 2017) was administered via paper and pencil as well as through an online survey tool, Rowan University's Qualtrics account, to students who chose not to participate in the leadership intervention, as a pre-assessment instrument. These pre-assessment scores were utilized to conduct PSM analysis (Lane et al., 2012; Mnatzaganian, Davidson, Hiller, & Ryan, 2015; Randolph, Falbe, Manuel, & Ballout, 2014; Shadish & Steiner, 2010). This analysis provided a method of matching students from the control group and the intervention group on a variety of variables so as to diminish the possibility those variables have an effect on the career decision-making self-efficacy reported by students. PSM was utilized with the following variables: age, gender, ethnicity, grade point average (GPA), socioeconomic status (SES) as determined by the respondent' mother's higher education level (Bornstein & Bradley, 2012), and outside leadership involvement. A total of 404 students responded to the pre-assessment survey in both online and paper formats.

Post-assessment. The CEDSE-BD and CEDLE (Lent et al., 2016; Lent et al., 2017), as a combined instrument, was administered to all students in attendance at the final meeting of the Fall 2018 semester via paper and pencil and online survey methods (Rowan University's Qualtrics account). Students were given 3-weeks to complete the online survey, and paper surveys were collected at the conclusion of the final club

meetings. This data was used to determine if the leadership development intervention increased, decreased or had no effect on a student's career decision-making self-efficacy as a result of this intervention. The CEDSE-BD and CEDLE (Lent et al., 2016; Lent et al., 2017) were also administered to students who did not participate in the leadership intervention, serving as the control group for the post-assessment data. A total of 186 students responded to the post-assessment survey in both online and paper formats.

Data Analysis

Once data was collected at the pre-and post-assessment stages, data from paper and pencil surveys was manually entered into SPSS v.24 software and data collected through the online surveys in Qualtrics were downloaded into Microsoft Excel and imported into SPSS v.24. Data analysis techniques included a thorough scrubbing and cleaning of the entered data, as suggested by Osborne (2013), a review of descriptive statistics, *t*-Tests to compare the means of the pre-and post-surveys, a PSM analysis to account for the quasi-experimental nature of this research study, an ANCOVA analysis for the main research question utilizing the pre-assessment CDMSE score as a covariate, and an ANCOVA analysis for the sub-research questions. Online Qualtrics data was downloaded into Microsoft Excel, cleaned by deleting unnecessary fields such as IP Address, start and end date of survey, duration of survey, and any empty fields. Paper surveys were immediately destroyed upon discovery if respondents stated that they were under 18 years of age. This data cleaning resulted in 179 surveys being destroyed, resulting in a total of 411 surveys utilized for data analysis in this research study.

Additional data cleaning included assigning a number to qualitative demographic data. One example of this was the *grouping variable* (0 = control group, 1 = treatment

group). Students were placed into the control group if they indicated they were not a member of the NSLS leadership intervention, and if they indicated they were "unsure" if they were a member and did not respond to the question regarding "steps completed". If students indicated they were "unsure" if they were a member but chose at least 1 response to the "steps completed" question, they were coded as part of the treatment group. Students would not know or understand the language regarding "steps completed" for the intervention unless they were members, so this was a justifiable coding process. Also, students who indicated at post-assessment that they had completed at least the first two steps of the leadership intervention (orientation and leadership training day) were considered students who had completed the leadership program. The following variables were coded for data analysis purposes. Those variables were school association, gender, race/ethnicity, employment status, socioeconomic status as indicated by mother's highest level of education, expected graduation date, GPA range. Age was recoded into the ordinal variable of age range.

Because random assignment was not possible for this research study, PSM was utilized to control for a variety of covariates and selection bias that may have an effect upon a participant's career decision-making self-efficacy, that is not related to the intervention of leadership development (Caliendo & Kopeinig, 2008; Dehejia & Wahba, 2002; Holmes, 2014; Lane et al., 2012; Mnatzaganian et al., 2015; Rosenbaum & Rubin, 1983, 1984, 1985; Shadish & Steiner, 2010). Without the PSM technique, the interpretation of the treatment effects may be confounded by several variables (Rosenbaum & Rubin, 1983, 1984, 1985). This method has been utilized in a variety of studies and research analyses (Dehejia & Wahba, 2002; Fan & Nowell, 2011; Glazerman,

Levy, & Myers, 2003; Lane et al., 2012; Shadish & Steiner, 2010). Additionally, the United States Department of Education (2003) supports PSM as method of data analysis for research studies.

Propensity Score Matching Techniques. PSM was utilized in this research study to account for the lack of random assignment of participants. PSM is a commonly used method in quasi-experimental research studies to increase the power, reliability, and validity and to control for a variety of covariates and selection bias that may have an effect upon a participant's career decision-making self-efficacy, that is not related to the intervention of leadership development (Caliendo & Kopeinig, 2008; Dehejia & Wahba, 2002; Holmes, 2014; Lane et al., 2012; Mnatzaganian et al., 2015; Rosenbaum & Rubin, 1983, 1984, 1985; Shadish & Steiner, 2010; Staffa & Zurakowski, 2018). PSM also provides a means for reducing the confounding of several variables in the interpretation of the treatment effects of the leadership intervention being researched in this study (Rosenbaum & Rubin, 1983, 1984, 1985). Propensity scores are also used to provide a balance to the covariates in the study and match a sub-sample of participants from both the treatment and control groups to provide a sample of participants who are randomly different from one another, rather than different on specific variables, similar to the characteristics of an experimental sample (Osborne, 2008). Osborne (2008) and Rosenbaum and Rubin (1983) provide the equation for the propensity score for *i* as the probability of receiving the treatment given the observed covariates: $e_i(X) = P(W_i = 1|X)$.

There are several steps involved with utilizing PSM as a data analytic technique (Staffa & Zurakowski, 2018). First, it was important to determine that PSM was an appropriate data analytic technique to utilize with the collected data. Because this was a

quasi-experimental study with non-random assignment and baseline data was collected, PSM is an appropriate method for analyzing data and attempting to control for several confounding variables as well as better determine an accurate effect size of the treatment (Holmes, 2014; Lane, et al., 2012; Staffa & Zurakowski, 2018).

To conduct PSM, SPSS v.24 and R statistical software was utilized. The raw data was entered into SPSS v.24. Because non-randomized groups may differ from one another based on a variety of other variables, or covariates, which may lead to a biased treatment effect, it is important to account for these variables. PSM has been shown to be a technique that removes 90% of the bias due to these covariates (Rosenbaum & Rubin, 1984). Because there can be any number of covariates which need to be accounted for within this research design, it is important to choose covariates which may influence the treatment outcome. The covariates chosen should have a potential effect on the treatment outcome as well as grounded in literature (Lane et al., 2012). Although there is no limit to the number of covariates accounted for in research studies, choosing a finite number based upon previous research is one way to specify and narrow down the choices for the variables within a study (Holmes, 2014).

The covariates for this study were determined based upon current research literature and were chosen because they represent potential differences between the intervention and control groups, as well as reasons a student would or would not self-select to join the leadership development intervention (Holmes, 2014; Lane et al., 2012). The covariates chosen for this research study included: age, gender, race/ethnicity, grade point average (GPA), socio-economic status, and outside leadership involvement. Several of these variables have been researched in relationship to CDMSE utilizing a variety of

populations from the United States as well as internationally but not with the community college population (Baglama & Uzunboylu, 2017; Crisan & Turda, 2015; Chung, 2002; Gushue & Whitson, 2006; Talib et al., 2015). To determine that these covariates are appropriate for this study, an independent samples *t*-test was utilized to compare the means of the treatment and control groups. This measured the magnitude of bias in the sample.

If the sample size is large enough and the treatment and control groups are close to equally distributed, a one-to-one, nearest neighbor, matching without replacement and within a specified caliper would be utilized to match participants from the treatment group and the control group. From the literature, an *a priori* caliper range from 0-1 with a standard of 0.25 standard deviations is typically utilized for large sample sizes (Lane et al., 2012; Rosenbaum & Rubin, 1983; Stuart, 2010; Stuart & Rubin, 2007). However, if the two groups vary greatly in size and the sample size remains moderately small, a one-to-many matching is performed in which a single treated participant is matched to more than one untreated participant (Ming & Rosenbaum, 2000). The one-to-one matching technique was utilized in the present study, without replacement, and a caliper of .25 was utilized to remain consistent with the literature and the standard caliper. After matching techniques were utilized, additional statistical analyses were employed to ensure that the covariates were balanced within the matches (Thoemmes, 2011). Once the data set was properly matched, an ANCOVA statistical analysis was performed on the matched data to compare the control group and treatment matched sets to determine treatment effects (Thoemmes, 2011). Also, an ANCOVA was utilized to address the sub-research questions. Overall, utilizing PSM analysis provided a greater confidence in determining

the effects of the leadership intervention on a community college student's career decision-making self-efficacy.

Prior Research

Data was collected in the Spring 2018 semester, utilizing the instruments mentioned above with a pre-assessment sample (n = 164, intervention group = 104, control group = 60) and a post-assessment sample (n = 32, intervention group = 19, control group = 13) of community college students from Community College A. Both groups were administered the pre- and post-assessment instrument via paper and pencil and an online survey through Microsoft Forms (for those students not in attendance) in February 2018 and in May 2018. Data was collected and entered manually into SPSS v.24 to assess descriptive statistics. The PSM feature offered through SPSS v.24 (which utilizes the 1.3.0 FUZZY extension command) provided propensity scores for the data. According to the data output, there were only 2 exact matches. Due to the limited number of matches, further analysis was difficult to obtain. However, this data provided the structure for the currently proposed research, as well as justification for a much larger sample size. This data and prior research provide sufficient evidence that utilizing a second community college will assist in securing additional participants. Overall, this data and prior research was utilized to determine the sample size and research design for the current research study.

Threats to Validity

With quasi-experimental research, there are several threats to internal validity. The first is self-selection effects (Holmes, 2014; Lane et al., 2012; Rosenbaum & Rubin, 1983, 1984; Salkind, 2010; Shadish & Steiner, 2010). Due to ethical implications,

random assignment is not a possible method of sampling for this research study, therefore self-selection bias may exist within the sample. A self-selection bias example would be that students choose to participate in a leadership development intervention because they have a higher level of career decision-making self-efficacy before entering the program (Caliendo & Kopeinig, 2008). To account for this threat, techniques within data analysis will be employed to address this bias such as PSM. Participants will be matched on variables that would account for their participation in the leadership intervention, such as age, gender, GPA, and the pre-assessment baseline career decision-makings self-efficacy score. Additional data analyses were performed on the data sets to balance the covariates selected for matching (GPA, gender, age, etc.).

Additionally, with pre-test and post-test design, there is an internal validity threat surrounding the use of the exact same instruments for pre-and post-assessment (Meyer, Richter, & Raspe, 2013; Nimon, Zigarmi, & Allen, 2011; Salkind, 2010). This threat relates to participants remembering the pre-assessment and answering in the exact manner for the post-assessment. Although this may be a threat, the time lapse between pre-assessment measure and post-assessment measure will be approximately 3 months during an academic semester. This length of time and the variety of experiences in which students engage will put distance between their pre-assessments and their post-assessments.

Another threat to internal validity may be the role of the primary researcher. Although this is typically an internal validity threat for qualitative research, this relationship could potentially impact the student participants of the proposed study as well (Eide & Kahn, 2008; Langfeldt & Kyvik, 2011). I serve as a co-advisor for the

leadership club being researched, as well as the Director of Career & Leadership Development at Community College A, one of the locations where this study is taking place. To account for this threat, the second co-advisor for the leadership club will take on the primary responsibilities for the club in the semester that this research takes place. To alleviate this threat to internal validity, the co-advisor will become the primary point of contact for student members for the Fall 2018 semester.

Researcher Bias

Researcher bias is a possible threat to validity for this study. As the co-advisor of the NSLS club/leadership intervention at Community College A and researcher for this study, a bias is unavoidable. However, the researcher has been removed from events as a leader and co-advisor in the club and has had the other co-advisor manage student questions and inquiries. It was through the role of co-advisor, that this research study became of importance. Through the NSLS club/leadership intervention, the researcher was able to anecdotally see the impact that leadership development had upon the students of Community College A. To further investigate the impact of the leadership development intervention, the researcher chose to focus on this population. Because of the potential for researcher bias in this study, the researcher chose to move forward with a quantitative, quasi-experimental study to attempt to reduce researcher bias. Researcher bias should be reduced by utilizing reliable and valid instruments for data collection and removal of the researcher as much as possible from the co-advisor role.

Chapter 4

Results

The overall purpose of this study was to determine if participating in a leadership development intervention has an impact on the career decision-making self-efficacy of community college students. This study also sought to determine if there was a difference in level of career decision-making self-efficacy of community college students depending upon a variety of factors such as race/ethnicity, gender, age, number of semesters completed at community college, as well as the department managing the leadership development intervention.

Research Questions

The following primary research question was addressed in this study: What is the magnitude of the relationship between career decision-making self-efficacy and participation in a leadership development intervention program (specifically the NSLS, 2017) of students from a mid-size NJ community college?

The following sub-questions were also addressed in this research study:

1). Is there a difference between the career decision-making self-efficacy of students who engage in the leadership development intervention from a program managed by a career department and a student life department at a community college?

2). Does race/ethnicity and/or gender effect community college student's career decision-making self-efficacy?

3). Does age effect community college student's career decision-making self-efficacy?

4). Does the number of semesters completed at an institution influence a student's career decision-making self-efficacy?

Data Cleaning

Data from pre and post-assessment surveys from each of the community colleges was combined to create a complete data set with which analyses were performed. Data cleaning procedures for the pre and post data as well as the combined data set are described below.

Once data from both pre and post assessment was collected and combined into one dataset within SPSS v.24, a series of data cleaning techniques were employed. The first step was to address missing data points. For missing demographic data points such as GPA, age, gender, or race/ethnicity, a code of 999 was entered into SPSS to indicate a missing data point. In regard to missing survey items, there were several students who started the online survey by completing demographic items but did not complete any of the career decision-making self-efficacy items. These respondents were removed entirely from the data set, therefore destroying 179 surveys. The result of this initial data cleaning left a total of 411 responses for this research study.

Of those 411 responses, less than 5% were missing random data points within the survey items. To account for this, a mean replacement technique was utilized through SPSS v. 24. In this technique, an estimate of the mean response for a specific variable from across the dataset is utilized to complete missing data points, and this is a common method of accounting for a small number of missing data points (Osborne, 2013). The advantage of using this technique is to maintain generalizability and replicability (Osborne, 2013). Additionally, this is an acceptable method of substitution for missing data when the measure is a multi-item questionnaire with internal reliability resulting in a composite score (Osborne, 2013).

New variables were created utilizing the sub-scales of the CEDLE to create mean scores for each of the sub-scales and for an overall score for each instrument (CEDLE and CEDSE-BD), as well as a combined mean for overall career decision-making self-efficacy. Sub-scale means for the CEDLE were created for Mastery Experience, Verbal Persuasion, Vicarious Learning, Positive Emotional Arousal, Negative Emotional Arousal, CEDLE total, CEDSE-BD total, and an overall career decision-making self-efficacy total. Although not a specific research question in this study, the sub-scales of the CEDSE-BD instrument were analyzed to determine the significance, if any, of the four sources of self-efficacy in relation to the leadership intervention utilized.

Descriptive Statistics

After extensive data cleaning, descriptive statistics were found for the complete data set (n = 411). As can be seen in Table 1, frequencies are provided for the nominal and ordinal demographic variables of interest (age range, gender, GPA, ethnicity, socioeconomic status from mother's education, and completed semesters) of the treatment and control groups at both pre and post assessment points in time.

Table 1

Pre & Post Treatment and Control Variable Frequencies Before PSM

	Control		Treatment	
	Pre	Post	Pre	Post
Variable	% (*n* = 178)	% (*n* = 77)	% (*n* = 110)	% (*n* = 46)
Gender				
Female	71	71	76	72
Male	28	23	23	26
Transgender	>1	4	>1	2
Age Range				
18	17	4	9	7
19-21	49	51	62	46
22-24	7	18	5	4
25-27	3	3	8	9
28-30	3	6	.9	7
31-33	3	4	5	2
34 and up	15	13	9	24
Employment Status				
Not Employed	20	26	18	33
Part-Time	61	52	51	52
Full-Time	19	21	29	20
SES (Mothers Ed.)				
High School	26	19	15	22
Some College	21	12	18	33
Associates	10	18	10	11
Bachelors	18	25	22	11
Masters	10	8	10	4
Doctoral	.5	3	4	0
Not Sure	8	12	5	13
Completed Semesters				
1	25	12	19	7
2	24	8	41	22
3	15	31	16	35
4	15	16	12	9
5	4.5	10	5	13
6 or more	13	21	6	15

Additionally, 72.5% of the respondents were female, 25.3% were male, and 1.5% were transgender. Of respondents, 13.9% were African American, 1.5% Native/Native

American, 7.1% Asian/Pacific Islander, 57.9% Caucasian, 13.1% Latino/Latina, >1% Middle Eastern, and 1.2% indicated Other.

Table 2 provides information regarding the CDMSE, CEDLE, and CEDSE-BD means and standard deviations at pre and post assessment points in time.

Table 2

Pre & Post Treatment and Control Means & Standard Deviations for Scale Variables Before PSM

	Control (*n* = 255)		Treatment (*n* = 156)	
	Pre	Post	Pre	Post
Variable	M (*SD*)	M (*SD*)	M (*SD*)	M (*SD*)
CDMSE	3.64 (.61)	3.63 (.69)	3.84 (.54)	3.76 (.61)
CEDLE	3.53 (.51)	3.58 (.52)	3.76 (.48)	3.70 (.46)
CEDSE-BD	3.76 (.89)	3.67 (.98)	3.92 (.74)	3.81 (.88)

Table 2 provides data regarding the scores of the participants before propensity score matching. The normality of the continuous variables in Table 2 was also assessed for balancing purposes and the variables were considered normal based on a normal range of ± 3 as supported by the literature (Osborne, 2013). It should be noted that the treatment group means were higher than the control group means at the pre-assessment phase before students engaged in the intervention and at the beginning of the semester.

Propensity Score Matching

It was important to determine that the data was balanced and to determine that there were no significant differences between the treatment and control groups and between the two community college populations utilized in this research study. Determining this before PSM provides evidence that the groups are similar and that

treatment effects found during data analyses may be attributed to the intervention, and not necessarily to differences between the two groups under research.

Balancing data. An independent samples *t*-Tests and non-parametric tests were conducted on the initial data set (n = 411). An independent samples t-Test, as well as Mann Whitney U tests, were conducted to compare age, expected semester of graduation, employment status, mother's education level, age range, GPA range between the treatment and control groups. Table 2 provides the results of these parametric and nonparametric tests for balancing the data prior to utilizing PSM techniques. There were no significant differences in the ages of participants between the treatment and control group, showing evidence that the treatment and control groups were comparable on the age of the participants. Additionally, for the ordinal variables under review, a non-parametric test (Mann-Whitney U) was conducted with a confidence interval level of 95% to determine if differences existed between the treatment and control groups on several ordinal variables (Blaikie, 2003; Frankfort-Nachmias & Leon-Guerrero, 2015; Holmes, 2014).

Table 3 provides data showing no statistically significant differences between treatment and control on expected graduation, employment status, mother's education, and age range.

Table 3

Parametric & Non-Parametric Tests for Balance of Treatment and Control Before PSM

Variable	Treatment M (SD)	Control M (SD)	95% CI *t*/U/Z	*p*
Age	25.02 (11.236)	24.42 (9.418)	-.537	.567
Expected Grad			19,205	.541
Employment Status			21,018	.284
Mother's Education			19,826	.956
GPA Range	3.65 (.630)	3.82 (.406)	22,540.5/1.022	.003*/.247
Age Range			20,217.5	.761

* Indicates significance at the $p < .01$ level.

There was statistical significance found between the treatment and control groups in regard to GPA range. To further investigate the GPA range, another non-parametric test was utilized, the Kolmogorov Smirnov Z, which can be utilized with small sample sizes and is also utilized to test a sample for normal distribution (Holmes, 2014). Table 3 also provides the information related to the Kolmogorov-Smirnov test, which indicated there was no significant difference in the distributions between treatment and control groups related to GPA range. Although the Mann-Whitney U, Kolmogorov-Smirnov Z, and other non-parametric tests can not definitively determine whether or not both groups were consistent with normal distribution within the population, they indicate that both groups are similar to each other, minimizing treatment effect related to the tested variables and differences between groups (Holmes, 2014).

Table 4 provides data from an independent samples *t*-Test and Mann Whitney U tests conducted to compare several variables between Community College A and Community College B for balance between the two research locations.

Table 4

Parametric & Non-Parametric Tests for Balance of Community College A & B Before PSM

Variable	Community College A M (SD)	Community College B M (SD)	95% CI *t*/U/Z	*p*
Age	26.87 (11.147)	23.42 (9.327)	3.312	.001*
Expected Grad			18, 652	.497
Employment Status			19, 260.5	.890
Mother's Education			20,601.5	.292
GPA Range			20,521	.211
Age Range			14,668	.001*
Leadership Involved			1.868	.063

* Indicates significance at the p<.001 level.

There was a significant difference found in the ages of participants between Community College A and Community College B, showing that the treatment and control groups were not comparable in regard to the age of the participants. The ages of Community College A participants ranged from 18-67 years with a mode of 19 years. The ages of Community College B participants ranged from 18-77 years with a mode of 19 years. To further determine if the two groups were different, the ordinal variable of age range was tested utilizing a non-parametric test. For the ordinal variables under review, a non-parametric test (Mann-Whitney U) was conducted with a confidence interval level of 95% to determine if differences existed between the Community College A and B groups on the variables: expected semester of graduation, employment status, mother's education level (in place of SES), GPA range, age range and outside leadership involvement.

From this data, it can be concluded that there were no statistically significant differences between Community College A and Community College B on the following variables: expected semester of graduation, employment status, mother's education level, outside leadership involvement, and GPA range. Age range was statistically significant, and the difference between the two groups on the variable of age appears to be a result of several outliers of age data between the two college samples; however, age was not a statistically significant variable between the treatment and control groups, and this was the main focus of this research study. The *t*-Test and Mann-Whitney U tests were used to determine balance between the two groups and provided the conclusion that the two groups were similar in nature to each other on almost all of the variables tested with the exception of age range between the two school samples. Despite self-selection bias due to the quasi-experimental nature of this research study, the two groups were comparable, similar to groups within experimental research where self-selection bias is not a validity threat (Holmes, 2014).

Matching data. Once the covariates were analyzed and the data was balanced, the PSM analysis within SPSS v. 24 was utilized to create a matched data set. Within the PSM analysis of SPSS v. 24, the grouping variable was the treatment/control group, the covariates (as mentioned above) were GPA range, age range, mother's education for SES, gender, ethnicity, and outside leadership involvement.

A propensity score caliper of .25 was utilized as the match tolerance, without replacement, with a one-to-one matching technique, as following the examples provided in literature with similar sample sizes (Lane et al., 2012; Osborne, 2008; Rosenbaum & Rubin, 1983; Stuart, 2010; Stuart & Rubin, 2007). The one-to-one matching was chosen

because this was a slightly larger dataset than initially anticipated and the one-to-one matching technique provided an equally distributed data set within the treatment and control groups.

SPSS v.24 utilized the 1.3.0 FUZZY extension command from the R statistical package and found 2 exact matches and 140 FUZZY matches. FUZZY matching techniques are commonly utilized in engineering, science, health science, and computer science research (Cagman, Citak, & Enginoglu, 2010; Jin, Sun, Chen, & Han, 2004; Liang et al., 2012). FUZZY matches have a "fuzz" factor, or tolerance level, which in this study was defined as .25, consistent with the caliper matching chosen for PSM. The FUZZY matching technique provides a way to find participant matches that are within the "fuzz" factor specified and provide a match that can be utilized in PSM and further data analyses. FUZZY, within SPSS, finds all possible matches within the dataset on the covariates chosen and then randomly chooses one of those matches to utilize as a FUZZY match (Kim & Baek, 2016). The FUZZY matching technique mimics that of the one-to-many matching technique, without replacement, and this was used to increase the number of matches created within this dataset. A total of 284 respondents were included in the matched data set (n =156 treatment and n =128 control) and the propensity score data was utilized moving forward for data analysis and to answer the proposed research questions. After obtaining this final data set, additional analysis was completed to assess the balance between the treatment and control groups in the propensity data set. As suggested by Osborne (2008), additional diagnostic analyses involved a review of the mean covariate values, correlations of the covariates, and interactions between the covariates.

Balancing PSM data. After obtaining a matched data set through PSM, independent *t*-Tests and Mann-Whitney U tests were performed involving the covariates within the PSM data set between treatment and control groups to determine if significant differences existed. Once the data was matched it was important to determine the quality of the matches and balance between the two groups (Holmes, 2014; Powell, Hull, & Beaujean, 2019; Staffa & Zurakowski, 2018). Balance of the matched data set is only evidenced by the measured confounders, and it is important to recognize that there may be unmeasured confounders which could affect the data analysis (Staffa & Zurakowski, 2018). Performing these balancing tests provided information on the matched data set and the balance between the covariates. Balancing tests were performed on the same variables and utilizing the same statistical methods as with the full data set. Balancing methods are necessary to determine that the groups are comparable in nature and assist with determining the treatment effect of the intervention being studied. These tests of balance are not meant to answer the research questions; however, they are meant to provide statistically sound data with which to perform analyses to answer the research questions posed.

An independent samples *t*-Test for the continuous variable of age and a Mann Whitney U nonparametric test for the ordinal variables of expected graduation, employment status, mother's education, number of completed semesters, and GPA range were conducted to compare the treatment and control groups of the matched data set (see Table 5). There were no significant differences in the ages of participants between the treatment and control groups. This data provides evidence that the treatment and control groups of the matched data set were comparable on the age of the participants. Non-

parametric tests were utilized for ordinal data and a Mann-Whitney U test provided evidence that there were no statistically significant differences between treatment and control groups after PSM. From this data, it can be concluded that after matching, the treatment and control groups did not differ significantly from each other.

Table 5

Parametric & Non-Parametric Tests for Balance After PSM

	Treatment	Control	95% CI	
Variable	M (SD)	M (SD)	*t*/U	*p*
Age	25.02 (11.236)	25.70 (10.59)	.517	.605
Expected Grad			9,997.00	.984
Employment Status			10,299.00	.614
Mother's Education			10,008.5	.971
Completed Semesters			9,598.00	.567
GPA Range			10,291.00	.061

The parametric and non-parametric tests provide evidence that the matched data set is comparable on the variables researched for this study. This provides a higher level of confidence that any observed treatment effects may be due to the leadership intervention, and not necessarily based on differences between the treatment and control groups on these variables.

The mean scores of the CEDLE, CEDSE-BD, and total CDMSE of the matched data set were also analyzed after matching. Table 6 provides the means and standard deviations for the pre and post assessment scores of both the treatment and control groups of the scale variables after PSM. Table 6 shows that the CDMSE mean score of the treatment group at post-assessment was lower than at pre-assessment, pointing to a lower level of career decision-making self-efficacy.

Table 6

Pre & Post Treatment and Control Means & Standard Deviations for Scale Variables After PSM

	Control (n = 128)		Treatment (n = 156)	
	Pre	Post	Pre	Post
Variable	M (*SD*)	M (*SD*)	M (*SD*)	M (*SD*)
CDMSE	3.65 (.62)	3.79 (.51)	3.84 (.54)	3.76 (.61)
CEDLE	3.51 (.55)	3.75 (.69)	3.76 (.48)	3.70 (.46)
CEDSE-BD	3.80 (.88)	3.82 (.69)	3.92 (.74)	3.81 (.88)

Skewness and kurtosis were also assessed to determine normality. The skewness and kurtosis of the CEDLE, CEDSE-BD and CDMSE variables provided evidence that the matched data set had normally distributed scores of participants utilizing a normal range of ± 3 (Osborne, 2013). Balancing tests provided data evidencing that the matched data set did not show statistically significant differences between treatment and control groups and appeared balanced as a result of a test of the mean and distribution of normality. After the data was balanced, it was analyzed to answer the proposed research questions.

Career Decision-Making Self-Efficacy & Leadership

An Analysis of Covariance (ANCOVA) analysis was completed utilizing the propensity score-matched dataset to determine if a difference existed between the CDMSE of students who engaged in a leadership development intervention as opposed to students who did not. An ANCOVA, utilizing the matching variable as the grouping mechanism and specifying the pre-assessment CDMSE mean score as the covariate, provides a comparison between the treatment and control groups of the matched data set controlling for pre-assessment CDMSE scores. This is a common method of analyzing

propensity score matched data (Holmes, 2014). There was a significant effect of leadership development intervention on career decision-making self-efficacy of community college students at the $p < .05$ level, $F_{(1, 284)} = 4.567$, $p = 0.033$. Post hoc tests were not conducted because the grouping variable only had two groups (treatment and control). After finding statistical significance, a review of the means and standard deviations of pre and post assessment scores for the treatment and control groups indicates that the treatment group has slightly lower levels of career decision-making self-efficacy than students who did not engage in the leadership development intervention. Significant differences, in calculating the effect size of this significant relationship, show a 1.6% effect size. This shows the leadership intervention is only accountable for 1.6% of CDMSE scores of community college students. From this data, the null hypothesis is rejected, as the data shows that there is a statistical significance between leadership intervention and CDMSE; however, the intervention is contributing a small effect to the student's CDMSE and resulting in a slightly lower mean of CDMSE than students in the control group.

This study utilized a combined instrument to determine a student's overall CDMSE, specifically the CEDSE-BD and the CEDLE (Lent et al., 2016; Lent et al., 2017). To further investigate the small effect size found, a one-way ANOVA was conducted to better determine if one of the two instruments was a stronger predictor of CDMSE of participants. There was a significant effect of leadership development intervention on career exploration and decision learning experiences (CEDLE) of community college students at the $p < .001$ level, $F_{(1, 284)} = 11.589$, $p = 0.001$. No statistically significant differences were found between leadership development

intervention and the career exploration and decisional self-efficacy (CEDSE-BD) of community college students, $F_{(1, 284)} = .870$, $p = .352$. These results indicate several potentials. The first is that students may have better understood or related to the questions on the CEDLE instrument, students may better understand the leadership development intervention as a learning experience rather than focused on career decision-making self-efficacy, or this instrument may be a better indicator of a student's career decision-making self-efficacy as it relates to learning experiences. The CEDLE instrument, when created, was broken down into subsections derived from Bandura's four sources of self-efficacy: mastery experience, verbal persuasion, vicarious learning, and emotional arousal (Bandura, 1977a). In reviewing the means and standard deviations of both the CEDLE and CEDSE-BD for the treatment group, the means of the treatment group are lower for both of these instruments than those of the control group.

The CEDLE instrument items are grouped according to the four sources of self-efficacy. There are four survey items per each of the self-efficacy sources, with emotional arousal split into both positive and negative emotional arousal. These items were further analyzed to determine if there were specific areas of the four sources of self-efficacy related to the leadership intervention that were statistically significant. Results from a one-way ANOVA are shown in Table 7. The results show that both verbal persuasion and vicarious learning were areas of the CEDLE that were statistically significant between the treatment and control groups.

Table 7

ANOVA of Four Sources of Self-Efficacy CEDLE Factors

CEDLE	SS	*df*	F	*p*
ME	2.340	1	3.895	.049*
VP	3.960	1	6.042	.015**
VL	6.873	1	8.016	.005**
PEA	2.709	1	3.965	.047*
NEA	.620	1	.602	.438

* Significant at the $p < .05$ level.
** Significant at the $p < .01$ level.

These results indicate that students have slightly lower levels of career decision-making self-efficacy after completing the leadership development intervention; however, it is a small effect and potentially attributable to other variables upon which this study did not specifically focus.

Management of Leadership Intervention

The first sub-question of this research was concerned with the management of the leadership program and the possible effect that this has upon a student's career decision-making self-efficacy within a leadership development intervention. The first sub-question was: Is there a difference between the career decision-making self-efficacy of students who engage in the leadership development intervention from a program managed by a career department and a student life department at a community college? A one-way ANOVA was conducted on the school membership group and CDMSE scores of the matched data set. There was no significant effect of school membership on career decision-making self-efficacy of community college students $F_{(1, 283)} = 1.195$, $p = 0.275$. Because no significance was found, post hoc tests were not necessary. These results provide evidence that there were no statistically significant differences found between

CDMSE scores of students from Community College A and Community College B. Therefore, the office or department managing the leadership intervention does not necessarily make a difference for a student's overall CDMSE. From these tests, there is a failure to reject the null hypothesis regarding the management of the leadership intervention.

Race/Ethnicity, Gender, Age, & Semester Completion

Several factors may affect a student's career decision-making self-efficacy and sub-questions two through four sought to find out if race/ethnicity, gender, age, or number of completed semesters were any of those factors. The second, third and fourth sub-questions reviewed in this research study were: Does race/ethnicity, gender, age, or number of completed semesters effect community college student's career decision-making self-efficacy? This research sought to understand the relationship, if any, race/ethnicity, gender, age, and the number of completed semesters have upon CDMSE of community college student participants in the current study. An ANCOVA was conducted to determine if there were statistically significant differences between ethnicity, gender, age, and the number of completed semesters of the participants and CDMSE.

An ANCOVA was conducted in SPSS v.24 to compare the treatment group to the control group while controlling for race/ethnicity, gender, age, and the number of completed semesters. Table 8 provides the results of the ANCOVA with relationship to these variables.

Table 8

Analysis of Covariance of PSM Data

Variable	SS	*df*	F	μ^2	*p*
Race/Ethnicity	.120	1	.357	.001	.551
Gender	.099	1	.294	.001	.588
Age	2.059	1	6.103	.024	.014*
Semester Completion	.161	1	.478	.002	.490

* Significant at the *p<.05 level.*

Race/ethnicity. There were no significant effects found between race/ethnicity and CDMSE. There is a failure to reject the null hypothesis with this research question.

Gender. There were no significant effects found between gender and CDMSE. There is a failure to reject the null hypothesis with this research question.

Age. There was a significant difference found between age of participants and CDMSE; $F_{(1, 261)} = 6.103$, $p = 0.014$. From this data, the null hypothesis is rejected because a statistical significance was found between age and CDMSE scores. Table 9 provides data regarding the mean CDMSE scores of participants by age. Participants aged 34 and older had a higher CDMSE mean score ($M = 3.922$), than participants aged 19 – 21 ($M = 3.743$).

Table 9

Age Range and CDMSE Mean Scores of PSM Data

Age Range	*n*	M (*SD*)
18	28	3.609 (.41)
19-21	150	3.743 (.63)
22-24	19	3.616 (.46)
25-27	16	3.901 (.48)
28-30	9	3.324 (.66)
31-33	10	3.645 (.76)
34 and up	46	3.922 (.65)

These results indicate a variability of scores of younger and older students; however, students aged 34 and up specifically, had higher levels of CDMSE after completing the leadership intervention than younger students who completed the leadership intervention. Students aged 18 years had the lowest levels of CDMSE out of the age ranges included in this study.

Semester completion. There were no significant effects found between the number of completed semesters and CDMSE. There is a failure to reject the null hypothesis regarding the number of completed semesters and CDMSE.

Summary of Findings

Propensity score matching methods were implemented to determine if differences existed between community college students who completed or did not complete a leadership development intervention and career decision-making self-efficacy. Data analysis procedures yielded a statistically significant difference between students who completed the leadership development intervention and lower levels of career decision-making self-efficacy at the $p < .05$ level. Although it was statistically significant, the data showed a very small treatment effect size (less than 2%). Results indicate that students

had lower levels of career decision-making self-efficacy after completing the leadership intervention; however, the leadership intervention is only contributing a small effect to the student's career decision-making self-efficacy.

Additional data analysis revealed that there were no statistically significant differences between gender, race/ethnicity, or the number of completed semesters at a college with regard to career decision-making self-efficacy. However, there was statistical significance found between age and career decision-making self-efficacy, showing that older students who completed the leadership intervention had higher levels of career decision-making self-efficacy than younger students. These results are further examined in the following discussion section.

Chapter 5

Discussion

The primary aim of this research study was to determine if a leadership development intervention had an effect on career decision-making self-efficacy of community college students. The secondary aim of this research was to determine if a variety of variables had an effect upon career decision-making self-efficacy of community college students including the management of the leadership intervention, and/or a participant's gender, race/ethnicity, age, and the number of semesters completed. Finally, this research study also sought to add to the literature regarding Social Cognitive Career Theory and the learning experiences which provide a means of raising career decision-making self-efficacy.

Career Decision-Making Self-Efficacy & Leadership

The primary research question of this study was to determine if a difference existed between the career decision-making self-efficacy of community college students who engaged in a leadership development intervention during the Fall 2018 semester as opposed to students who did not engage in a leadership development intervention. This study found a small significant effect of leadership development intervention on career decision-making self-efficacy of community college students. This data showed that students who completed the leadership intervention had lower levels of CDMSE; however, it was accountable for less than 2% of the lower level. Because the effect size is so small, this provides evidence that there are a variety of factors that may affect a student’s CDMSE and it can not be solely attributed to the leadership intervention. Students may be influenced by their peers, family members, professors, coursework,

outside leadership commitments, community service/volunteer work, or another factor not discussed or controlled for in this study. Although significance was found, further research should be done to focus upon and define those factors that can be attributed to lower and higher levels of CDMSE.

Research over the past 20 years has shown that leadership programming has a positive effect on students in a variety of ways through a multitude of structures and programming based on leadership-skill building (Chestnut & Tran-Johnson, 2013; Dugan & Komives, 2007; Fertman & Van Linden, 1999; Jacob, 2006; Komives et al., 2005; Kuijpers, Schyns, & Scheerans, 2006; Pascarella & Terenzini, 2005; Wisner, 2011). Additional literature shows the importance of high levels of career decision-making self-efficacy of students, leading to a more direct career path, a higher level of confidence in decision-making, and a higher degree of commitment to their academic major (Bailey & Jaggars, 2016; Vuong et al., 2010; Selingo, 2016). In the present study, the NSLS leadership intervention was chosen because it had components related to leadership development, career development, and Bandura's four sources of self-efficacy, which have been shown in the literature to positively affect an individual's self-efficacy levels (Bailey & Jaggars, 2016; Bandura, 1977a, Betz, 2007; Cohen et al., 2014; Cuseo, 2005; Hollander, 2017). Through the combination of leadership development, career development, and the four sources of self-efficacy, this research study sought to determine if this particular leadership intervention (NSLS) had an effect on a student's CDMSE. The structure of the leadership intervention chosen was consistent with and incorporated Bandura's (1977a) four sources of self-efficacy. The four efficacy

expectations include performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal (Bandura, 1977a).

Consistent with prior research, this study found that the four sources of self-efficacy had statistical significance related to a student's level of CDMSE (Betz, 1992, 2004; Creed, Patton, & Prideaux, 2006; Lent & Brown, 2006; Taylor & Betz, 1983; Wolf, Foster, & Birkenholz, 2009). However, in contrast to the literature, this study found that students had a lower level of CDMSE after engaging in a leadership intervention, which may indicate several implications. The first is that the chosen leadership intervention did not provide a strong enough basis related to self-efficacy. Although there was significance found related to the four sources of self-efficacy and the leadership intervention, the mean CDMSE scores of students was slightly lower after engaging in the program. The programmatic structure and content of this intervention attributed only a small amount in lowering CDMSE levels for students, and future leadership development interventions may need to incorporate additional components more closely related to the four sources of self-efficacy or may need to incorporate more specific career development components to address CDMSE. Students who engage in an intervention may develop more self-awareness and may develop a lower level of self-confidence or self-efficacy regarding decisions they have made. Participating in this leadership intervention may have resulted in lower levels of self-efficacy due to a higher level of self-awareness. This could also be an area for future research. It is also possible that a student's pre-assessment score may have been high due to this lack of self-awareness and engaging in the leadership intervention has assisted them in better understanding the complexities of making career decisions and the importance of making

informed career decisions. A higher pre-assessment score could also be a result of the feeling of pride in receiving an invitation for the leadership intervention. Prior research has also discussed lower post-assessment scores based upon the assessment method, mode of questionnaires, and timeframe (Bowling, 2005). Although it is clear through prior research that leadership development and career decision-making self-efficacy have a positive effect on students, they may not impact each other in a direct way. The findings may also provide evidence of a connection to other highly researched career development theories of career maturity (Harlow & Bowman, 2016; Talib et al., 2015), and career commitment (Chung, 2002). Additionally, the NSLS program chosen for this research study, did not provide students with an opportunity to perform the leadership skills that they had learned throughout the semester. The opportunity to showcase their leadership skills may have added to their levels of self-efficacy specifically through performance accomplishments and vicarious learning. This additional component of the leadership intervention may have increased CDMSE of students in the program, however this was not a component of the current program and would be an area for future research.

Within the Social Cognitive Career Theory framework, the leadership intervention studied in this research was considered a "learning experience" for the community college student population. A broad definition has been utilized to define learning experiences as part of SCCT, specifically it has been defined as any curricular or co-curricular experience (Gainor & Lent, 1998; Lent et al., 1983, 1994; Lent, Lopez, & Bieschke, 1991; Lopez, Lent, Brown, & Gore, 1997; Schaub & Tokar, 2005). This research aimed to add to the literature in providing a more specific definition of the learning experience of the SCCT framework. Through the SCCT framework, learning

experiences lead to career decision-making self-efficacy and outcome expectations, which assist an individual in making overall career decisions.

Through the present research study, it is evident that a leadership development intervention should be considered a “learning experience” as it is broadly defined with the theoretical framework; however, it is not clear how to categorize experiences that affect CDMSE in positive or negative ways (Lent et al., 1994). Also, these experiences are not well defined in the literature and prior research has focused upon programs and learning experiences within traditional school classrooms, primarily focused upon mathematical instruction (Atadero, Rambo-Hernandez, & Balgophal, 2015; Lent, Lopez, & Bieschke, 1991; Lopez, Lent, Brown, & Gore, 1997; Gainor & Lent, 1998). Participants of the study had slightly lower levels of career decision-making self-efficacy as a result of the learning experience of the leadership program of which students were a member; allowing for a leadership development program to serve as the "learning experience" which contributed to the participant's CDMSE. This research finding adds to the overall body of literature regarding SCCT and learning experiences and provides more clarity into what defines a “learning experience” within the theoretical framework; however, additional research should be undertaken to better define the components of a “learning experience”, how to categorize those that raise or lower CDMSE levels, and provide evidence and suggestions for practitioners on effective experiences for college students.

Finding a statistical significance and lower CDMSE means within this research study shows there is a possibility that leadership interventions/programs may cause a student to lose confidence in their ability to make career-related decisions. It is possible

that because students are given an opportunity to explore their career options, explore themselves as leaders, and set individual career and academic goals they are susceptible to a lower level of self-confidence as a result. If a student in the leadership program made a choice of academic major or career path and engages in a leadership intervention intended to provide them with opportunities to explore their values, interests, goals, and passions as they relate to their career, it is plausible that a student may feel less confident in that major or career decision and question their choices to that point. In many cases, seeing successful professionals may incur feelings of inferiority or inadequacy, a sense of urgency to decide, and a feeling of frustration if a lack of decision-making has been the issue for a particular student. The leadership program may also have heightened a student's awareness of their own abilities to make decisions, faced with successful individuals in careers could cause undue anxiety, and may have increased career confusion which was not assessed in this study. The leadership program may not have provided enough career development related activities or opportunities to showcase leadership abilities, therefore attributing to a lower level of CDMSE as well. Consistent with prior research, older students had higher levels of CDMSE than their younger counterparts at post-assessment. This may be attributed to higher levels of CDMSE before engaging in the leadership program, as well as life experiences which have assisted them in gaining higher CDMSE. Traditional-aged students have a lack of experience and leadership competence simply because of their age and lack of opportunities, this may attribute to lower levels of CDMSE as well. This research provides an opportunity to explore additional leadership components to incorporate for younger and traditional-aged students to build leadership skills as well as raise CDMSE.

Pairing an older student with a younger student while engaging in a leadership intervention may be a possible addition to a future leadership intervention.

The findings from this study showed that students at the pre-assessment point in time who had not engaged in the leadership intervention, but had chosen to be a member had higher levels of CDMSE than the control group at the same point in time. This finding provides evidence that students who are chosen as members of an on-campus organization may gain self-efficacy as a result of simply being chosen for group membership. This is one potential factor in the higher level of CDMSE at pre-assessment time. This also may be attributed to the requirements to become a member of the leadership program, specifically at least a 2.75 GPA and between 6-30 credits.

For administrators of leadership programs, this research provides evidence that future programming related to leadership, career exploration, or career decision-making should include components related to the four sources of self-efficacy as well as career exploration and intentional career advising/counseling. Leadership programming at a community college should include performance accomplishments and vicarious experiences for students to see career exploration and career development first-hand. It should include verbal persuasion throughout so that students are positively reinforced throughout their time at community college. Finally, a program should include emotional arousal aspects, providing opportunities for students to become emotionally connected to their career experiences.

Based on the findings from the current study, community college leaders may consider incorporating the four sources of self-efficacy into the recent initiatives surrounding Guided Pathways for more cohesive programming related to student success.

Currently, Guided Pathways initiatives reduce the number of academic major choices with which students are faced when entering a community college, by grouping majors into general pathways or 'meta-majors' (Bailey et al., 2015). These meta-majors provide students with an opportunity for career exploration in a variety of majors related to that general area of academia (Bailey et al., 2015). Guided Pathways has been utilized as an initiative to assist students with making career decisions by reducing the number of decisions they have to make; however, if Guided Pathways initiatives incorporated the four sources of self-efficacy into their programming this may not only provide students an opportunity to make informed decisions, but it would provide students with additional support throughout the process. Guided Pathways could incorporate several programs or initiatives to bolster the positive impact it has upon students in regards to self-efficacy and career decision making, such as: peer mentoring programs providing vicarious learning, verbal persuasion, and positive emotional arousal; job shadowing, workplace observations, or internships within a meta-major providing mastery experience and vicarious learning; and attending guest lectures or speakers of successful alumni providing verbal persuasion and vicarious learning. With the addition of these components to the Guided Pathways initiatives, students may be able to gain higher levels of CDMSE, career decision-making skills, and general self-efficacy.

Program Management

The first sub-question of this research was concerned with the management of the leadership program and the possible effect that this has upon a student's career decision-making self-efficacy within a leadership development intervention. The first sub-question of this research study was: Is there a difference between the career decision-making self-

efficacy of students who engage in the leadership development intervention from a program managed by a career department and a student life department at a community college? This question was relevant to the current study because the department managing the leadership intervention may have an impact on the content of the program or on the overall management of the program. According to the literature regarding career decision-making, self-efficacy, and leadership development, a combination of career and leadership development programming may provide students with a more well-rounded and career-focused experience (Fox, 2018; Peck, 2018; Juanarajs & McGarry, 2018). This research study sought to determine if students in a leadership intervention managed by a career services department would have higher levels of CDMSE than students in an intervention managed by the student life and activities department. Potentially, a career services department would infuse additional career exploration and career speakers into the programming and therefore have a larger impact on CDMSE.

The results of the present study provide evidence that there were no statistically significant differences found between CDMSE scores of students from Community College A and Community College B. Therefore, the office or department managing the leadership intervention does not necessarily make a difference for a student's overall CDMSE. This can most likely be attributed to the leadership intervention having the same structure, speakers, and activities at both Community College A and B. The program is the same at both institutions because it is a national leadership program and has strict requirements on how it is managed at each institution. This prescribed leadership program provides a consistent learning experience for students, without regard for the department, advisors, or managers of the program. These results indicate that the

content of the leadership program may have more impact on students than the management of the program. Community college leaders may consider implementing a program which focuses upon both the social interactions of students, as well as career exploration and leadership development components. A cohesive program managed by a variety of departments across the college may provide the most impact.

Additional research on this topic should include several colleges that have established leadership programming on a community college campus to determine if any differences exist when the sample size is larger or if the leadership program itself is different. Research studies focusing on the content of the leadership program and the student experience would be beneficial to determine what, if any, components of the leadership program have the most impact and how those can be replicated at other institutions. For this research study, the leadership program components and content were consistent at both institutions; however, if the leadership program contents differed at either institution this could also have an impact on the CDMSE of the students involved. In the future, a collaborative approach to the management of leadership programming may be beneficial.

Race/Ethnicity & Gender

Several factors may affect a student's career decision-making self-efficacy and this sub-question sought to find out if race/ethnicity and/or gender were one of those factors. The second sub-question reviewed in this research study was: Does race/ethnicity and/or gender effect community college student's career decision-making self-efficacy? This research sought to understand the relationship, if any, race/ethnicity and gender have

upon CDMSE. An ANCOVA was conducted, and no significant differences were found between race/ethnicity or gender and CDMSE of participants.

Race/Ethnicity. Race/ethnicity and CDMSE have been researched in previous literature to determine if a relationship exists. Several research studies have been conducted in countries other than the United States and with traditional-aged college students. There is limited research regarding ethnicity and CDMSE among community college students in the United States. The current study adds to this minimal body of literature by focusing on community college students (Kelly & Hatcher, 2013).

Although no significant differences between race/ethnicity and CDMSE were found in this study, overall the mean scores of African American students were higher than the mean scores of Caucasian students on the CDMSE. This finding was consistent with Chung (2006), who found that African American students had higher CDMSE scores than Caucasian students, however, it was not a statistically significant difference. The difference in mean scores of CDMSE in the current research study may be contributed to a higher number of African American female respondents than African American male respondents. Females had a higher mean CDMSE score than males and there were a higher number of female respondents than male respondents, although this was not a statistically significant difference. The current research study found consistent findings to that of prior research (Gushue & Whitson, 2006; Kelly & Hatcher, 2013; Perte & Patroc, 2014). No significance was found between race/ethnicity and CDMSE.

Gender. Gender and CDMSE have been researched to determine relationships among participants of a variety of ages, from diverse backgrounds, and of a variety of schools across the country and internationally. The findings from this study are consistent

with several previous research studies which did not find significance between gender and CDMSE utilizing samples from not only the United States but also internationally as well (Brown et al., 2003; Chung, 2002; Jiang, 2014; Talib et al., 2015). The current research was consistent with studies which utilized a community college sample and found no significant differences of gender on three separate career-related variables, CDMSE, career planning, and career maturity as well as another study which found no gender differences in CDMSE from a research study with a consistent sample of gender and race/ethnicity to the current research (Chung, 2002; Talib et al., 2015). There have been several studies which have specifically pointed to non-traditional aged females as having higher levels of CDMSE than their younger and male counterparts (Quimby & O'Brien, 2004; Spitzer, 2000). Future research studies may consider further researching nontraditional, female community college students to add to this body of literature.

Additional studies related to gender and career decision-making have found that gender differences existed related to the variable of career commitment (Chung, 2002), finding that female participants had higher levels of career commitment than their male counterparts. This provides evidence that gender may have an effect on career decision-making overall but not necessarily the facet of self-efficacy. Related to gender, the current research study was consistent with the lack of statistical significance found, similar to the findings of previous studies regarding gender and CDMSE.

Age of Participants

The third sub-question of this research study was: Does age effect community college student's career decision-making self-efficacy? This is a relevant question to this research study because the older that a student is the closer they are to the start of their

careers. Relationships between age and CDMSE scores was found in previous literature, but it is limited in scope and has not been widely researched (Baglama & Uzunboylu, 2017; Crisan & Turda, 2015; Guan et al., 2016). Most of this research has been conducted outside of the United States and very few if any studies focused upon community college students. The current research study sought to better understand the relationship, if any, between the age of community college students and CDMSE. Through data analysis, a significant effect was found between age and CDMSE of community college students. These results indicate that older students who completed the leadership development intervention had higher levels of career decision-making self-efficacy than their younger counterparts who completed the intervention. Through additional data analysis, findings showed that a large majority of non-traditional aged students responded to the CDMSE survey at both pre and post assessment points in time. Although these findings may indicate that older students had higher levels of CDMSE than younger students, it also showed that that older students may be more inclined to respond to pre-and post-assessment surveys. This data supports the hypothesis that age has an effect on a student's CDMSE and this finding is consistent with previous research on nontraditional student's CDMSE (Luzzo, 1999; Quimby & O'Brien, 2004; Spitzer, 2000).

These results provide evidence that older, non-traditional students may benefit from leadership development interventions through developing higher levels of CDMSE. These results also point to the idea that older, non-traditional students have had more opportunities for "learning experiences" as described by SCCT (Lent et al., 1994) and therefore will have higher levels of CDMSE overall than their younger counterparts as a

result. This finding may lend itself to thinking about the number of "learning experiences" in which students engage rather than just the definition of what constitutes a "learning experience" through SCCT. As these results suggest, older students may have higher levels of CDMSE not only as a result of being part of the leadership intervention but also based upon a combination of other learning experiences, career experiences, academic experiences, or general life experiences that they have had throughout their lifetime. The survey utilized in this study asked for information on participation in other leadership activities off-campus but did not ask students what other learning experiences or career-related experiences they have been involved. This additional data could provide more clarity on which, if any, of those experiences, contributed to higher levels of CDMSE. Future research studies may want to further investigate the number and type of learning experiences in which non-traditional students have engaged, providing more clarity into the experiences that contribute to higher levels of CDMSE.

Based on this study's significant findings of age and CDMSE, it may also provide evidence that CDMSE may be more highly developed during a specific age range. Students of a non-traditional age (25 years and older) have shown higher levels of CDMSE in multiple research studies, including the current study (Luzzo, 1999; Quimby & O'Brien, 2004; Spitzer, 2000). These findings may point to a specific timeframe in a student's life or collegiate experience which may serve as a prime point at which CDMSE is the focus. Traditional aged students, because of their age, have fewer life experiences and therefore may have a lower level of CDMSE, whereas nontraditional-aged students have had a variety of life experiences which may contribute to higher levels of CDMSE. To better provide activities and programming to traditional-aged students, a

peer mentoring program could be implemented for all incoming traditional students to be paired with a nontraditional student at the institution. This type of peer mentoring has been suggested by other researchers (Kelly & Hatcher, 2013) and may assist traditional students with gaining higher levels of CDMSE through their connected experiences with the nontraditional student. This is one suggestion for a future practice that community colleges could explore for students.

The current research findings also suggest that non-traditional students may be more inclined to self-select to join this type of program knowing that they will be gaining leadership skills and career decision-making skills, and subsequently raises self-efficacy. Nontraditional students may be more inclined to join programs/activities where they see a benefit to learning the content. This may be helpful to community colleges that may be interested in creating programming for nontraditional students. Colleges may want to ensure that students understand and appreciate the benefits to any specific programming developed to increase enrollment and participation.

Semester Completion

The fourth and final sub-question researched in this study was: Does the number of semesters completed at an institution influence a student's career decision-making self-efficacy? This was a relevant question for this research study in that the higher the number of semesters a student has completed at the institution, the closer that student is to either graduating or transferring to another college to continue the study of their chosen career path. This research sought to understand the relationship, if any, between a student's number of completed semesters and CDMSE. Students who have taken only a few semesters of coursework at a community college may still be exploring academic

majors and career options, which may result in changing majors or career paths early in a student's college experience, which may equate to lower levels of CDMSE (Eagan et al., 2016; NCES, 2017; Scott-Clayton, 2011b; Selingo, 2016). However, students who are closer to graduation or transferring to another institution to continue their education should have a better understanding of their major and career path based on their completed coursework and experiences to that point, which may equate to a higher level of CDMSE (Fink, 2017; Gambrell & Kessler, 2016; Scott-Clayton, 2011b; Selingo, 2016). Based on the vocational choice segment of the SCCT model, engaging in "learning experiences" (Lent et al., 1994) during a student's college education has an impact on their level of career decision-making self-efficacy. The learning experiences could include several experiences that first semester and first-year students are introduced to such as specific coursework, first-year programming, orientations, peer mentoring and other activities focused on acclimating and exploring options (Cuseo, 2005). This research question focused on the number of completed semesters, to determine if students who were closer to graduation had higher levels of CDMSE based upon their engagement in several "learning experiences" to that point in their education. However, through an ANCOVA statistical analysis, no significant effects were found between the number of completed semesters and CDMSE.

These results indicate that students who completed a higher number of semesters and were closer to graduation did not have a significantly higher level of CDMSE regardless of their participation in the leadership intervention. This provides evidence that students close to graduation may not have a high level of CDMSE, potentially hindering their future transfer choices or career choices. With lower levels of CDMSE, students

may avoid making decisions regarding their transfer options to a four-year university or may avoid making decisions regarding their career choices (Bailey, Jaggars, & Jenkins, 2015; Bandura, 1977a; Harlow & Bowman, 2016; Scott-Clayton, 2011b; Taylor & Betz, 1983). The lack of statistical significance between the number of completed semesters and CDMSE may relate back to the research conducted by the American Association of Community Colleges (2017b) showing that 36% of community college graduates believe they should have changed their major or career path before graduating. The current findings and the research from AACC (2017b) provide evidence that students may need additional interventions/programs related to career decision-making, overall self-efficacy, and career exploration early in their time as a college student, possibly within the first or second semesters at the community college.

This research also provides evidence that community college students in their first year of coursework may benefit from career exploration, self-efficacy, and academic major exploration programs. Also, students within their final year of coursework and students near graduation may benefit from additional interventions to prepare them for their next educational or career goal, as well as workshops or reinforcement regarding their career choices, self-efficacy, and career decision-making.

Discussion of Research Methods & Validity

Quasi-experimental research studies, although popular within educational and social science research, have internal validity threats and flaws which may be difficult to limit (Holmes, 2014). Several common threats to validity are participant self-selection bias, maturation, and attrition of participants, instrumentation, as well as several confounding variables addressed in this research study during data analysis (Holmes,

2014; Shadish, Cook & Campbell, 2002). Several methods were employed to address threats to internal validity and research limitations.

Limitations

One of the main limitations to the current research study was its quasi-experimental nature. This prevents the sample from randomization and from having an equal number of students in each group, therefore altering the potential outcomes and increasing the threats to internal validity based on sample selection. Although PSM analytic techniques were utilized to minimize this threat, if students could be assigned to true experimental research groups, the results may differ. For the present study, an ethical decision was made to allow for the sample size to be non-equivalent in nature due to the limitations of the research study to determine whether or not students would be included in a leadership development intervention that was available to all students. Additionally, as with any quasi-experimental research design, there may be unobserved variables attributing to the student's career decision-making self-efficacy. Unobserved variables represent a threat to validity; however, matching techniques were utilized based upon several identified confounding variables within this study. Balancing techniques were utilized before and after PSM methods and no significant differences were found between the two groups, indicating that the groups were fairly comparable on these potential confounding variables.

Attrition of the participants was also a limitation for this research study. The number of participants at the post-assessment time was significantly less than at the pre-assessment time of the study, which lowers the overall number of participants utilized for the study. In addition to the lower number due to attrition, a lower number of participants

was utilized in this study because of the matching techniques through PSM. This drastically cut the number of participants from the original pool of participants. However, PSM was utilized to strengthen this study and account for the self-selection sample bias that may have existed.

In addition, there may be a self-selection bias, and the students who complete the leadership program may be fundamentally different from the group of students who serve as the control group. This fundamental difference may be connected to a multitude of variables not controlled for or researched in this study; however, utilizing a variety of covariates in the data analysis through PSM and *t*-test analyses provided a means for limiting these differences.

Another limitation to this study was with the sample. It was taken from only two mid-size New Jersey community colleges, rather than from a cross-section of multiple colleges across the state and across the nation. Although this limits the sample, both colleges studied in this research were similar in size and student characteristics and provide a representative sample of New Jersey community colleges. The sample was also small in size for a multi-site research study, and future research should seek a larger sample size for quasi-experimental research studies.

Another limitation was the cost of the leadership program, which may have deterred students in the control group from becoming members and completing the program. This also may have affected the ability of students of lower socioeconomic classes to participate in this leadership intervention. To account for this, students who were interested in participating from the college's EOF program were not required to pay the $85 membership fee. However, if students were not part of the EOF program, they

were responsible for paying this membership fee. Future research should be conducted on leadership programming that is free to students, which may increase participation and CDMSE outcomes.

Implications for Policy & Practice

The current research study provides several implications for policy and practice. Although only a small statistically significant difference was found between a leadership development intervention and CDMSE of community college students, based on prior literature it is clear that leadership development programs (whether college-wide or program/department specific) have a positive impact on student success. Findings from this research study point to the importance of following-up with students involved in activities where they may develop lower levels of CDMSE. Students need to have a mechanism for discussing their career options and choices with professionals at the college to aid in raising CDMSE. Administrators of leadership programs may want to consider incorporating the four sources of self-efficacy into leadership development or career development programming to increase CDMSE and promote student success. Although the results from this research show that the scores related to the four sources of self-efficacy were lower at post-assessment time, practitioners may want to consider the specific programs/activities related to the four sources and how those can be better integrated into the program.

This research study also points to the importance of program assessment and evaluation. Continually incorporating new initiatives and programs without evaluation and assessment does not enable a department or institution the ability to evaluate the effectiveness of the program. Practitioners and managers of current leadership

development programs may want to evaluate their leadership and career programs for effectiveness and impact upon students. The results found in this study were not consistent with prior research and provide the impetus for a full program evaluation and consideration of other leadership programs and career development components that should be incorporated. Students Affairs and student services departments should consider a cycle of assessment for their programs and services, including a thorough review of program outcomes, success measures, goal obtainment, and student learning outcomes.

A future practice at community colleges may be to incorporate the four sources of self-efficacy within the Guided Pathways framework, which typically focuses on first-year students by providing career pathways through academic meta-majors (Bailey et al., 2015). As mentioned, the four sources of self-efficacy can be incorporated into Guided Pathways by implementing peer mentoring, experiential learning, job shadowing, leadership development, and alumni speakers as components of first-year programming. With the incorporation of not only leadership development but these other components, the result may be that students develop higher levels of CDMSE and make more informed decisions throughout their time at the college and into their future careers. These additional components would also be considered additional learning experiences through SCCT (Lent et al., 1994) for students to engage in career exploration providing additional support for higher levels of CDMSE as a result.

In addition to including programs/activities within the Guided Pathways movement related to the four sources of self-efficacy, it would be beneficial to include experiential learning or leadership development components as well. Guided Pathways

currently focuses upon advising and classroom instruction of community college students. In addition to the identified components of: program structure and meta-majors, intake of students and supports offered, learning facilitation instruction and developmental education (Bailey et al., 2015), adding an experiential learning or "learning experience" component, identified in the SCCT theoretical framework, may also underscore the importance of students making informed career decisions.

Performance funding is a topic of discussion at the state level and policies surrounding this topic could have an impact on funding distributed to community colleges in the future. Assisting students in making informed career decisions and having more confidence in their career decisions may benefit students as well as assist with the completion agenda. Students who decide on their major and career path may be more likely to complete their studies, earn a degree, and successfully enter the workforce (Cohen et al., 2014; Selingo, 2015). Implementing experiential learning components into the Guided Pathways movement may provide the means to assisting students with decision-making and raising CDMSE. This implementation can be accomplished via multiple methods, but specifically one example within the Guided Pathways framework would be an integration of experiential learning components into academic coursework. Specifically, a cross-collaboration between student affairs and academic affairs at institutions where out of classroom experiences can be tied directly to in-classroom learning. Examples of this type of integration exists on a course or departmental level but could be incorporated across the institution on a larger scale to have a greater impact on students. Incorporating short-term internships, volunteer projects, hands-on group learning activities, and informational interviews with local employers or faculty are just a

few of the specific ways that experiential learning can be more fully integrated into coursework.

Additionally, there is a growing body of research showcasing the connections that exist between career services departments and leadership development initiatives, especially with the new focus on leadership as a NACE Career Readiness Competency (NACE, 2017); however, this appears to be a moderately new connection in practice at universities and especially at community colleges. Although no significance was found regarding the management of leadership development interventions on college campuses, it does provide evidence that leadership development is an important aspect of a community college student's education and should be offered by the institution regardless of the department which manages the program.

Career development research and efforts have been criticized in the literature for a lack of focus on social justice issues and cultural factors (McMahon, Arthur, & Collins, 2008). This research study addressed a variety of socio-cultural factors such as race/ethnicity, age, and gender as they relate to career development and self-efficacy. This research study utilized a broader context and a holistic view for career development by including leadership development components and consideration for preparing students to become socially responsible leaders (Herr, 2001; Irving & Mahlik, 2005; McMahon, Arthur, & Collins, 2008). The leadership development intervention utilized in this study served as an opportunity for students, regardless of age, gender, and race/ethnicity and sought to incorporate methods for students to learn more about social justice issues (Irving, 2010b). Through the leadership development intervention, students had an opportunity to interact with peers from a variety of diverse backgrounds, learn

from speakers who tell their personal career stories and engage in leadership skill-building through workshops, speakers, and community service opportunities (Irving, 2010a). In the future, higher education institutions may desire to create and sustain their own leadership development initiative to minimize the cost of the program for students allowing for a larger number of students to participate. Overall, this research study added to the small amount of literature regarding social justice issues and career and leadership development.

Implications for Leadership

Leaders in higher education, specifically community colleges, can utilize the findings of this research in the development of programming related to career decision-making self-efficacy and leadership development. Despite the limitations to the current study, this research provides a review of methods that community colleges can explore to raise the CDMSE and leadership skills of the current study. This study provides community college leaders with a method for incorporating specific programs and activities into the current Guided Pathways movement to strengthen this initiative and provide leadership and CDMSE opportunities for students. Although the leadership intervention utilized in this study may not be the best method for increasing CDMSE based upon the current research findings, it provides a structure for leadership development programs moving forward. By providing programs related to leadership development, students will have the ability to develop career-necessary leadership skills, have the chance for career exploration, and have a method for raising CDMSE and gaining confidence in their career decision-making skills. Leadership development programs, depending upon their focus and structure, may be able to provide a means for

assisting students in choosing their academic majors, solidifying their choice of career path, and providing them with a more direct route to graduation and access to career opportunities.

This research also provides several implications regarding community college students as leaders. Prior research has shown that employers are interested in hiring students who display leadership skills, among other transferable skills (Lumina Foundation, 2014; NACE, 2017; Pinto & Ramalheira, 2017). Leadership programs developed with this goal in mind may provide students the opportunity to engage in developing leadership skills to utilize within their career. Community College leaders who work with students need to underscore the importance of leadership skills and developing those skills in the collegiate environment. This research provides additional information regarding the content, format, and structure of leadership programs that can be implemented to provide these types of learning experiences for students.

Academic leadership within the classroom, in combination with strong leadership at the administrative level would provide students with a global view of leadership. Administrators within student services provide an example for students seeking to develop leadership skills; however, it is equally important for faculty to serve as an example for students as well. As discussed in connection with the Guided Pathways initiatives, it is important for faculty and staff to engage in cross-collaborative programs to positively impact community college students ((Bailey et al., 2015). Strong faculty leaders across the campus in a variety of disciplines provides community college students with additional role models, also those individuals serve as mentors or advisors. Cross-collaboration is important in providing students effective leadership programs.

A strong leader, such as a transformational leader, can enact change within upper-level administration at a community college (Megerian & Sosik, 1997; Northouse, 2015; Shields, 2010; Wren, 1995). Transformational leadership includes stakeholders in decision-making, working toward a shared mission, and offering a voice to all involved parties (Northouse, 2015; Shields, 2010; Wren, 1995). A transformational leader, within the context of leadership programming and CDMSE, would focus upon including and engaging staff and faculty across the college, working towards a shared vision of career decision-making, self-efficacy and leadership development for students, and finally providing a voice for all throughout the process including career services, student life, and any other student affairs or academic affairs areas that may have a stake in this type of programming for student success. A transformational leader would also be able to actively contribute to a cycle of assessment within the programming offered to students. A willingness by community college leaders to engage in creative programs, as well as evaluating those programs for effectiveness and learning outcome attainment is beneficial. With a strong leader at the helm of change, leadership and career development programming may become a state-wide effort connected to Guided Pathways initiatives offered to all students at community colleges in New Jersey.

Areas for Future Research

As a result of the present study, I plan to further research the concept of "learning experiences" within the SCCT framework to assist students in raising their CDMSE levels in relationship to overall career decision-making. Based on the findings from this research, a future study will seek to discover if participation in a variety of learning experiences of which students are involved at a community college have an impact upon

CDMSE, specifically on-campus employment and service-learning/community service experiences. This research study would be a mixed-methods research study incorporating qualitative research through semi-structured interviews and additional artifacts submitted by students.

Future research should aim to provide a better understanding of the learning experience component of the SCCT framework and further define and realize this area within the theory. Additionally, future research may undertake the task of researching "learning experiences" related to career exploration, career decision-making, overall self-efficacy, leadership development, transferable skill development, and a wide variety of other programs and experiences offered by a variety of departments and divisions on a community college campus to further define this area of SCCT. This research would provide more clarity in regard to this experience and better assist colleges to provide specific programming and experiences related to the findings to assist students with raising their CDMSE. It would also provide an expanded theoretical framework of SCCT on which to base future studies.

From the current research, a future mixed-methods research study could provide a deeper review of the quantitative data collected from first-generation students and inform this data with one-on-one, semi-structured interviews with first generation-students. Students of parents who did not attend college are considered first-generation students (Chen, 2005). The demographic survey in the current study collected data regarding mother's and father's education levels, and this information could be utilized to further investigate leadership development interventions and career decision-making self-efficacy of first-generation students. This would also add to the growing literature

regarding first-generation students and how colleges can provide expanded opportunities for students to become connected and acclimated to their college experience. Determining if leadership development programs have an impact on first-generation college students through a mixed-methods research study with this aim could provide a basis for developing programs for this population of students.

Future research should focus on an experimental research design utilizing a free, no-cost leadership development intervention. One of the limitations to the current study was that the leadership program implemented as part of a national program, and therefore cost students a nominal fee to become a pre-inducted member. This may have prevented students from a lower socioeconomic status to engage in the program. This may also have an impact on the participation level and retention in the program as well (ex. student feels they should get the most out of something for which they have paid and are very involved in the program because of the cost rather than because of intrinsic motivation). Future research should implement a free leadership initiative, open to all interested students, to eliminate any effects that may be found related to cost.

Another suggestion for future research would include replication of this study utilizing a different leadership-specific intervention. This could include enrolling students into a leadership program structure that differs from the current study. Future studies can research a variety of other relationships which leadership development has with career development, career decision-making, self-efficacy, and other career-focused variables. Utilizing a variety of other instruments to determine career-specific variables could provide more clarity on the impact that leadership interventions may have upon career-specific variables such as career motivation, commitment, and maturity. It may also be

important for future research studies to include a review of leadership interventions that provide a means for students to demonstrate their leadership skills. The chosen leadership intervention for this study did not have a demonstrative component, where students could implement the skills they learned. This additional component of a program could add to the level of self-efficacy and should be further researched. Additional research studies could a longitudinal study to research if higher levels of career self-efficacy lead to career decisions impacting career outcomes.

Another area of future research should include a larger sample size of students engaged in leadership development activities to provide a more in-depth review of the differences, if any, between the contents of a variety of leadership programs. Additionally, utilizing a different sample of students may provide more in-depth information about the impact of a leadership program, such as students engaged in continuing and professional studies, or students in workforce development programs at the institution. This type of research study may provide greater clarity on the ideal leadership development program for the highest career decision-making self-efficacy yield of community college students of a variety of backgrounds. It may also point to a model of cross-collaboration of leadership development programs among several departments across the college to provide a more integrated approach.

Conclusion

The main findings of this research study provide an in-depth view of the impact that a specific leadership development program has upon community college students from a variety of backgrounds. Although the significance found in this study was minimal as it related to leadership development and lower levels of CDMSE, this study

provided information for community college leaders to better understand the role that CDMSE and leadership development should have on their campuses. The leadership intervention utilized for the current research study may not have raised the CDMSE of community college students, but it did provide students with an opportunity that they may not have previously had regarding leadership development skills and career exploration, both of which are important as cited in the literature and employers hiring college graduates. Although not the primary focus of the current study, leadership skills are repeatedly cited as a desired skill for employment. Through a variety of on-campus and off-campus activities and experiences, students may be able to gain those skills through leadership and career development programming, as well as increase their career decision-making self-efficacy and overall self-efficacy as well.

This research shows that the managing department of leadership development programming is not significantly related to how effective the program is in increasing career decision-making self-efficacy; however, a collaborative program among multiple departments including Career Services, Student Life & Activities, and other Students Affairs departments across campus could be the most beneficial for community college students. Additionally, a lack of career decision-making self-efficacy could be perceived as a barrier to student success. With the addition of leadership development programming, career exploration, and more intentional career advisement, students will be better equipped to make confident career decisions. In the future, community college career services and student life and activities departments may want to combine efforts in creating a program for students which incorporates activities and experiences which focus on leadership development, career exploration, and decision-making exercises.

This research study provides an opportunity for community colleges to consider implementing programs, activities, and experiences into the curriculum and outside of the curriculum for students to explore careers, develop leadership skills, gain confidence in their decision-making abilities, and connect and network with a diverse group of peers. This study provides the basis for the creation of a stronger leadership development intervention than the one utilized in the current study. The framework for a new leadership intervention should include the four sources of self-efficacy, as well as a variety of other activities that focus on career development, career exploration, mentoring, speakers, and a variety of activities for students to develop these skills. It would be beneficial for community colleges to seek strategies of increasing student's CDMSE as well as their overall self-efficacy to help them gain the confidence to make informed career decisions for their future success. Community colleges may want to consider creating a task force or cross-functional team of individuals at the college who have a vested interest in student success to assist with the creation of a leadership or career development program which could assist students in raising their CDMSE as well as provide them with resources and tools for career success. Components of the four sources of self-efficacy may blend well with the community college initiative of Guided Pathways, and I would suggest that consideration for incorporating a variety of required activities and experiences should be discussed among community college leaders.

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Appendix A

Informed Consent/Recruitment Email

Dear Student,

You are being invited to participate in a research survey entitled *Impact of Leadership Development on Career Decision-Making Self-Efficacy of Community College Students* because you are a currently enrolled community college student. **In order to participate in this survey, you must be 18 years or older.**

The survey may take approximately **5-8 minutes** to complete. Your participation is voluntary. If you do not wish to participate in this survey, please do not respond. The purpose of this research study is to determine the level of self-efficacy, or confidence, that community college students have in making career decisions at the beginning and end of one semester. I am hoping to gather responses from approximately 350 students.

Completing this survey indicates that you are voluntarily giving consent to participate in the survey.

There are no risks or discomforts associated with this survey. There may be no direct benefit to you; however, by participating in this study, you may help us understand how confident community college students are in their ability to make career decisions.

Your response will be kept anonymous and confidential. The data will be saved in a secure computer file and will be destroyed once the data has been published. Any part of the research that is published as part of this study will not include your individual or identifying information. If you have any questions about the survey, you can contact Dr. Sarah Ferguson, Principal Investigator at 856-256-4500 or fergusons@rowan.edu and/or Sarah McElroy, Co-Investigator at 732-224-2385 or smcelroy@brookdalecc.edu. By completing this survey, you are agreeing to participate in this study.

Thank you!

Appendix B

Demographic Questionnaire

Demographic Questionnaire

FAVORITE COLOR: _____ FAVORITE NUMBER: _____
FAVORITE FOOD: _____ PET'S NAME: _____
GENDER: _____ GRADE POINT AVERAGE: _____
ACADEMIC MAJOR: _____ AGE: _____
 # OF SEMESTERS COMPLETED: _____EXPECTED GRADUATION DATE: _____
RACIAL/ETHNIC BACKGROUND:
□ African American □ Alaskan □ Native/Native American
□ Asian/Pacific Islander □ Caucasian □ Latino/Latina
□ Middle-Eastern □ Other (please specify)
MOTHER'S HIGHEST LEVEL OF EDUCATION COMPLETED:
□ High School Diploma □ Some College □ Associate's Degree □ Not Sure
□ Bachelor's Degree □ Master's Degree □ Doctoral Degree □ Choose not to answer
FATHER'S HIGHEST LEVEL OF EDUCATION COMPLETED:
□ High School Diploma □ Some College □ Associate's Degree □ Not Sure
□ Bachelor's Degree □ Master's Degree □ Doctoral Degree □ Choose not to answer
CURRENT EMPLOYMENT STATUS:
□ Not employed □ Part-time □ Full-time □ Choose not to answer
ARE YOU A MEMBER OF THE NSLS (NATIONAL SOCIETY OF LEADERSHIP & SUCCESS)?
□ YES □ NO □ NOT SURE
IF YES, WHY DID YOU DECIDE TO PARTICIPATE?
□ Felt honored by the invitation □ My parents wanted me to □ Look good on my resume
□ Scholarship Opportunities □ Look good on transfer applications □ Want to meet new students
□ Other: _____
IF YES, WHAT STEPS HAVE YOU COMPLETED TOWARDS INDUCTION AT THIS TIME (check all that apply):
□ Orientation □ Leadership Training Day □ Speaker Broadcasts □ Success Networking Team Meetings
□ I have not completed any steps yet □ I am an inducted member
IF NO, WHY DID YOU DECIDE NOT TO PARTICIPATE? (Circle one)
□ Not interested □ Membership costs □ Lack of time
□ Need more information □ Other: _____
Are you currently involved in any leadership positions/organizations on-campus or off-campus within your community (examples include leadership positions in other clubs/organizations on-campus or off-campus, within a non-profit or religious organization, membership in a national organization, etc.)?
□ YES (please explain): _____ □ NO

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