

Spring 2015

# Increasing career exploratory behavior through message framing

Lauren Elizabeth Tressler  
*Louisiana Tech University*

Follow this and additional works at: <https://digitalcommons.latech.edu/dissertations>



Part of the [Counseling Psychology Commons](#), and the [Higher Education Commons](#)

---

## Recommended Citation

Tressler, Lauren Elizabeth, "" (2015). *Dissertation*. 227.  
<https://digitalcommons.latech.edu/dissertations/227>

This Dissertation is brought to you for free and open access by the Graduate School at Louisiana Tech Digital Commons. It has been accepted for inclusion in Doctoral Dissertations by an authorized administrator of Louisiana Tech Digital Commons. For more information, please contact [digitalcommons@latech.edu](mailto:digitalcommons@latech.edu).

**INCREASING CAREER EXPLORATORY BEHAVIOR  
THROUGH MESSAGE FRAMING**

by

Lauren Elizabeth Tressler, B.A., M.S., M.A.

A Dissertation Presented in Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Philosophy

COLLEGE OF EDUCATION  
LOUISIANA TECH UNIVERSITY

May 2015

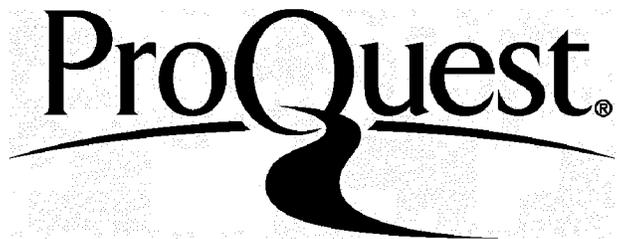
ProQuest Number: 3664375

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



ProQuest 3664375

Published by ProQuest LLC(2015). Copyright of the Dissertation is held by the Author.

All rights reserved.

This work is protected against unauthorized copying under Title 17, United States Code.  
Microform Edition © ProQuest LLC.

ProQuest LLC  
789 East Eisenhower Parkway  
P.O. Box 1346  
Ann Arbor, MI 48106-1346

LOUISIANA TECH UNIVERSITY

THE GRADUATE SCHOOL

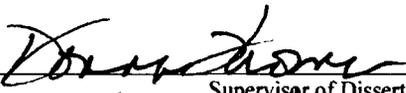
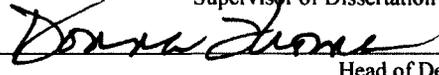
March 26, 2015

Date

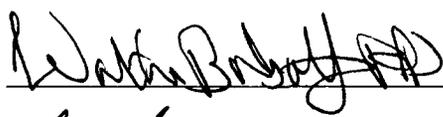
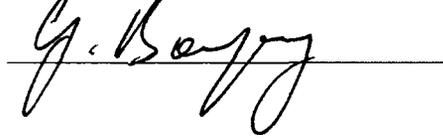
We hereby recommend that the dissertation prepared under our supervision  
by Lauren Elizabeth Tressler

entitled Increasing Career Exploratory Behavior Through Message Framing

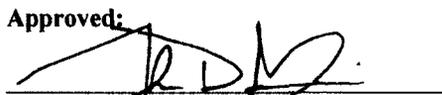
be accepted in partial fulfillment of the requirements for the Degree of  
Doctor of Philosophy

  
Supervisor of Dissertation Research  
  
Head of Department  
Psychology and Behavioral Sciences  
Department

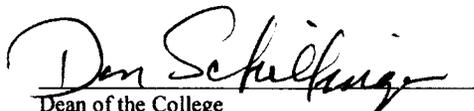
Recommendation concurred in:

Advisory Committee

Approved:   
Director of Graduate Studies

Approved:   
Dean of the Graduate School

  
Dean of the College

## ABSTRACT

Career indecision is a growing problem for present day college students. As more and more students attend college right out of high school, rates of indecision are also rising. The consequences of this include increased time to graduation, increased student loans, and decreased likelihood of career satisfaction and fit. While most institutions of higher learning offer services to help students choose a major and career path, these services remain underutilized. Research in this area has focused on investigating the effectiveness of these interventions, with little attention given to methods of increasing utilization of these services as well as career exploratory behaviors.

A method of increasing behavioral compliance which has been extensively researched is message framing, positing that the way a message is worded can affect an individual's receptiveness to that message and likelihood of engaging in the target behavior of the message. This idea has been successfully applied within a wide range of domains, particularly health psychology; however, the application of message framing to increase career exploratory behaviors has not been sufficiently explored.

This study sought to explore the effect of a message frame on career exploratory behaviors in a sample of college students in order to provide a better understanding of how message framing can be applied within the career domain, which may assist colleges in better marketing their career services in order to decrease career indecisiveness. A sample of undergraduate students was used and participants were randomly assigned to one of two groups, one received the gain frame message and one received the loss frame

message. All participants completed two surveys measuring the variables that were hypothesized to moderate message frame receptivity, locus of control and career decision self-efficacy. Participants answered three questions about how persuasive they found the message and their self-reported intent to engage in career exploratory behaviors after reading the message. It was hypothesized that there would be significant between group differences and that locus of control and career decision self-efficacy would moderate message receptivity and behavioral response to the message. No significant between group differences were found and no significant effects of moderating variables were found; however, recommendations for further research are discussed.

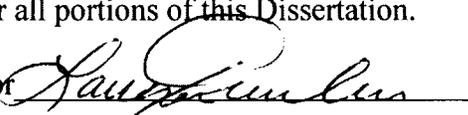
### APPROVAL FOR SCHOLARLY DISSEMINATION

The author grants to the Prescott Memorial Library of Louisiana Tech University the right to reproduce, by appropriate methods, upon request, any or all portions of this Dissertation. It was understood that "proper request" consists of the agreement, on the part of the requesting party, that said reproduction was for his personal use and that subsequent reproduction will not occur without written approval of the author of this Dissertation. Further, any portions of the Dissertation used in books, papers, and other works must be appropriately referenced to this Dissertation.

Finally, the author of this Dissertation reserves the right to publish freely, in the literature, at any time, any or all portions of this Dissertation.

Author

Date

  
3/26/15

## TABLE OF CONTENTS

ABSTRACT.....	iii
LIST OF TABLES.....	x
ACKNOWLEDGEMENTS.....	xi
CHAPTER ONE INTRODUCTION.....	1
Statement of the Problem.....	4
Justification.....	6
Literature Review .....	7
History of Career Theory.....	7
Career Maturity.....	12
Career Indecision.....	15
Career Decision Self-Efficacy.....	22
Career Exploratory Behaviors.....	28
Message Framing.....	30
Locus of Control.....	43
Effective Career Interventions.....	48
Summary.....	50
The Present Study.....	53
Hypothesis One.....	54
Justification for Hypothesis One.....	54

Hypothesis Two .....	55
Justification for Hypothesis Two .....	55
Hypothesis Three .....	56
Justification for Hypothesis Three .....	56
CHAPTER TWO METHOD .....	58
Participants and Design .....	58
Measures .....	58
Career Decision Self-Efficacy Scale.....	58
Rotter Locus of Control Scale .....	59
Career Exploratory Behavior .....	60
Procedure .....	61
Website .....	62
Data Analysis .....	63
CHAPTER THREE RESULTS .....	66
Participants.....	66
Descriptive Statistics and Preliminary Exploratory Analysis.....	67
Career Decision Self-Efficacy .....	67
Locus of Control .....	68
Hypothesis 1. The Effect of Message Frames on Career Exploratory Behavior and Response to the Message .....	69
Hypothesis 1A and 1B. The Effect of Message Frames on Response to the Message .....	69
Hypothesis 1C. The Effect of Message Frames on Career Exploratory Behavior.....	70
Hypothesis 2. The Moderating Effect of Career Decision Self-Efficacy .....	71

Hypothesis 2A. CDSE as a Moderator of the Relationship Between Framing Condition and Self-Reported Intention to Engage in Career Exploratory Behaviors .....	72
Hypothesis 2B. CDSE as a Moderator of the Relationship Between Framing Condition and Persuasiveness of the Message .....	74
Hypothesis 2C. CDSE as a Moderator of the Relationship Between Message Frame and Career Exploratory Behavior .....	75
Hypothesis 3. The Moderating Effect of Locus of Control .....	77
Hypothesis 3A. LOC as a Moderator of the Relationship Between Framing Condition and Self-Reported Intent to Engage in Career Exploratory Behaviors .....	78
Hypothesis 3B. LOC as a Moderator of the Relationship Between Framing Condition and Persuasiveness.....	80
Hypothesis 3C. LOC as a Moderator of the Relationship Between Message Frame and Career Exploratory Behavior .....	81
CHAPTER FOUR DISCUSSION .....	83
Findings and Implications.....	83
Message Framing.....	83
Moderators .....	85
Limitations .....	87
Future Research .....	90
Conclusion .....	92
REFERENCES .....	94
APPENDIX A DEMOGRAPHICS .....	114
APPENDIX B CONDITIONS.....	116
APPENDIX C CAREER INFORMATION .....	119

APPENDIX D LOCUS OF CONTROL SCALE (ROTTER).....121

APPENDIX E HUMAN USE APPROVAL LETTER.....125

## LIST OF TABLES

Table 1	<i>Total Score for the Career Decision Self-Efficacy Scale (CDSES) .....</i>	<i>68</i>
Table 2	<i>Scores for the Rotter Locus of Control Scale (RLOCS).....</i>	<i>69</i>
Table 3	<i>Means, Standard Deviations, and Correlations of All Variables .....</i>	<i>72</i>
Table 4	<i>Hierarchical Multiple Regression: CDSE as a Moderator of Intent.....</i>	<i>73</i>
Table 5	<i>Hierarchical Multiple Regression: CDSE as a Moderator of Persuasiveness .....</i>	<i>75</i>
Table 6	<i>Logistic Regression Predicting Career Exploratory Behavior with CDSE as Moderator.....</i>	<i>77</i>
Table 7	<i>Means, Standard Deviations, and Correlations of All Variables .....</i>	<i>78</i>
Table 8	<i>Hierarchical Multiple Regression: LOC as a Moderator of Intent .....</i>	<i>79</i>
Table 9	<i>Hierarchical Multiple Regression: LOC as a Moderator of Persuasiveness .....</i>	<i>80</i>
Table 10	<i>Logistic Regression Predicting Career Exploratory Behavior with LOC as Moderator.....</i>	<i>82</i>

## ACKNOWLEDGEMENTS

Thank you to everyone who helped me throughout this process including my committee, family, and friends. A major thank you is owed to Dr. Donna Thomas for your work as my committee chair over the past two years. You were an invaluable guide through the process. Thank you also to my committee members, Dr. Walt Buboltz and Dr. Güler Boyraz. I could not have completed this process without your expertise in message framing and statistics, respectively. There are many people outside of my committee without whom this wouldn't have been possible. Thank you to my parents, Dan and Terrie Tressler, for your love and support in everything I do. Thank you to Chase McGrory for sticking with me throughout the entire grad school process. Thank you to Jordan Lindsey for your help with data collection and moral support, to Bharati Belwalkar for your statistics help, and to Scott Lindsay for your technical support.

## **CHAPTER ONE**

### **INTRODUCTION**

Career indecision is one of the most pressing academic issues that students are facing around the country (DuPre & Williams, 2011). As more young adults choose to attend college careers directly after receiving their high school diplomas (Grier-Reed & Skaar, 2010), fewer of these young adults arrive at college knowing what career, or even which major, they would like to pursue (Hammond, 2001). Indecision and ambivalence have been increasing within the college population over the past few decades (Guay, Senécal, Gauthier, & Fernet, 2003; Reese & Miller, 2006). Such attitudes toward career exploration have self-defeating behaviors or attitudes associated with feelings of helplessness, lack of autonomy, confusion, procrastination and the resistance of self-examination (Hornak & Gillingham, 1980). Today, less than half of all students choose a major before beginning college; additionally, half of all students change their major at least once during their college career (Reese & Miller, 2006). This not only delays the payoff that most students expect to see after graduation but also may increase the student loans the majority of students use to help pay for college which also is compounded by the poor state of the economy and decreased number of available jobs. The financial burden is just one of the many “costs” of career indecision; others include increased anxiety and depression, increased illness, both organic and psychosomatic, disapproval of significant others, feelings of inadequacy and discouragement, decreased self-confidence,

and poor grades due to a poor fit with the chosen college major or a lack of purpose (Hornak & Gillingham, 1980). Career indecision is also associated with a negative view of the career decision process as well as self-defeating dysfunctional career thinking (Saunders, Peterson, Sampson, & Reardon, 2000).

The growing body of research on early career exploration and decision shows that college students are becoming increasingly indecisive and this maladaptive behavior pattern has deleterious effects on the individual, such as increased anxiety and stress, as well as depression and decreased self-efficacy (Hornak & Gillingham, 1980; Saunders et al., 2000). Although most universities have tried to tackle this problem by offering workshops, courses, materials, and individual career guidance, these offerings remain underutilized (Reese & Miller, 2006). Individuals with high career decision self-efficacy are more apt to display a higher number of career exploratory behaviors as well utilize available resources in order to make informed career decisions (Betz & Luzzo, 1996). Many students find the process of career exploration to be rather overwhelming, which in turn can induce feelings of confusion and stress related to not knowing where to begin (Betz & Voyten, 1997). While professional career counseling is readily available to most university students at no cost, many do not choose to pursue these services (Hammond, 2001). Counseling centers advertise their services in a variety of ways, including fliers and e-mails that may only be given a few seconds of attention by the targeted students. One method of improving the impact that these passing messages have on the behavior of students may lie in the way that messages are presented to them, depending on how the messages are framed in terms of potential benefits or risks.

Kahneman and Tversky's (1979) prospect theory attempts to explain how people behave when presented with uncertain outcomes and proposes a descriptive model of how decision making is influenced by risk. It is based on the assumption that risky prospects have several persuasive effects on decision making. According to prospect theory, individuals tend to make decisions based on perceived gains more so than perceived losses. Message framing is a newer incarnation of prospect theory and assumes that individuals are sensitive to whether a behavioral alternative is framed in terms of potential risks or potential gains (Rothman & Salovey, 1997). This is a promising area of study as the existing literature suggests that the manner in which messages are framed can influence individuals to perform certain behaviors; however, there is significant disagreement as to the exact nature of the effect as well as little research on how personality characteristics may moderate the effect of message frame on career exploratory behaviors. Additionally, much of the research on the effect of message frame has been in the field of health psychology, particularly in the area of disease prevention and detection behaviors (Detweiler, Bedell, Salovey, Pronin, & Rothman, 1999; Gerend & Cullen, 2008; Gerend et al., 2008; Marteau, 1989; Meyerowitz & Chaiken, 1987; Rothman & Salovey, 1997; Williams-Piehota, Schneider, Pizarro, Mowad, & Salovey, 2004); however, there are many other potential fields that may benefit from an understanding of the effect of message framing. This study will investigate the effects of message framing on career exploratory behaviors in a college population, as well as the moderating effects of locus of control and career decision self-efficacy, attempting to increase career exploratory behaviors through the manipulation of messages presented to the students.

### **Statement of the Problem**

Though there are students who embark on their college careers with concrete goals in place as well as knowledge of the steps they must take to prepare themselves for their chosen career, most college students have not fully processed their career options prior to beginning their post-secondary education. Though approximately 85% of all college students have some sort of career in mind when they enter college, they do not understand what steps they need to take in order to reach their goals, such as choosing an applicable major, exploring the occupational outlook of their chosen path, and determining what experiences they should pursue prior to graduation (DuPre & Williams, 2011). Moreover, an estimated 40% of all college students report that they would drop out of college if they believed that their degree was not going to help them secure employment after graduation, despite taking no steps to gather this information (DuPre & Williams, 2011). Those who do come to college with a career path in mind often have a change of heart during their coursework, with upwards of 50% of all college students changing their major at least once (Grier-Reed & Skaar, 2010). This likely leads to postponed graduation and increased student loans which can become a financial burden. There are a multitude of reasons that college students experience difficulty in choosing a major and career path including anxiety about making a poor choice, lack of sufficient information, or naiveté regarding the importance of making a well informed choice (Hawkins, Bradley, & White, 1977).

Lack of career direction and goals during the college years can lead to decreased feelings of purpose and satisfaction, academic impairment, discouragement, and inadequate preparation for the workforce (Hornak & Gillingham, 1980). Many students

remain undecided well into their college careers or switch majors multiple times, both causing potential delays in graduation which has a number of financial and emotional consequences. While most academic institutions provide some form of assistance or information to facilitate early informed career decision making, the difficulty remains in marketing these services in such a way that students are receptive. Though little research exists regarding how to increase the utilization of services available to students is one possible method of decreasing career indecision; currently, relatively few studies (Fouad, Guillen, Harris-Hodge, Henry, Novakovic, Terry et al., 2006; Krieshok, 2001; Tansley, Jome, Haase, & Martens, 2007) have investigated which methods would increase the utilization of these services have been published.

Message framing has been used to encourage the utilization of a wide range of preventative health services; however, the effect of message frames on career exploration behaviors has not been sufficiently explored. Message framing has been demonstrated as an effective method of increasing adaptive behaviors in a variety of domains, particularly preventative medicine, and it is likely that the way messages are framed can influence the receptivity of students to messages regarding the importance of early informed career decision. The wealth of literature regarding the effect of message frames on behavioral outcomes in other domains has shown that tailoring the message to the audience and task at hand can increase healthy and goal-directed behaviors. Determining how to better tailor messages to students to encourage them to make informed career decisions and utilize the services offered to them through their university would help counseling and psychology professionals as well professionals in student affairs and career services departments to more effectively reach out to students who are lost on their career path,

hopefully helping students to avoid the potential consequences of not engaging in informed career decision including exploratory behaviors.

### **Justification**

A major weakness in the body of research on the effectiveness of message framing in increasing target behaviors is the sharp focus on health psychology and relative lack of application in the career domain. While research into the effectiveness of message framing has been applied to a range of domains such as gambling prevention (Levin, Chapman, & Johnson, 1988), advertising (Chang & Lee, 2008; Das, Kerkhof, & Kuiper, 2008), therapeutic applications including the domain of career decisiveness have largely been ignored (Rothman & Salovey, 1997).

There are several reasons why message framing may be an effective method of increasing career exploratory behavior. Much of the research on message framing focuses on increasing preventative health behaviors such as undergoing mammographies to prevent breast cancer (Meyerowitz & Chaiken, 1987; Williams-Piehota et al., 2004), smoking cessation (Wilson, Wallston, & King, 1990), encouraging preventative health testing (Lauver & Rubin, 1990) and applying sunscreen to prevent skin cancer (Detweiler et al., 1999). Career exploratory behaviors are a type of preventative behavior aimed at increasing knowledge about the world of work, academic major and career fit, and occupational outlook which decrease career indecision and increase the likelihood of career satisfaction and fit (Osipow, 1999). Additionally, the services that most colleges and universities offer to students are underutilized. Message framing has been successfully applied to the field of advertising, encouraging individuals to choose specific products by framing the message in a specific manner (Levin & Gaeth, 1988). It is likely

that framing the advertisements for career services in a specific way could increase utilization of these services as well as other preventative mental health services, which have been shown to decrease career indecisiveness, reduce time to graduation, and decrease long-term financial burden (Osipow, 1999).

## **Literature Review**

### **History of Career Theory**

Though the historical foundations of vocational guidance can be traced back to the industrial revolution, the origins of modern career theory stem from the late 19<sup>th</sup> century during the homecoming of soldiers from World War I. As society shifts, occupational needs shift, as do the needs of individuals trying to find a fit for themselves in an ever-changing job market. During the early 1900's counseling pioneer Frank Parsons worked without an existing theoretical basis to assist individuals in finding appropriate employment (Singaravelu & Pope, 2007). He employed observational data and psychological self-assessments to assist young people in navigating the increasingly urban job market as labor market shifted away from agriculture (Spokane & Cruza-Guet, 2005). The job market in the United States changed again during the economic depression of the 1930s and the focus of the vocational counseling movement moved to the schools as more individuals found themselves struggling financially and a need was seen for early career guidance (Singaravelu & Pope, 2007). During World War II, vocational counseling was utilized to fill the occupational positions of soldiers who had gone off to war, particularly with women who were for the first time working or looking for work in traditionally male occupations. Post-WWII, vocational counseling was utilized by many veterans coming home from the war who were occupationally displaced

or wounded and in need of finding an alternative career path. During the 1940s and 50s, vocational counseling was introduced to colleges and universities as well. The 1950s and 60s saw the rise of trait and factor approaches to vocational guidance developed with the goal of matching individuals to careers based on personality factors and preferences. John Holland is one of the most recognizable names in career theory and derived his theory from this approach to vocational guidance centered on matching individuals to occupations based on the characteristics of the individual and occupational characteristics (Spokane & Cruza-Guet, 2005).

In the 1950s, John Holland developed his Theory of Vocational Choice which expanded upon trait and factor approaches and is based upon the assumption that an individual's personality is the main determinant of career choice and satisfaction (Spokane & Cruza-Guet, 2005). Holland's theory defines personality types in terms of self-reported competencies, interests, and work-styles, clustered into six categories: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. According to his theory, individuals can be defined by their highest three scores which can be analyzed to determine if there is a consistency in their interests and also to determine if there is a strong preference for one of the types (Sharf, 2006). Holland believed that congruence between an individual's vocational identity and the characteristics and demands of a chosen work environment increased both job satisfaction and success. Additionally individuals who pursue a career which is congruent with their personality types will have greater academic success in areas related to their chosen occupations (Spokane & Cruza-Guet, 2005). Their combination of type preferences is described as their career identity which can be measured by an assessment such as the Self Directed Search, and then

compared to various occupations which are characterized in terms of the same six categories (Sharf, 2006). Counselors using Holland's theory as a basis for career counseling take a collaborative approach with clients, helping them to understand the significance of their personality type in finding a job in which they are more likely to be satisfied. Holland's theory is considered to be the most influential of the modern career theories and is generally viewed as an easy to follow and intuitive approach to career counseling for both adolescents and adults (Spokane & Cruza-Guet, 2005). Donald Super, one of the most prolific researchers of career theory in the last sixty years, proposed a theory that expands upon trait theory and includes a number of additional contributing factors and views the process of occupational choice within the context of development throughout the lifespan (Brown, 2003).

Super's approach to career counseling integrates aspects of developmental psychology, values theory, personality theory, and sociology into the existing framework of occupational personality typology. He assumed that not only do people differ in their personalities and this should be a consideration in occupational choice, but that individuals move through a series of stages associated with vocational tasks to complete in order to progress to the next stage. Progression through the stages is a product of not only chronological age but an individual's environment which is comprised of an individual's personality as well as their life circumstances (Smart & Peterson, 1997). These tasks span the lifespan from the fantasy stage of early childhood associated with imaginary play involving taking on various roles to the retirement stages where older adults deal with the planning of retirement and transition out of the workforce. Many individual factors can influence the progression through the stages including the various

life roles that each person assumes in different areas of their lives such as child, student, worker, leisurite, parent, and citizen (Brown, 2003). Additionally, values are also considered an important determinant of occupational development. Individuals at various times in their lives may place higher value on different life roles. For example, high school students who also work part time may value their roles of student and leisurite over their role as workers, whereas a married father-of-three whose eldest child is about to enroll in college may value his role as a worker much higher (Sharf, 2006).

College students are often in the final phases of the exploration stage of career development. Exploration generally occurs during adolescence and involves a narrowing of career options, possibly gaining experience in working, and finally making and implementing decisions about career path (Rojewski, 2005). The normative ages for this stage are 14 and 25; however, individuals may never leave this stage if they dabble in various occupations or place more value on an alternative role as is the case with mothers who choose to stay at home and raise their children (Smart & Peterson, 1997). The goal for most students who pursue higher education is to complete their education and begin the establishment stage where they begin and then advance in a career; however, many are unable to commit to a career path and end up taking several extra years to complete a major. According to Super's theory, an important determinant of an individual's ability to successfully meet the demands of each of the developmental stages in order to progress is a hypothetical construct known as career maturity (Rojewski, 2005). Alternative views of career development have been proposed based on social learning theory and social cognitive theory.

John Krumboltz conceptualized career development in terms of social learning, emphasizing the interaction between the person and the environment in shaping the process of career choice and adjustment over time (Swanson & Fouad, 1999). This theory is based in social learning theory which posits that individuals learn from observation and interacting with the world around them. Applied to career theory, this suggests that people will gravitate toward occupations they have observed others succeeding in, have heard positive things about, or have had related positive experiences first hand. Conversely, people will avoid occupations in which they have observed someone failing, of which they have heard or observed negative aspects, or have had negative related experiences. The goal of career counseling based on this theory is to help individuals to broaden their scope within the career exploration process and help them to explore areas that they may have previously overlooked because of negative social learning. The development of skills and interests is also targeted in this approach as people may have not had the chance to develop skills and interests related to occupations which may be a good fit, but of which they have developed a negative view (Swanson & Fouad, 1999).

The social cognitive view of career development is related to Krumboltz's theory in that it focuses on how past experiences influence the career development process; it differs in that it focuses on the cognitive aspects of the career decision process. This approach applies Bandura's social cognitive theory to vocational development. Bandura's theory suggests that individuals' beliefs in their ability to successfully perform a task is an important component of how they act and what actions they take in a specific domain, a construct known as self-efficacy (Bandura, 1977). Applied to career theory,

social cognitive theorists believe that self-efficacy is an important determinant of how individuals choose careers and what actions they will take toward a chosen career. The goals of career counseling utilizing the social cognitive approach include helping individuals understand their uncertainties, stabilizing interests, and increasing self-efficacy within the domain of career choice and implementation (Swanson & Fouad, 1999). The social cognitive career view of career development is a more contemporary career theory and has been the subject of much research in the past three decades (Hackett & Betz, 1980).

No matter which theory of career development is applied, the goals are the same: increase knowledge of the self and the world of work and work toward making and implementing an appropriate career choice. Decreasing indecisiveness is at the core of these theories, regardless of the approach. Some conceptualize this process as facilitating the development of career maturity, a concept strongly associated with Super's theory of career development over the lifespan; however, counterparts can be found in most career theories (Sharf, 2006).

### **Career Maturity**

Career development is one of the most important aspects of most young adults' lives as choice of career is a decision which can have a lasting impact on lifestyle, financial stability, and life satisfaction. College students are at a critical time in their career development and this can be a particularly difficult time to establish stability because so many changes are often occurring such as the drastic increase in freedom and responsibility which result from living away from home for the first time.

Career maturity, also known as vocational maturity, is a construct that was developed by Donald Super in the 1950s and is believed to be a main contributor to career decision self-efficacy (Sharf, 2006). It is defined as the extent to which an individual is able to independently make decisions related to vocational choice (Creed, Prideaux, & Patton, 2005). According to Super, career development unfolds as a process that occurs across the lifespan, and at each stage there are relevant tasks to be completed in order to become developmentally ready to successfully move on to the next stage. Super's theory is context specific and details various life roles that also guide development each individual must balance the roles in order to show career maturity and increase the likelihood of career satisfaction (Sharf, 2006). When individuals possess a high degree of vocational maturity, they often do not experience a significant amount of career indecision, an issue that plagues a large number of individuals, particularly young adults of college age who are going through a critical period of vocational development and concurrently must make decisions with long-term implications (Osipow, 1999).

Career maturity is a complex construct encompassing psychological, social, emotional, intellectual, and physical characteristics of individuals as they relate to their readiness to successfully deal with the developmental tasks of each stage, which can emerge either as problems or challenges. How individuals handle, learn from, and move on after these situations is often the basis for how career maturity is operationalized, and insufficient career maturity to move on developmentally is associated with procrastination, failure to act, and ineptness (Brown & Lent, 2005). During the exploratory stage of development between the ages of 15 and 24, the point at which most college students are attempting to decide what career path to take and how to move

toward that goal academically. Individuals who are considered vocationally mature at this point in their development are characterized by awareness and use of resources available to assist in making an informed career decision, planfulness, knowledge about the world of work in general, and ability to integrate all this information in order to eventually execute their career decisions before moving on to the establishment phase of career development (Phillips & Strohmer, 1983). Vocational maturity likely has more to do with grade or academic level than it does age, particularly in a college population (Crites, 1965).

Much of the literature regarding vocational maturity focuses on the characteristics of individuals who exhibit difficulty in progressing past the decision process as well as how these individuals approach this process. Individuals who exhibit low career maturity often engage in avoidance behaviors such as procrastination and an unwillingness or perceived inability to make a decision which is known as career indecision (Rojewski, 2005). Phillips and Strohmer (1983) investigated what strategies vocationally mature undergraduate college students employ within the decision process. They found that individuals who employed an orientation toward making plans for the future were less likely to experience indecision. They also found that individuals who have sufficient general decision skills such as the ability to employ the process of identifying the problem, gathering information, weighing consequences, and putting the decision into action, were likely to be more efficient in their decision making, taking less time and effort to make a decision than individuals who had insufficient skills in this area (Phillips & Strohmer, 1983).

Most career interventions that are targeted to the college population, such as career workshops, process groups, and facilitation of information gathering, are effective in helping students increase their career maturity, and treatments that occur over a long period of time are often the most effective (Rodriguez & Blocher, 1988). Increasing career maturity is often a goal of career counseling based on developmental career theories. The goal is to help individuals develop career maturity through helping them to identify interests, skills, and abilities related to occupations and helping them to gain a better understanding of their strengths and weaknesses (Brown & Lent, 2005). Rodriguez and Blocher (1988) compared two approaches to enhancing career maturity at a college counseling center, each consisting of extensive 10 week long programs. The first condition used a tightly structured instructional program aimed at facilitating awareness of the process of career choice, improving decision skills, and practicing of behaviors associated with career decision such as researching majors and career options. The second condition was a less structured discussion group with some instruction at the beginning of each session and experiential exercises. The same topics were covered in each group. Both groups successfully facilitated increased career maturity; however, significant differences were found between the two groups suggesting that while a wide range of interventions can improve career maturity, those that are well-developed and occur over a longer period of time were found to be more effective than the brief interventions (Rodriguez & Blocher, 1988).

### **Career Indecision**

Career indecision is a subjective feeling of a lack of control over one's career path, and an inability to make and implement plans and work toward goals (Savickas,

2005). Perceived difficulties in making career-related decisions may include insufficient information about occupational options, beliefs in dysfunctional myths about career decision making, inconsistent or unreliable information, lack of motivation, or temperamental indecisiveness (Osipow, 1999). Career indecision is closely and inversely related to Super's construct of career maturity and it is viewed as a developmental problem in which an individual lacks required information and experience required to progress into a decision-implementation stage (Creed, 1998). Super's theory describes career indecision in the context of vocational maturity. Holland's theory assumes that lack of ability to make career-related decisions is likely an issue related to an unstable or insufficient vocational identity or that the individual may perceive barriers preventing him or her from making a decision (Osipow, 1999). The difficulty that college students face in deciding on a career path may be partially related to the stage of psychosocial development they are in.

Erikson identified the period during late adolescence as the late adolescent identity crisis in which they are trying to decide who they are, who they want to be, and how they can get there (Erikson, 1963). Marcia (1966) proposed a model describing four identity statuses through which individuals deal with this difficult period of development. The first status is foreclosure in which individuals decide on an identity without exploring other alternatives, often as the result of the identity that an influential individual, such as a parent, has for them. This rigid belief in one's identity without proper exploration can lead to a negative self-identity, particularly if one does not find themselves falling into their prescribed identity. The second status is identity diffusion in which individuals avoid establishing an identity or making commitments to their future.

Individuals in this status generally do not experience a high degree of anxiety because they do not feel a motivation to move forward. The third status is moratorium in which individuals feel that they are in a crisis situation, and while they attempt to move forward out of the crisis, they often have vague expectations for themselves and experience anxiety over having to establish an identity. The final status is identity achievement in which the individual works hard to overcome the confusion during this time and perseveres, making and implementing plans for their future. These individuals generally are better at coping with difficult demands and maintain more realistic levels of aspiration. These do not necessarily happen in any order; however, identity achievement is the overall goal and likely last stage longitudinally (Marcia, 1966, 2010). This identity crisis generally happens during late adolescence, which often is the time when individuals are heading off to college and are faced with the task to decide their identity, and often this transition between high school and college is a major change for students.

Holland and Holland (1977) investigated some of the characteristics which differentiated high school and college students who were undecided and those who reported that they had made a decision regarding their career path. They assessed personality differences, decision abilities, level of career maturity, vocational attitudes, and clear knowledge of vocationally related interests and preferences. They found that despite there being few significant differences between the decided and undecided students on most characteristics, positive vocational attitudes and a clear knowledge of interests (vocational identity) were found to be significant correlates of career decisiveness.

Anxiety, particularly state anxiety, specific to the domain of career decision may be the primary factor in preventing an individual from transitioning from exploration to decision and implementation of a career choice (Hawkins et al., 1977). Mendoca and Siess (1976) targeted anxiety related to making vocational choices and evaluated several different procedures aimed at increasing career decisiveness in a college population. The combination of anxiety-management and training for decision making was more effective at increasing decisiveness than either treatment alone or a placebo condition. Hawkins et al. (1977) found that anxiety related to making a career choice was the most significant negative predictor of decision making behavior; however, only domain specific state anxiety was found to be a significant predictor. Generalized trait anxiety was not found to significantly predict vocational decidedness; however, trait anxiety was found to be a small but significant predictor of choice of major and certainty about that choice (Hawkins et al., 1977). O'Hare and Tamburi (1986) investigated the relationship between trait anxiety and decision making abilities, as well as the moderating effect of coping style, in a large sample of undergraduate college students. They found anxiety was a significant factor in an individual's ability to make a decision regarding a career path but differentiated between those who used the coping style orientations of efficacy, avoidant, reactive, and support seeking. Individuals who were high in trait anxiety experienced more difficulty in the decision making process and were less likely to make a decision. Coping style was found to be a moderating factor, with individuals who used the coping styles of avoidance and seeking support from others reporting higher state anxiety related to career decision and more difficulty in making a decision than anxious individuals who used the efficacy style of coping. This coping style is based on feelings

of high self-efficacy and involves viewing decision making as a challenge and an opportunity, as well as positive views about the self and one's ability to successfully complete the task at hand (O'Hare & Tamburi, 1986).

Though anxiety is implicated in much of the literature as a contributor to career indecision, particularly in college students, several researchers have proposed that career indecision exists not as one characteristic on a single continuum, but a complex theoretical construct with multiple subtypes; however there has been little agreement as to what differentiates the subtypes (Larson, Heppner, Ham, & Dugan, 1988). Holland and Holland (1977) were the first to conceptualize individuals experiencing career indecision as existing within multiple subtypes. Their original model proposed three main types of individuals: those who do not feel the need to currently make a decision regarding career path, those who are anxious about the process and implications of the choice, and those who are vocationally immature in that they feel incompetent or alienated (Holland & Holland, 1977). Jones and Chenery (1980) proposed a model of career indecision in which multiple subtypes are identified based on varying reasons that individuals are undecided about their career path. Using a large sample of college undergraduates, they found that trait anxiety was not a significant contributor to indecisiveness. They did find that comfort in their decision status, self-uncertainty, salience of interest, and locus of control regarding career decision making were all found to be subtypes among vocationally undecided college students (Jones & Chenery, 1980). A model was proposed by Larson et al. (1988) in which four distinct types of indecisive college students were differentiated using cluster analysis: individuals who avoid the process because they have no plan of action, individuals who have the necessary

information but remain undecided, individuals who are confident but are uninformed, and those who are uninformed and are not confident.

In addition to individual differences regarding personality factors, environmental factors may also play an important role in whether or not an individual will experience career indecision. Guay, F., Senécal, C., Gauthier, L., & Fernet, C. (2003) proposed a model of career indecision that suggests peer and parenting styles may be an important predictor of career indecision through the development of self-efficacy beliefs and autonomy regulation. It was shown that individuals whose parents and peers were autonomy supportive and more controlling had lower self-efficacy beliefs and lowered perceived autonomy toward career decision than individuals whose parents and peers were more supportive of autonomy and less controlling. These findings were consistent across genders in the sample of college undergraduate students (Guay et al., 2003).

Vondracek, Hostetler, Schulenberg, and Shimizu (1990) propose a four dimensional model of career indecision based on the widely used Career Indecision Scale (Osipow, 1980). The four factor-based dimensions are diffusion, support, approach-approach, and external barriers. Diffusion is associated with feelings of confusion about the process, feelings of discouragement related to the process, and a perceived lack of experience or sufficient information to complete the process. Support is associated with lack of certainty about how to proceed and a need for support through the process. Approach-approach is associated with conflictual feelings of wanting to peruse several career options. Finally, external barriers refers to perceived barriers in making a choice such as lack on funds to attend the necessary academic program or a lack of interest in making a choice. Not all indecisive individuals experience difficulty for the same reason

and thus it is important to understand the reason behind an individual's resistant to or perceived inability to decide on a career path (Vondracek et al., 1990).

Career indecision is an issue that has become a major issue in counseling psychology over the past several decades, and is one of the most frequent problems that college students have presented to career counselors over the past fifty years (Osipow, 1999). Fortunately, most colleges and universities offer interventions that assist students in reducing career indecision by helping them to increase their competency for decision making as well as facilitating the development of a more decisive attitude overall. Though a major hindrance to the process of career development, career indecision is a point at which therapeutic interventions often are targeted successfully. Cognitive approaches to therapy that would be used for any other presenting problems regarding difficulty in decision making often is effective, focusing on disruptions in logical thought, exploring perceived barriers, and examining personality characteristics which might be disrupting the individual's decision process (Osipow, 1999). This process of strengthening feelings of career control and vocational curiosity generally consists of assertiveness training, attribution retraining, fostering of personal responsibility for outcomes, and improving time management skills (Brown & Lent, 2005 p. 55).

Much of the literature suggests that career decisiveness is closely related to the construct of career maturity (Hawkins et al., 1977; Healy, O'Shea, & Crook, 1985; Holland & Holland, 1977) and also may be related to the construct of self-efficacy in the domain of career decision behaviors (Guay et al., 2003; Larson et al., 1988; O'Hare & Tamburi, 1986).

## **Career Decision Self-Efficacy**

*Career decision making self-efficacy* (CDSE) can be defined as the self-determined motivation to reach the goal of career decision (DeLorenzo, 1998). Self-efficacy is a construct developed by Bandura (1977) related to expectations of oneself to perform specific behaviors satisfactorily. It can be evidenced at the behavioral, cognitive, and emotional level and develops as a result of a combination of factors both individual and environmental (Bandura, 1986). Bandura (1977, 1986, 1989) theorized and demonstrated in a number of studies that self-expectations of ability can determine if and when a behavior will be initiated by an individual, how long it will be maintained, and how effective the individual will be at continuing the target behavior in the face of adversity, barriers, and setbacks.

Four main sources of personal self-efficacy in specific domains have been proposed: performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal (Bandura, 1977). Performance accomplishments, or enactive attainments, consist of previous mastery experiences within similar behavioral domains, exposure to the behavior, and desensitization to the performance of similar behaviors. These are believed to be the most powerful experiences due to the theory that performing a target behavior successfully is expected to directly increase self-efficacy beliefs related to successfully performing that behavior again (Bandura, 1986). Vicarious experiences are also a powerful source of efficacy information, allowing us to learn through observing others and forming a mental understanding of the link between their actions and the outcome as well as conceptions of how behavioral patterns are performed (Solberg, Good, & Nord, 1994). Verbal persuasion is an attempt to influence the behavior of

another individual through suggestion or instruction and induce efficacy expectation if an individual is led to believe they can cope with something they were unable to in the past. Though often utilized because of ease and quickness of use, the effect of verbal persuasion on efficacy expectations is weaker than that of performance accomplishments due to the lack of an authentic experience off which to base an expectation (Bandura, 1977). Emotional arousal that is elicited during a stressful situation may be a source of efficacy beliefs depending on how the individual was able to cope with the taxing situation. This is generally carried out depending on how that person judged their anxiety during the situation as well as their resiliency to stress. Due to the deleterious effect that high levels of anxiety have on performance, individuals who experience high levels of anxiety during an emotionally arousing situation generally experience lowered feelings of self-efficacy in that domain (Bandura, 1977). The development of stress management skills such as relaxation training to reduce anxiety during career exploration behaviors; however, may act as a buffer against this threat to career self-efficacy expectations (Solberg, et al., 1994).

Self-efficacy is often observed on the behavioral level and career decision self-efficacy is evidenced by behaviors in the areas of obtaining occupational information, setting career goals, career planning, career maturity, and an overall feeling of autonomy in making informed, appropriate, career decisions (Reese & Miller, 2006). At the behavioral level, high self-efficacy is likely to increase the frequency of a target behavior in that specified domain just as low self-efficacy is likely to decrease the frequency of that behavior (Bandura, 1977).

At the cognitive level, self-efficacy is affected in several ways. Acquisition of new behavior patterns as well as behavioral retention has a large cognitive component as we learn through engaging in specific behaviors how we are responsible for the consequences we experience. Learning is a largely cognitive process which has a great impact on future behavior. Particularly when an individual has the opportunity to experience differential outcomes of behavior, both the positive and negative consequences of performing or not performing a behavior in a specific way, learning can be a powerful motivator and contributor to self-efficacy (Bandura, 1977).

Bandura's construct of self-efficacy was first applied to the domain of career exploration by Hackett and Betz (1980), demonstrating that self-efficacy beliefs contribute significantly to career exploratory behavior, decisions, achievements, and ability to adjust to an occupation. This construct, which is essentially the opposite of career-indecision, is the feeling that one has control over academic and occupational planning and development is a specific form of self-efficacy tied to beliefs about one's competency regarding making and implementing a vocational decision (Solberg et al., 1994). Those who are high in career-decision self-efficacy are more likely to make informed career and academic decisions, take advantage of the resources that are available to them, feel purposeful in their academic pursuits, and own the responsibility of the choices that they make (Feldt & Woelfel, 2009).

The behavioral component of career decision self-efficacy is particularly important, as encouraging the behavior of seeking assistance from available sources such as a college counseling center will likely result in attention to the cognitive and affective components that may act as a road block to career decision self-efficacy. For career

decision self-efficacy, associated behaviors would include seeking occupational information, seeking help in making informed decisions, and executing their choices (Reese & Miller, 2006).

There are many factors that have been shown to contribute to career decision self-efficacy including intelligence, temperament, and personality as well as moderating factors such as locus of control (Luzzo & MacGregor, 2001). Paulsen and Betz (2004) found six confidence predictors of career-decision self-efficacy: (a) leadership confidence, (b) mathematics confidence, (c) science confidence, (d) writing confidence, and (e) confidence using technology. Leadership confidence was found to be the most significant predictor, and academic confidence in the areas of science, mathematics, writing, and using technology as well as cultural sensitivity all contributed significantly (Paulsen & Betz, 2004). Career-decision self-efficacy is often operationally defined as career exploration intentions (Ochs & Roessler, 2004). Self-efficacy beliefs in the domain of career decision was found to be the most significant predictor of career indecision in a 1997 study by Betz and Voyten, and outcome expectations were the most significant predictor of career exploration intentions. Strong self-efficacy beliefs positively influence career outcomes as well as exploratory behaviors. Judge and Bono (2001) found that self-efficacy beliefs had the strongest relationship with job satisfaction and performance out several traits including emotional stability, locus of control, and self-esteem. Improving career-decision self-efficacy may be the first step in improving career exploration efforts and interest in the professional career services offered at most universities.

Over the past few decades, there has been an emerging focus on early career development within college counseling centers with common offerings of workshops, career development courses, and individual career counseling. According to Taylor and Betz (1983), young adults who are undecided in their majors or career choices often have low career decision self-efficacy beliefs, and staying undecided in college too long can prolong graduation, increase need for student loans, and may have negative psychological implications such as increased anxiety. Currently, it is estimated that 40% of all universities in the United States offer a course for university credit in career development (Reese & Miller, 2006). Many of these programs offer guidance in choosing a major and the formation of career goals based on values, interests, skills, and occupational outlook.

Courses that help students navigate the world of career options have increased in popularity in recent years, though they remain underutilized (Reese & Miller, 2006). There is much empirical support for the effectiveness in these programs in increasing career-decision self-efficacy. Reese and Miller (2006) showed that a university career development course was effective in increasing self-reported career decision self-efficacy. The 13 hour course consisted of self-exploration exercises, interest and skill assessments, and decision making skills training over a fifteen week period. During post-assessment, the researchers found significant gains in the areas of career decision self-efficacy as evidenced by scores on the Career Decision Self-Efficacy Scale, and observed autonomy in gathering information, setting goals, and making informed future plans (Reese & Miller, 2006).

Domain specific self-efficacy has been found to moderate decision making as well as behavioral outcomes in several domains. Lam, Chen, and Schaubroeck (2002)

found that self-efficacy related to participating in decisions moderated the relationship between perceiving a decision opportunity and individual decision performance. Self-efficacy related to ability to satisfactorily perform job duties acted as a moderator between training and job adjustment of newcomers in a 1995 study by Saks. Saks also found in a 2006 study that technical self-efficacy moderated the relationship between a training method for accountants and reported anxiety.

Though no studies have investigated the role of career decision self-efficacy as a moderator of the effect of message frames on career exploratory behavior, a number of studies show that it is a significant predictor of career exploratory behaviors. According to Luzzo and Ward (1995), students who were high on career decision self-efficacy were more likely to make more effective career decisions based on exploration and seeking related job experiences during college. A 1989 study by Blustein also showed a significant connection, demonstrating that career decision self-efficacy were associated with increased self and environmental exploratory behavior in a sample of college students. Gianakos (1999) also found a link between career decision self-efficacy and career exploratory behaviors, showing that young adults who had higher levels of career decision self-efficacy were more likely to actively seek a goal-directed career path that was consistent with their interests and skills and were also more likely to show a stable pattern of career development or make multiple informed attempts at finding a satisfying career if their first career choice was not a good fit. Though it is unknown what kind of moderating effect career decision self-efficacy could have on the effect of message frames on career exploratory behavior, it is believed to have an effect due to the effects of domain specific self-efficacy in other areas having been demonstrated to moderate

reception to tasks and behavioral outcomes. Because career decision self-efficacy is a domain specific self-efficacy, an individual construct, and demonstrated predictor of career exploratory behaviors, it is believed to influence a student's receptivity to messages related to career exploration.

### **Career Exploratory Behaviors**

Career exploratory behaviors are an important component of career development as these preparatory behaviors play a central-role in informed career decision making and eventual choice (Esters, 2008). These behaviors are defined as purposeful actions which are directed toward the enhancement of occupational knowledge and environmental awareness and are engaged in for the purpose of furthering career development (Taveira & Moreno, 2003). Behaviors which assist an individual in their occupational decision making process such as gathering occupational information, engaging in various occupationally related activities, and seeking guidance and insight from others, are necessary precursors to an informed career decision and are an important catalyst in the development of career maturity (Jepsen & Dickson, 2003).

Career exploratory behaviors have come into focus in the last four decades as a major indicator of career decision self-efficacy and overall career maturity. Taveira & Moreno (2003) identified four different categorizations of career exploration as it exists in the literature. The first conceptualization frames career exploratory behavior as a type of problem-solving behavior. The second frames this behavior as a stage of career development. The third position frames career exploration as a developmental stage that occurs during adolescence. The final conceptualization frames this behavior as an ongoing lifespan process. Most of the contemporary literature on career exploratory

behaviors does not make a distinction between these positions and instead conceptualizes it as a complex psychological process that includes searching for information, hypothesis testing that is goal-oriented and involves both cognitive and affective components (Taveira & Moreno, 2003).

Esters (2008) investigated the influence of career exploratory process behaviors on career certainty in a college population. He found that the extent to which an individual reported engaging in exploratory process behaviors such as gathering information about jobs and oneself to find a good occupational fit as well as experimentation with different career related activities is a predictor of overall career maturity as well as career certainty. Jepsen and Dickson (2003) also investigated the link between career exploration and career certainty in a sample of recent high school graduates. They found that career exploratory behaviors in the 9<sup>th</sup> grade predicted occupational choice clarity in the 12<sup>th</sup> grade. They also found that 25 years later, occupational choice clarity in the high school seniors was a significant predictor of mid-career occupational establishment activities.

The degree to which individuals engage in career exploratory process behaviors is related to career decision self-efficacy. Gushue, Scanlan, Pantzer, & Clarke (2006) found high levels of career decision self-efficacy were associated with a high frequency of career exploration activities as well as higher levels of engagement in the process. Gushue, Clarke, Pantzer, & Kolone (2006) also found that career decision self-efficacy was related to increased career exploratory process behaviors as well as greater engagement in tasks related to career exploration.

Cheung and Arnold (2009) explored antecedents of career exploratory behaviors in a sample of university students, finding that early, more casual career exploration was consistently related to more directed exploration later. They also found that family, social, and teacher support is a moderating factor in career exploratory behaviors, more so than achievement motivation. Kiener (2006) also investigated antecedents to career exploratory behaviors, finding that decision skills and locus of control were predictors of career exploratory behaviors including environmental exploration and self-exploration. An internal locus of control, operationalized as autonomy regulation, was found to be a significant positive predictor of career exploratory behavior. Individuals who believed that they had control over aspects of job choice and outcomes such as satisfaction and success were more likely to engage in targeted career exploratory behaviors.

Career exploratory behaviors are a major indicator of overall career decision self-efficacy and are a major target of programs aimed at increasing self-efficacy in the domain of careers as well as career maturity (Gushue et al., 2006). Though they are widely offered, these services remain underutilized. Due to the underutilization of services, many university counseling centers market their services to the student body through fliers, e-mails, and wellness fairs. A potential method of improving receptivity to these advertisements is through framing the message in a way that raises the likelihood that students will behaviorally respond to what they read, the main goal of message frames.

### **Message Framing**

Message framing involves wording a message in a way that will increase behavioral response in individuals who are presented with that message. The roots of this

theory lie in prospect theory. Developed by Kahneman and Tversky (1979), prospect theory is a behavioral economic theory which has been a major catalyst in the development of several key theories related to decision making and the impact of how the content of the message can influence an individual's behavioral response.

Prospect theory provides an explanation for how people deal with uncertain situations and reach decisions (Tversky & Kahneman, 1991). Early research on prospect theory focused on building a model of behavior based on how potential gains and losses influence the choices individuals make, and the calculated probability of risk is often inconsistent with the calculated probability. In general, individuals likely do not evaluate risks presented in terms of gains the same way that they evaluate risks presented in terms of losses, and are more likely to underestimate the probability of experiencing a loss as compared to a gain (Kahneman & Tversky, 1979).

The Nobel winning work of Kahneman and Tversky (1979) mostly focused on risky choice decisions which shows how people evaluate equivalent alternatives in whether they are framed in terms of losses or gains. They found that individuals who More recent research has elaborated on the model, showing that people are more risk seeking for losses that are of a high probability, while being risk averse for gains of the same probability, and are averse to risks for low probability and risk seeking for gains of the same probability (Tversky & Kahneman, 1992). Contemporary message framing was born out of this early risky choice framing.

Message framing theory (Rothman & Salovey, 1997) assumes that behavioral outcomes can differ after receiving equivalent information that is presented in different ways. The information in the message can be framed in a certain way, often in terms of

gains or losses, in order to increase the message's effectiveness in promoting behavioral change (Gerend & Cullen, 2008). Message framing theory was derived from Tversky and Kahneman's prospect theory proposing that individuals are more sensitive to messages based on whether they are phrased in terms of gains or losses. It is assumed that individuals are more likely to accept risks when the associated costs are assessed and deemed to be minimal in terms of losses and are more likely to avoid risks when they evaluate the associated benefits and find them to be appealing (Rothman & Salovey, 1997).

Rothman and Salovey elaborated on prospect theory to develop the theory of message frames, proposing that health-related behavioral choices can be promoted through the presentation of the message in terms of gains or losses regarding disease detection and prevention behaviors. The message frame that would be most effective depends on aspects of the individual and the situation (Sherman, Mann, & Updegraff, 2006). Messages generally are framed in terms of potential gains or potential losses. For example, a message intended to increase the frequency of exercise in an obese population could be framed in terms of the gains of exercise, such as increased mood, looking better, and feeling better, would focus on positive consequences of performing the behavior. A loss-framed message encouraging the same behavior would present the information in terms of the losses that could result from not exercising, such as the risk of heart disease, stroke, diabetes, and early death, pointing out the potential negative consequences of not performing the behavior. Both messages have the same aim but are worded much differently.

Prevention behaviors are behaviors which prevent negative consequences such as wearing a seatbelt to prevent injury in an accident, applying sunscreen to prevent skin damage and cancer, or eating healthy to prevent the health risks of obesity. Rothman and Salovey consider prevention behaviors to be non-risky behaviors in terms of health because they minimize the risk of developing a potentially dangerous medical problem. Detection behaviors are characterized as risky behaviors by the theorists because they carry the risk of uncovering a major health problem which was beforehand outside of the person's awareness. Detection behaviors include pap tests to detect cervical cancer, mammograms to detect breast cancer, skin cancer screenings to detect any abnormal skin growth which may be cancerous, or any other behavior which may uncover a health problem. These behaviors may minimize long-term risk but the short-term risk of a negative realization remains (Banks, Salovey, Greener, Rothman, Moyer, Beauvais, et al., 1995). Much, but not all, of the literature on message frames shows that gain-framed messages are more effective at promoting low-risk prevention behaviors and loss-framed messages are more effective at promoting high-risk detection behaviors (Rothman & Salovey, 1997).

The majority of the existing literature on the effect of message frames on behavioral outcomes follows in the tradition of Rothman and Salovey in that they focus on health prevention and detection behaviors. Scott and Curbow (2006) examined the effects of message frames on behavioral outcomes in individuals at risk for coronary heart disease. They found that individuals who received the gain-frame message were more likely to show a positive change in prevention related behaviors; however, they also demonstrated that personal factors, such as elevated risk of coronary heart disease in this

case, can act as a moderating variable. Those who were at higher risk were significantly more likely to be influenced by the gain-frame messages encouraging prevention behaviors. A study by Wong and McMurray (2002) also demonstrated the impact of message frames as well as individual differences on smoking cessation. They found that individuals who had the intention to quit smoking were more likely to be influenced by negatively framed messages than those with no intention to quit. Individuals with no initial intention to quit smoking were more effectively influenced by the gain-framed messages. Those who had the intention to quit also showed increases in reported self-efficacy to quit smoking after receiving the loss-framed message. The findings of Bartels, Kelly, and Rothman (2010) further support this trend, finding that individuals who were exposed to the gain-frame message were more likely to indicate intent to become vaccinated against the West Nile Virus. In a parallel experiment, they found that individuals were more likely to express intent to undergo testing of a fictitious enzyme that could lead to health problems if they were exposed to the loss-framed message (Bartels et al., 2010). O'Connor, Ferguson, and O'Connor (2005) investigated the effect of message framing on attitudes toward and intention to use hormonal male contraceptives, finding that the exposure to a loss-framed message was more influential in encouraging positive attitudes toward the use of the contraceptives as well as increasing the intention to use hormonal male contraceptives among the participants.

Contrary to previous research which showed advantages when it comes to low-risk prevention behaviors, a 2008 study by Gerend, Shepherd, & Monday found that individuals had greater intentions to receive a vaccination for human papillomavirus after receiving loss-framed messages, with perceived risk of virus contraction as a mediating

factor. This provides a notable exception to the majority of the literature, but this discrepancy may be explained by the one-time nature of this preventative behavior in contrast to the lifestyle type changes observed in the majority of studies. Abhyankar, O'Connor, and Lawton (2008) also found loss frame messages to be significantly more effective than gain frames in increasing intent to vaccinate their children against measles, mumps, and rubella. They found that social cognitive factors such as attitude and perceived control acted as mediators of vaccination behavior. Banks et al. (1995) found a gain-frame advantage for the preventative behavior of mammography utilization in the at-risk group of women aged 40 years and older.

A number of studies have shown no significant differences between gain and loss frame messages. Assema, Martens, Ruiters, and Brug (2001) found no significant differences between the gain frame and loss frame groups regarding intention to engage in healthy eating. A notable study by Lauver and Rubin (1990) showed no difference between gain and loss frame messages in increasing optimism regarding abnormal Papanicolaou tests (Lauver & Rubin, 1990). Fagley and Miller (1987) found no significant framing effects on attitudes about cancer treatment framed in terms of gains or losses. Additionally, Fagley, Miller, & Jones (1999) investigated the differences between gain and loss framed messages in a context outside of health psychology, finding that group differences were more important than framing effects in determining choices made by school psychology and educational administration doctoral students. O'Keefe and Jensen (2008) conducted a meta-analysis, comparing the effectiveness of gain frame messages and loss framed messages at encouraging a behavioral change, finding that there were few differences in the effectiveness of the differing message frames; however,

overall, gain frame messages had a slight, yet significant, advantage over loss-framed messages. Due to the inconsistency in the literature regarding the effect of message frames, further research in this area is needed in order to form a unifying theory of message framing in order to help individuals to make positive decisions.

Due to the considerable disagreement in the literature regarding how alternate framing of equivalent information either positively or negatively, the operationalization of message frames has come under investigation. Levin, Schneider, and Gaeth (1998) propose that the differences found throughout the literature are due to differences in operational definitions of framing in the studies that may be tapping into different constructs. Most message framing studies use what is called *risky choice framing* in which the message focuses on different potential consequences of acting or not acting, typically in terms of potential losses or gains. A new typology of frame manipulations was developed by Levin et al. (1998), adding the types, *attribute framing*, and *goal framing*. Risky choice framing phrases options in terms of different levels of risk, which affects risk preference; however, the inconsistency in the literature suggests other factors may underlie the effect of messages on behavior.

Attribute type frames introduce information related to object or event characteristics, with only one aspect or attribute of the event or object is manipulated. For example, likelihood of guessing correctly on a multiple choice question can be framed as 25% likelihood of success or 75% likelihood of failure. Levin and Gaeth (1988) studied attribute framing in the context of perceptions of food quality. They found that individuals reported that beef was significantly better tasting and less greasy when it is presented as 75% lean than when it was presented as 25% fat. Even though

attributes are often framed positively or negatively, risk is not as much of an issue as it is when presented as a risky choice frame, as in an attribute frame, a simple evaluation of an item is assessed. When percentages are presented in an attribute frame study, they are presented as probabilities of an outcome as opposed to potential risks of a behavior (Levin et al., 1998). A study by Braun, Gaeth, and Levin (1997) investigated attribute frames and found that females preferred food that was framed as 80% fat free than those framed as 20% fat, and also rated unrelated attributes such as taste and attractiveness of packaging higher in the positive 80% fat free condition. Additionally, a study by Wilson, Kaplan, and Schneiderman (1987) demonstrated that individuals are more likely to approve of a medical procedure if it is presented to them in terms of survival rates than when presented in terms of mortality rates, that women were more likely to abort a child suspected of having hemophilia if the 50/50 chance was presented as 50% likelihood of being born affected rather than 50% likelihood of being born healthy, and that individuals suffering from terminal liver cancer were more likely to undergo an elective procedure if the outcome was presented in a positive frame. Attribute framing effects have been studied extensively in the domains of product advertising (Beach, Puto, Heckler, Naylor, & Marble, 1996; Johnson, 1987; Levin, 1987; Levin & Gaeth, 1988; Levin, Johnson, Russo, & Deldin, 1985), gambling outcome evaluation (Levin, Chapman, & Johnson, 1988; Loke & Lau, 1992; van Schie, & van der Pligt, 1995), medical choices (Levin, Schnittjer, & Thee, 1988; Marteau, 1989; Wilson et al., 1987; Wilson et al., 1990), and a variety of other domains; however a gap in the literature exists regarding the effect of messages presented in terms of attributes on career exploratory behavior.

Goal framing involves messages focused on the goal or consequence of a specified behavior. Positive frames involve the positive consequences of performing an act or the negative consequences of not performing that same act. The message focuses attention on either the goal of obtaining a positive consequence or the goal of avoiding a negative consequence, often referred to as gain or loss framed messages. The desired behavioral outcome is the same for both frames, which makes goal framed messages ideal for determining the persuasiveness of a message (Levin et al., 1998).

A variation of goal framing called *within-complement goal framing* is sometimes utilized. It is similar to the goal frame method in that it is focused on promoting the same behavior in both conditions and the outcomes are presented as potential consequences based on behavior; however, instead of just using two conditions in which behavior is framed as an opportunity to obtain a gain or avoid a loss, an additional condition exists in which the messages are framed in terms of avoiding the threat of negative consequences of not doing the desired behavior (Levin et al., 1998). This type of goal framing is less commonly used, with most studies using goal frame manipulations to persuade individuals to engage in specific behaviors use the two condition method.

There has been a large number of studies using goal frame manipulations, showing that loss framed messages had a greater impact than gain framed messages on encouraging a goal behavior in a number of health studies (Banks et al., 1995; Block & Keller, 1995; Meyerowitz & Chaiken, 1987), and advertising studies (Homer & Yoon, 1992; Kahneman, Knetsch, & Thaler, 1990; Loewenstein & Issacharoff, 1994; Thaler, 1980; Tversky & Kahneman, 1991), however there are no studies investigating the effect

of encouraging adaptive behaviors in the context of the career development of college students.

The majority of the more recent studies that differentiate between types of framing effects use one type of manipulation in a between-groups experimental design; however, Levin, Gaeth, Schreiber, & Lauriola (2002) explored the effect of all three framing manipulations on a college sample in a within-groups design. Students were significantly more receptive to the positive attribute frame than the negative attribute frame in an evaluation of beef labeled in terms of fat content or lean percentage. In the risky-choice frame condition, the students showed a significantly higher preference for the option which framed risks in terms of losses rather than gains. No significant differences were found in the goal frame condition.

There is a small but growing collection of literature on the impact of message framing on behaviors that are related to domains other than health psychology. Das et al. (2008) examined the impact of the message frame and type of information presented in fundraising messages. The information was either presented as anecdotal or factual and was framed either in a positive gain frame or negative loss frame. The positively framed messages were more effective at eliciting charitable donations when the information was presented as anecdotal and the negatively framed messages were more effective when paired with information presented as factual (Das et al., 2008). The goal-frame manipulation is generally used when the goal is to promote a behavior which can have positive consequences if performed or negative consequences if not performed. Because the goal in both frames is the same this would be the same and type of frame is used to determine the persuasiveness of messages, it would be an appropriate frame manipulation

to use to determine how to best persuade college students to engage in behaviors which assist in exploring occupational options and pursuing a chosen career path.

A major goal of counseling centers is to persuade college students into utilizing the services available to them. Though message framing has not been investigated as a method of marketing services, the use of message frames to persuade consumers has been widely studied. Goal frame manipulation is the most common method used in the study of message frames in a marketing context, as the goal in both conditions is to increase consumption behaviors. Chang and Lee (2008) investigated the influences of message framing on the effectiveness of charity advertisements. They found that loss-framed messages that focused on the negative consequences of not donating to a cause aimed at decreasing child poverty were more effective than gain-framed messages. Smith and Berger (1995) also found that negatively framed messages soliciting charitable contributions were more influential than positively framed messages. Gamliel and Herstein (2007) investigated the effect of message framing on an individual's willingness to buy products from private brands. They found that consumers were more willing to buy private brands when the information was presented in terms of potential losses than when the same information was presented in terms of potential gains.

Other significant situational factors may moderate the effect of the message frame on behavior. Gerend and Cullen (2008) found that message frames had a significant impact on college students' drinking behavior within temporal context, thereby serving as a mediating factor. Students in the gain-frame condition reported healthier drinking habits than those in the loss-frame condition, but only if the message contained short-term consequences of alcohol use. There were no differences between gain and loss

frames when the message related to long-term consequences (Gerend & Cullen, 2008). Uskul, Sherman, and Fitzgibbon (2009) found that cultural perspective may be a significant moderator of message frame effects. Participants from cultures with more emphasis on achievement and self-promotion such as Great Britain were more likely to behave in accordance to gain-frame messages in regards to flossing regularly, and individuals from cultures which emphasize conformity and prevention were more likely to respond to the loss-frame messages. The moderating factor of cultural perspective was also demonstrated in a 2010 study by Uskul and Oyserman which found that behavioral change after the presentation of messages pertaining to the health risks of caffeine consumption presented to a prescreened sample of regular caffeine consumers was affected by culture from which they came. European Americans, culturally primed for individualism, were more receptive to messages focused on the personal self while Asian Americans, culturally primed for collectivism, were more receptive to messages that focused on relational obligations. A number of individual factors other than culture have also been found to influence receptivity to particular message frames.

Individual factors such as issue involvement, affect, and prior exposure have been found to influence receptivity to gain-framed or loss-framed messages. Keller, Lipkus, & Rimer (2003) investigated the influence of individual factors including affective states on the persuasiveness of messages. They found that individuals who reported a positive mood state at the time of message delivery were more likely to be persuaded by the loss-framed message, and individuals who were in a negative mood state were more likely to be persuaded by the gain-framed message to pursue a mammogram. Additionally, participants in a negative mood state when presented with the message were more likely

to estimate higher costs and lower risks than those who were in a positive mood state, facilitating their receptivity toward gain-framed, possibly because of a perception of having little left to lose which is often associated with depressed mood. Lauriola and Levin (2001) also looked at personality characteristics and receptivity to frames. They found a significant correlation between scores of Neuroticism and an increased likelihood of taking risks when the messages is framed negatively, in terms of losses than when it is framed in terms of gains. Openness was also found to be associated with a greater likelihood of risk taking in the gain framed condition. Levin et al. (2002) also found high Neuroticism scores to be associated with preferences for risks as well high openness scores and low Conscientiousness scores.

Issue involvement has been found to have an influence on how receptive individuals are to messages. Maheswaran and Meyers-Levy (1990) found that how much an individual engaged in detailed message processing moderates message receptivity in the domain of health-related to messages. College students were given messages regarding heart disease presented in a high-involvement condition which discussed risks of developing heart disease in young adulthood or a low-involvement condition which involved heart disease risks of late adulthood. When issue involvement was low, participants were more receptive to the positive frame than they were to the negative frame. The converse was true in the high involvement group with participants showing higher receptivity to the negative frame. Previous personal experiences or risk factors can also influence receptivity to messages. Rothman and Salovey (1997) found that having knowledge of a family history of breast cancer increased receptivity to loss-framed messages through a possible predisposition toward thinking of breast cancer in

terms of losses. Receptivity of an individual to messages framed in differing ways may also be affected by personality attributes such as locus of control (Olekalns, Robert, Probst, Smith, & Camevale, 2005).

Though there has been considerable research on the personality factors that influence career decision self-efficacy and career exploratory behaviors (Greenhaus & Sklarew, 1981; Hilton, 1962; Judge & Bono, 2001; Judge, Erez, Bono, & Thoresen, 2002; Kiener, 2006), there is a gap in the research on these factors in a college setting. It is not yet known what influence message frames have on students' career-decision self-efficacy and engagement in career exploratory behaviors.

### **Locus of Control**

The individual factors which may influence whether someone is likely to respond to certain types of messages include expectations, personality, personal interpretation of ambiguous messages, and temperament; however, one of the most studied individual attributes that influences behavior is locus of control (Rodriguez & Blocher, 1988). Locus of control theory assumes that there are individual differences in expectancies concerning reinforcement and beliefs about one's control over various aspects of one's life. While individuals may show situational differences in their locus of control, much of the literature on locus of control shows that most individuals have a generalized tendency to attribute consequences in a certain way (Lange & Tiggemann, 1981).

Individuals who tend toward an internal locus of control see consequences as a result of their behavior or other personal factors (Rodriguez & Blocher, 1988). On the other side of the spectrum is external locus of control, which is associated with an attributional style based on chance, fate, or other individuals (Lange & Tiggemann,

1981). Though locus of control can be domain specific, most people who are internals believe that they have control over a broad range of factors in their lives (Judge & Bono, 2001). Much of the literature links locus of control and self-efficacy in a multitude of domains, with an overall trend of high levels of external locus of control correlating with low levels of self-efficacy (Judge & Bono, 2001; Judge et al., 2002; Phillips & Gully, 1997; Roddenberry & Renk, 2010; Rodriguez & Blocher, 1988). This is a logical association, as those who are better able to link their behavior to the consequential outcome are more likely to feel confident about what they need to do in order to manipulate the outcome in their favor.

Locus of control has been studied extensively in the domain of health-related behaviors. Health locus of control is defined as an individual's characteristic and stable pattern of attributing responsibility regarding health consequences either to external forces or to their own behavior (Williams-Piehotka et al., 2004). According to Williams-Piehotka et al. (2004), individuals who have an internal locus of control are more likely to believe that they have control over their health through either healthful or damaging behaviors, and those with an external locus of control are more likely to believe that forces outside of their control are responsible for their health outcomes, such as the competency of their health care providers. Locus of control has also been found to be a significant factor in job satisfaction as well as performance suggesting that the belief in control over one's work environment is associated with more positive feelings about place of work and lowered feelings of uncertainty and anxiety (Judge & Bono, 2001).

Locus of control may also be related to career maturity. A study by Gable, Thompson, & Glanstein (1976) investigated the relationship between locus of control and

career maturity in college aged women. They found that women who had an internal locus of control as measured by the Macdonald and Tseng Internal-External Scale had significantly higher vocational maturity than those with an external locus of control. Rodriguez and Blocher (1988) also found a relationship between locus of control and career maturity. They found that not only could targeted and intensive career interventions help individuals develop a more internal locus of control, but that internal locus of control is associated with increased career maturity and as individuals increase belief in their ability to control vocational paths, they develop more mature attitudes about the career process and the world of work. It was suggested that locus of control may be a mediating variable in the facilitation of career development (Rodriguez & Blocher, 1988).

Locus of control is a contributing factor to self-efficacy in general though there is limited research on the effect of locus of control on career decision self-efficacy. According to Bandura (1977), it is not simply a stimulus which influences the likelihood of an individual's performing a specific behavior; it is the predictive function the person believes the behavior has on the consequence. A person must believe that their response to the stimulus elicits a specific consequence, not simply believe that a behavior and a consequence occur together. If individuals believe that their behavior regulates the associated consequence as is associated with an internal locus of control, they are more likely to learn from the experience and perform the behavior more frequently if the consequence is positive. Those with an external locus of control are more likely to perceive the stimuli and response as simply occurring with the consequence without a clear understanding of the effect that their behavior had. These individuals are likely to

have a lowered self-efficacy in that domain because they perceive themselves as having less power over the situation than those with an internal locus of control and have learned they can manipulate the consequences they are facing by changing their behavior. A meta-analysis by Judge et al. (2002) suggested that self-efficacy and locus of control may share a higher order concept in that they found little discriminant validity between the two constructs; however, additional research is called for in clarifying these.

How locus of control relates to receptiveness to messages has been investigated; however, most of the research has pertained to health-related behaviors. Those with an internal locus of control are often more receptive messages aimed at preventative behaviors which focus on what the individual can do to take control of their future. In contrast, individuals with an external locus of control are more sensitive to messages aimed at detection behaviors which are generally dependent on someone else, such as a health care professional, to perform (Williams-Piehota et al., 2004). Williams-Piehota et al. (2004) investigated the effect of matching health messages to an individual's predominant locus of control in order to best promote mammography screening. Participants' locus of control was determined and they received a message about the importance of mammograms forced either on the importance of mammograms to take control of one's health or the importance of mammograms so your doctor can take control. Individuals who received the message that was consistent with their locus of control were significantly more likely to obtain a mammogram than those who were given a message inconsistent with their locus of control at both six months and 12 months.

Locus of control has also been found to be a significant moderator in a number of behavioral domains. Storms and Spector (1987) found that locus of control was a significant moderator of perceived frustration and behavioral outcomes finding that individuals with an external locus of control were more likely to engage in counterproductive behaviors when faced with a frustrating situation than those with an internal locus of control. A study by Keenan and McBain (1979) showed that locus of control had a significant moderating effect on the effect of role ambiguity on reported tension at work, with those high on external locus of control experiencing significantly more stress when faced with ambiguity on the job.

Additionally, locus of control has been shown to be a significant moderator in the domain of career satisfaction and engagement as well as career exploratory behaviors. Chhabra (2013) found a significant moderating effect of locus of control on the relationship between job satisfaction and organizational commitment with those having higher levels of internal locus of control showing a stronger relationship. Weinstein, Healy, and Ender (2002) found a moderating effect of locus of control on the relationship between career choice anxiety and career indecision, showing that individuals with internal locus of control engaged in more problem-focused behaviors and reported lower levels of choice anxiety than those who had an external locus of control.

The type of moderating effect locus of control would have on the effect of message frames on career exploratory behavior and message receptivity as this has not been studied; however, locus of control has been shown to moderate message receptivity in other domains and has been shown to be a significant predictor of career exploratory behaviors. According to Luzzo and Ward (1995), individuals who have an internal locus

of control have are more likely to display more career maturity and higher levels of career development than those who have a more internal locus of control and an internal locus of control was associated with informed career aspirations and engagement in part time work related to their chosen career. Lease (2004) found that external locus of control was associated with increased career decision difficulties. While locus of control has been shown to moderate the effect of message frames on receptivity and behavioral outcome when the desired behavior is a health detection behavior, the moderating effect of locus of control has not been studied in the domain of career exploratory behavior which does not fit into that category of behaviors. Therefore, though it is believed that locus of control will moderate message receptivity and behavioral outcome; it is unknown what type of moderating effect locus of control will have in this domain.

### **Effective Career Interventions**

The developmental period in which many college students are operating is a transitional period between adolescence and adulthood known as emerging adulthood. This is often a difficult developmental period as many changes are often occurring in multiple domains, including individuating from one's parents and experiencing a higher level of freedom and responsibility, as well as emerging into the world of work (Murphy, Blustein, Bohlig, & Platt, 2010). As young adults establish their identity, a major task is navigating the vast spectrum of options and perusing an occupational path. Through career exploration, individuals gain a better understanding of self and the ability to develop realistic goals and self-expectations, two concepts associated with high levels of career certainty and stability (Esters, 2008). Though it has widely been demonstrated in the literature, the importance of decreasing career indecision, as well as how

interventions can be effective in increasing career decisiveness, career services offered through universities have been underutilized.

The majority of higher education institutions offer some degree of career counseling, generally at no cost to currently enrolled students. Many college counseling centers offer individualized career counseling, workshops, and a variety of inventories that help students understand where their abilities, interests, and values lie; however, much of the research shows that simply providing information to students is insufficient as there are often deeper contributing factors including deficiencies in problem-solving and anxiety-management skills (Mendoca & Siess, 1976). Effective treatments for career indecision are multi-faceted and target the underlying factors which contribute to career-indecision as well as provide extensive education regarding career-fit, contributors to career satisfaction, and occupational options. The most effective treatments for career indecision take place throughout the entire process of career decision and involve the development of problem solving skills as well as preparing for the execution of the chosen career path (Mendoca & Siess, 1976).

The most effective intervention for an individual who is experiencing difficulty in the career decision process may depend on the nature of their difficulty. Even though the constructs of career maturity, career indecisiveness, and career decision self-efficacy are somewhat intertwined, individuals may be stuck in a variety of points in the process and a behavioral, cognitive, or even interpersonal intervention may be most appropriate (Rodriguez & Blocher, 1988).

Much of the literature places career exploratory behavior under the construct of career decision self-efficacy; however, few studies attempt to discern the exact nature of

the relationship. Betz and Vuyten (1997) explored the relationship between self-efficacy beliefs in the domain of career decision, career exploration, and decidedness. They found that self-efficacy beliefs are the most significant predictor of exploration intentions, supporting the position that these two constructs are closely related.

Though there has been much research into the effect of personality characteristics, locus of control, and career maturity on career decision self-efficacy, as well as a wealth of research showing that the career interventions that are widely available at most colleges and universities are effective, a gap in the literature exists regarding how to increase participation in these programs and other indicators of career-exploratory behavior and decision making. Message framing theory proposes a method of increasing proactive behaviors by tailoring the wording of the message; however, most studies have applied message framing theory to health psychology and there have been no major studies to date which apply message framing theory to career related behaviors. The current study will attempt to increase career decision self-efficacy as well as promote career exploratory behaviors through message framing.

### **Summary**

A significant problem facing college students is career indecision. Indecision and ambivalence toward making a career choice is a major factor in half of all students changing majors at least once during their college career, lengthening time to graduation as well as increasing student debt (Reese & Miller, 2006). Career indecision has been shown to be a multi-dimensional construct which inhibits career choice through apprehension and anxiety about the process, a feeling of a lack of control over one's career path and an inability to make and implement plans and work toward goals

(Hawkins et al., 1977; Mendoca & Siess, 1976; O'Hare & Tamburi, 1986; Osipow, 1999; Savickas, 2005; Vondracek et al., 1990). Theories of career choice and the developmental processes that occur as individuals work toward choosing and establishing a career path show that gaining knowledge about oneself and the world of work (Brown, 2003; Rojewski, 2005; Spokane & Cruza-Guet, 2005; Sharf, 2006; Swanson & Fouad, 1999). College counseling and career centers offer effective services targeted at indecisive students, generally through assisting in the exploratory and decision process, but these services remain underutilized (DuPre & Williams, 2011; Esters, 2008; Mendoca & Siess, 1976; Murphy et al., 2010; Rodriguez & Blocher, 1988).

Several methods of influencing behavioral change have successfully been applied to various domains; however, little research exists regarding how to influence students to take the first step toward career choice, exploring possible careers as well as personal attributes in order to move toward an appropriate and satisfying career choice. Message framing is a contemporary method of encouraging behavioral change through tailoring messages in such a way to increase the likelihood of a target behavior (Gable et al., 1976; Judge et al., 2002; Levin et al., 1998; Levin et al., 2002; Maheswaran & Meyers-Levy, 1990; Olekalns et al., 2005; Rothman & Salovey, 1997; Tversky & Kahneman, 1991; Williams-Piechota et al., 2004) however few have been done in the domain of career exploration and decision. There are several personal characteristics which may moderate an individual's receptivity to message frames and likelihood of engaging in career exploratory behaviors.

Career decision self-efficacy (CDSE) is defined as the self-determined motivation to reach the goal of making an implementing a career decision (DeLorenzo, 1998).

Based on Bandura's theory of self-efficacy, the literature shows that CDSE is a multi-level construct with cognitive, behavioral, and affective components. Individuals with a high CDSE are more likely to behaviorally approach tasks in the domain of career decision, perceive fewer barriers, and experience less anxiety and indecision (Bandura, 1977; Feldt & Woelfel, 2009; Hackett & Betz, 1980; Paulsen & Betz, 2004; Reese & Miller, 2006). Self-efficacy beliefs in the domain of career decision are correlated with job satisfaction and performance, emotional stability, self-esteem, and the personality construct of internal locus of control (Judge & Bono, 2001). Though career decision making self-efficacy has not been studied as a moderator in the relationship between message frames and career exploratory behavior, it has been shown to be a moderator in multiple studies with the outcome of engaging in domain specific behaviors (Lam et al., 2002; Saks, 2006) and has been shown to be a significant predictor of career exploratory behaviors (Blustein, 1989; Gianakos, 1999; Luzzo & Ward, 1995).

Locus of control theory assumes that there are individual differences in expectancies concerning reinforcement and beliefs about one's control over various aspects of one's life and tendencies to attribute consequences in a certain way (Lange & Tiggemann, 1981). Much of the literature that links locus of control to self-efficacy shows that individuals with an external locus of control have lower levels of self-efficacy and may be less likely to engage in career exploratory behaviors (Judge & Bono, 2001; Judge et al., 2002; Phillips & Gully, 1997; Roddenberry & Renk, 2010; Rodriguez & Blocher, 1988). An external locus of control is also associated with lowered career maturity which is also associated with career exploratory behaviors (Rodriguez & Blocher, 1988). Additionally, locus of control has been shown to relate to message frame

receptivity in a number of studies demonstrating that individuals with an external locus of control are more sensitive to messages framed in terms of losses and those with an internal locus of control are more sensitive to message framed in terms of gains (Williams-Piehota et al., 2004). Though locus of control has not been studied as a moderator in the relationship between message frames and career exploratory behavior, it has been shown to be a moderator in multiple studies with the outcome of engaging in domain specific behaviors (Keenan & McBain, 1979; Storms & Spector, 1987) and in the area of career exploratory behaviors and career engagement (Chhabra, 2013; Weinstein et al., 2002). To date, there remains as gap in the literature regarding the use message framing to increase career exploratory behaviors, investigating the moderating effects of career decision self-efficacy and locus of control.

### **The Present Study**

Career indecisiveness is a problem for many college students and carries the potential consequence of delayed graduation, increased student debt, and poor career fit and satisfaction. Though most colleges offer services which have been shown to be effective at reducing career indecision, they remain underutilized. Little attention has been paid to potential methods of increasing utilization of services and overall career exploratory behaviors. Message framing is a promising method of increasing targeted behaviors and has been shown as an effective method of increasing preventative behaviors in a variety of other domains. It is likely that message framing would be an effective method of increasing career exploratory behaviors; however, little literature exists regarding the effect of message framing within the career domain. Measures of career decision self-efficacy and locus of control were given in order to analyze these

factors in relation to message receptivity. This study was conducted in the “naturalistic setting,” of college classrooms in a medium sized public university.

All of the hypotheses were tested, and demographics were collected in order to examine gender differences, differences in academic classification, and existing differences in career decision self-efficacy.

### **Hypothesis One**

There are significant differences between those in the gain and loss frame conditions:

Hypothesis 1A: There will be a significant difference between those in the gain and loss frame conditions in terms of self-reported intention to perform career exploratory behaviors.

Hypothesis 1B: There will be significant a difference between those in the gain and loss frame conditions in terms of response regarding how persuasive they judged the message to be.

Hypothesis 1C: There will be a significant differences between those in the gain and loss frame conditions in terms of engagement in career exploratory behavior.

### **Justification for Hypothesis One**

Tailoring the frame of the message to the intended audience and situation has been shown to increase desired behaviors in a number of health-related studies as well as investigations of decision behaviors (Rothman & Salovey, 1997).

## **Hypothesis Two**

There will be a significant moderating effect of career decision self-efficacy on the relationship between message frame condition and outcome:

Hypothesis 2A: Career decision self-efficacy will moderate the relationship between message frame condition and self-reported intention to perform career exploratory behaviors.

Hypothesis 2B: Career decision self-efficacy will moderate the relationship between message frame condition and response regarding how persuasive the respondent judged the message to be.

Hypothesis 2C: Career decision self-efficacy will moderate the relationship between message frame condition and engagement in career exploratory behavior.

### **Justification for Hypothesis Two**

Individual differences and personality constructs are often significant moderators of behavior (Baron & Kenny, 1986). Career decision self-efficacy is an individual construct that has been shown to be a significant predictor of career exploratory behavior (Blustein, 1989; Gianakos, 1999; Luzzo & Ward, 1995). It has also been shown to be a significant moderator of domain specific behaviors in a number of areas (Lam et al., 2002; Saks, 1995; Saks, 2006). Because career decision self-efficacy is an individual construct, domain specific self-efficacy, and demonstrated predictor of career exploratory behaviors, it is believed that it will influence a student's receptivity to differential messages related to career exploratory behaviors.

### **Hypothesis Three**

There will be a significant moderating effect of locus of control on the relationship between message frame and outcome:

Hypothesis 3A: Locus of control will moderate the relationship between message frame condition and self-reported intention to perform career exploratory behaviors.

Hypothesis 3B: Locus of control will moderate the relationship between message frame condition and response regarding how persuasive the respondent judged the message to be.

Hypothesis 3C: Locus of control will moderate the relationship between message frame condition and engagement in career exploratory behavior.

#### **Justification for Hypothesis Three**

Often, individual differences and personality constructs such as locus of control are significant moderators that affect behavioral outcomes (Baron & Kenny, 1986). Locus of control has been shown to be a moderator of career exploratory behavior; however not in a message frame situation (Luzzo & Ward, 1995). It has been shown to be an individual construct highly associated with career maturity and engagement in career exploratory behaviors (Judge & Bono, 2001; Judge et al., 2002; Phillips & Gully, 1997; Roddenberry & Renk, 2010; Rodriguez & Blocher, 1988). It has also been shown to be a significant moderator of message frame receptivity in other behavioral domains (Williams-Piehota et al., 2004). Locus of control has been shown to be a significant moderator in a number of career-related attitudinal studies (Chhabra, 2013; Keenan & McBain, 1979; Storms & Spector, 1987). Additionally, it has been shown to moderate

behaviors in the domains of career decision and engagement in career exploratory behaviors (Lease, 2004; Weinstein et al., 2002). Because locus of control is an individual construct that has been shown to moderate message frame receptivity in other domains as well as behaviors related to career exploration, it is believed that it will influence students' receptivity to messages related to career exploratory behaviors.

## **CHAPTER TWO**

### **METHOD**

#### **Participants and Design**

Participants included 170 undergraduate students at a medium sized university in the southern United States. The sample was drawn from students enrolled in undergraduate psychology classes. The demographics approximately matched the University as a whole, with 57.3:42.7 female to male ratio and 91% between the ages of 18 and 25. The mean age was 19.9 and the standard deviation was 3.98. The sample came from introductory, intermediate, and advanced level classes in order to get a more representative sample of the student population. A wide range of majors and academic classifications were included in the sample.

#### **Measures**

##### **Career Decision Self-Efficacy Scale**

The Career Decision Self-Efficacy Scale (CDSES; Taylor & Betz, 1983) was used to measure career decision self-efficacy. This widely used instrument was created as a general measure of self-efficacy expectations for tasks involved in career decision. The scale utilizes Bandura's (1977) self-efficacy theory to measure how individuals assess their ability to successfully perform the task of exploring career options and making informed decisions. The scale measures five competencies: accurate self-appraisal,

gathering occupational information, goal selection, making plans for the future, and problem solving as well as provides an overall score for Career Decision Self-Efficacy. Self-reported ratings of confidence to perform each of 50 presented tasks are recorded on a 5-point scale from 1 (*no confidence*) to 5 (*complete confidence*). The psychometric properties of this scale have been evaluated many times with a variety of populations (Taylor & Betz, 1983).

Taylor and Betz (1983) found that career indecision and the CDESES were negatively and significantly correlated ( $r = -.40$ ). Internal consistency reliability was high with an overall coefficient alpha value of .97. The coefficient alphas for the five subscales ranged from .86 and .89, however, subscale scores have little usefulness on their own and the overall score is generally used to determine self-efficacy beliefs in this domain (Luzzo, 1996). Only the total score was used for the purposes of this study. One of the main limitations of this scale is that it was developed and tested using only samples of college students. While this may be a weakness when considering the scale's generalizability to the general population, its use was appropriate for the purposes of this study as the anticipated results would be generalized only to the college population.

### **Rotter Locus of Control Scale**

The Rotter Locus of Control Scale (RLCS; Rotter, 1966) was administered in order to determine whether each individual tends to attribute consequences to internal or external factors. This scale was developed to determine the tendency of an individual to attribute consequences to internal or personal causes, or external or situational causes. The scale contains 29 items, each with two sentences describing a situation. One sentence in each item pertains to internal responsibility and the other sentence links

responsibility of consequences to external events. Respondents are forced to choose the sentence in each item that they agree with the most. Six of the 29 items are unrelated filler questions and do not contribute to the score. One point is added to the total score for each external attribution and the scores can range from zero for all internal sentences and 23 for all external sentences. Lower scores indicate a tendency toward internal locus of control and higher scores indicate a tendency toward external locus of control (Rotter, 1966). The internal consistency of this measure is acceptable, ranging from .65 to .79. It has been validated against a number of measures for locus of control in a variety of domains including educational, occupational, health, and personality assessment (1966).

### **Career Exploratory Behavior**

There were three measures of response to the presented message; self-reported intent to engage in career exploratory behavior, reported persuasiveness of the message, and engagement in career exploratory behavior. Participants were asked to answer three questions after reading the message regarding informed career decision making. The questions were the same for both message frame conditions. Self-reported intent to engage in career exploratory behavior was addressed by questions one and two; ‘How likely are you to seek information pertaining to majors and careers?’ and ‘How likely are you to seek guidance in the career exploration process?’. Each question is presented in a Likert format ranging from 1(*very unlikely*) to 5 (*very likely*) so participants had a total score between two and ten for the outcome variable of self-reported intent to engage in career exploratory behaviors. The third question, ‘How persuasive did you find this message?’ was used as an outcome measure of reported persuasiveness of the message. The question is presented in a Likert format ranging from 1 (*very unlikely*) to 5 (*very*

*likely*) for a total score of one to five for the persuasiveness variable. Engagement in career exploratory behavior was measured by whether or not the participant visited a site that was provided to each participant after they completed the surveys. If the individual visited the website, it was coded one for behavioral engagement and if they did not visit the website, it was coded zero for no behavioral engagement.

### **Procedure**

Subjects for this study were voluntary participants taking part in this study in exchange for extra credit in their psychology courses. A recruiter visited the classes of instructors and professors who were willing to offer extra credit to their students for their participation in this research project. The recruiter explained the study and its procedures. The requirements of participation were explained to prospective participants as well as any risks of the study. Informed consent was obtained from all participants during the study which took place in a university classroom. Participants were each assigned a code number which was used later to match survey results with career exploratory behavior outcome. Participants took several surveys which measured their dominant locus of control and career-decision self-efficacy. They also read a message pertaining to the importance of informed career exploration framed in an internal/gain manner or in an external/gain manner and answered three questions regarding their response to the message in terms of self-reported intent to engage in career exploratory behavior and reported persuasiveness of the message. Participants were randomly assigned to one of the two conditions: Gain Frame (Condition 1) and Loss Frame (Condition 2).

All participants were given an information sheet concerning the next steps they can take toward making an informed decision about their occupational future. The handout included a web address at which they could receive additional information regarding career exploration resources, assessments, and the schedule of available courses and workshops conducted through their school's university counseling center during the current academic period.

### **Website**

Participants were directed to a website which linked them to information about informed career decision-making as well as links to resources for exploring career opportunities as well as evaluate their values, interests, goals, and skills. There were links to free online assessment tools as well as the Occupational Outlook Handbook (U.S. Department of Labor, Bureau of Labor Statistics, 2009) which would help them to see what the future outlook is regarding their chosen career as well as other career options with similar characteristics that require various educational levels or experiences. There was also information on the website about the career services available to them for free at the university counseling center including a link to the schedule of workshops, groups, and information about one-on-one career counseling. Once they got to the website, they entered their unique student code that was given to them when they completed the initial surveys as a log-in to gain access to the information. This unique code was recorded by the website so the numbers of those who visited the website can be matched to determine the participants' message frame condition. This career exploratory behavior was one dependent variable indicating whether or not the student is taking steps toward making an informed career decision.

The website was a simple design with a log in to determine which frame condition they received. Once they put in their condition code they were directed to a page with the following links:

- The Occupational Outlook Handbook provides a comprehensive list of careers, job characteristics, requirements, salary range, and national job outlook. It can be accessed for free at: <http://www.bls.gov/ooh/>
- The Holland Code Quiz provides a Holland Code Type and explanation of the types, and recommended jobs to start their career search. It can be accessed for free at : <http://www.roguecc.edu/Counseling/HollandCodes/test.asp>
- The Humanmetrics website proves free access to a personality measure similar to the Myers-Briggs Type indicator that is commonly used in career counseling. This instrument will provide a code type and explanation in order to provide insight in to what types of work environments someone may prefer as well as their communication and leadership style. It can be accessed for free at: <http://www.humanmetrics.com/cgi-win/JTypes1.htm>
- The Louisiana Tech University Career center website provides a number of different career resources as well as information about career workshops, groups, and individual career counseling. It can be accessed for free at: [http://www.latech.edu/career\\_center/index.shtml](http://www.latech.edu/career_center/index.shtml)

### **Data Analysis**

Data analysis was a multi-part process. First, descriptive statistics such as the mean and standard deviation were determined for each variable as well as frequencies of demographic items such as age, academic classification, and whether or not a major has

been chosen. Pearson  $r$  correlations were determined for all continuous variables in the study and point biserial correlations were determined for categorical variables.

Hypothesis 1 stated that there will be between group differences in terms of engagement in career exploratory behaviors depending on the message frame. This was tested in terms of the self-reported likelihood of engaging in career exploratory behaviors, the self-reported persuasiveness of the message, and engagement in career exploratory behaviors. The between group differences in the reported likelihood of engaging in career exploratory behaviors and the reported persuasiveness of the message were determined by a Multivariate Analysis of Variance (MANOVA). The independent variable was message frame condition. The dependent variables were self-reported persuasiveness of the message and reported likelihood of engaging in career exploratory behaviors. The testing of the hypothesis that there will be between group differences in career exploratory behavior as evidenced by a visit to the website was determined by a Chi-Square goodness of fit test. The independent variable was the message frame condition. The dependent variable was engagement in career exploratory behaviors as measured by whether or not they visited the website. This nonparametric analysis was chosen due to the binary nature of the outcome variable.

Hypothesis 2 stated that the relationship between message frame and engagement in career exploratory behavior (self-reported intent of engaging in career exploratory behavior, reported persuasiveness of the message, and behavioral engagement in career exploratory behavior) is moderated by Career Decision Self-Efficacy. The moderating effects of career decision self-efficacy on the relationship between message frame condition and self-reported intent to engage in career exploratory behavior and self-

reported persuasiveness of the message were examined using hierarchical regression analyses (Hypothesis 2A and 2B). A moderating effect occurs when a variable affects the strength or direction of the relationship between a dependent and independent variable (Baron & Kenny, 1986). Separate regression analyses were conducted in order to determine the relationship between the independent variable, message frame, and the dependent variables of self-reported likelihood of engaging in career exploratory behaviors and self-reported persuasiveness of the message, with career decision self-efficacy as the moderating variable. The procedure supported by the research of Baron and Kenny consisted of two steps: the message frame condition and the career decision self-efficacy were entered in the first step, and the outcome of the interaction in the second step (Baron & Kenny, 1986). Hypothesis 2C was examined using a moderated logistic regression analysis due to the dichotomous nature of the career exploratory behavior outcome variable. This similar procedure also consisted of two steps: the message frame condition and career decision making were entered in the first step, and the outcome of the interaction in the second step (Pallant, 2007).

Hypothesis 3 states that the relationship between message frame and engagement in career exploratory behaviors is moderated by Locus of Control. The procedures used to test moderation used in hypothesis two were repeated. The independent variable was message frame and the dependent variables was reported likelihood of engaging in career exploratory behaviors, the reported persuasiveness of the message, and engagement in career exploratory behaviors, with locus of control as the moderating variable.

## CHAPTER THREE

### RESULTS

The results section will investigate between group differences, effects of moderators, and descriptive statistics. All data entry was checked for missing values and inaccuracies. There were no missing data as all participants completed all measures. Six outliers were identified; three in each condition, and were removed. Tests of necessary statistical assumptions were performed for each analysis. A breakdown of relevant demographics is also provided in the discussion as well as scale alphas, descriptive statistics, and variable correlations. Preliminary analyses showed that there were no significant differences between males and females in terms of engagement in terms of career exploratory behaviors  $t(162) = -.08, p = .87$ . Additionally, there were no significant differences based on age in terms of engagement in career exploratory behaviors  $t(162) = .27, p = .75$ .

#### **Participants**

A total of 170 participants were surveyed for this study and after removing six outliers, 164 respondents were retained in the sample. Each of the 164 participants completed all survey materials with 83 (50.6%) in the gain frame message condition and 81 (49.4%) in the loss frame message condition. Of the participants, 94 (57.3%) were female and 70 (42.7%) were male. The mean age was 19.99 years with a standard deviation of 3.98 years. The majority of the respondents, 106 of 164 (64.7%) represented

the 18-19 year old age group. The next largest age group was 20-21 years old with 38 (23.2%). Five (3%) of participants were 22-23 years old, four (2.4%) were 28-29 years old, four (2.4%) were 33-49, four (2.4%) were 25-27 years old, and three (1.8%) were 17. The majority of participants were freshmen with 90 (54.9%) representing this group. Thirty four (20.7%) were sophomores, 21 (12.8%) were juniors, 18 (11%) were seniors, and one (.6%) identified as a non-degree seeking student. The participants represented a large variety of majors with 31 (18.9%) Kinesiology majors, 23 (14%) Engineering/Science majors, 14 (8.5%) Psychology majors, 13 (7.9%) Biology majors, 12 (7.3%) business majors, 11 (6.7%) Nursing majors, 11 (6.1%) General Studies majors, nine (5.5%) Undecided students, eight (4.9%), Economics/Finance/Accounting majors, six (3.7%) were Education majors, three (1.8%) Marketing majors, and 24 (14.6%) majoring in other fields.

### **Descriptive Statistics and Preliminary Exploratory Analysis**

#### **Career Decision Self-Efficacy**

The 50 item, five-point Likert response format of the Career Decision Self-Efficacy Scale (CDSSES) allows for a possible range of 50 - 250 on the full scale. High scores indicate that an individual feels confident in their ability to complete tasks necessary for informed career decision (Taylor & Betz, 1983). Table 1 shows means, standard deviations, and alphas of all participants as well as the two message frame conditions. No significant difference was found between the gain and loss frame conditions in terms the total score on the Career Decision Self-Efficacy Scale,  $t(162) = .913, p = .85$ .

Table 1

*Total Score for the Career Decision Self-Efficacy Scale (CDSES)*

Total Score	<i>N</i>	Min – Max	<i>M</i>	<i>SD</i>	Alpha
All Participants	164	141-250	197.01	25.72	.93
Gain Frame	83	141-250	198.83	25.34	.92
Loss Frame	81	96-243	195.16	25.84	.94

**Locus of Control**

The 29-item Rotter Locus of Control Scale (RLOCS) requires participants to choose between two responses and allows for a possible range of 0 - 23 points for a participant's score. Six of the 29 items are not scored. High scores indicate that a person operates from a more external locus of control than those with low scores (Rotter, 1966). Table 2 shows means standard deviations, and alphas of all participants as well as the two message frame conditions. The mean of 10.80 with a standard deviation of 3.49 did not differ significantly from the norm established by Hamsher, Geller, & Rotter (1968) of 10.10 with a standard deviation of 3.95. A one sample *t* test was conducted to determine between group differences. No significant difference was found between the gain and loss frame conditions in terms the total score on the Career Decision Self-Efficacy Scale,  $t(162) = -1.48, p = .10$ .

Table 2

*Scores for the Rotter Locus of Control Scale (RLOCS)*

Total Score	N	Min – Max	<i>M</i>	<i>SD</i>	Alpha
All Participants	164	1 - 20	10.80	3.49	.58
Gain Frame	83	1 - 17	10.40	3.50	.61
Loss Frame	81	3 - 20	11.20	3.46	.54

**Hypothesis 1. The Effect of Message Frames on Career  
Exploratory Behavior and Response to the Message**

**Hypothesis 1A and 1B: The Effect of Message Frames  
on Response to the Message**

A multivariate analysis of variance (MANOVA) was used to test the hypotheses 1A and 1B predictions that there will be between group differences in reaction to the message. In this analysis, the independent factor was framing condition with two levels (i.e., gain or loss), and the dependent variables were intention to perform career exploratory behaviors and persuasiveness of the message. To determine the appropriateness of MANOVA over multiple univariate analysis of variance (ANOVA) calculations or individual t-tests, a Pearson product-moment correlation was run to determine the relationship between the two dependent variables aimed at measuring attitudinal response to the message, self-reported persuasiveness of the message (persuasiveness) and self-reported intention to perform career exploratory behaviors (intent). Analyses for each correlation assumption were performed prior to running the correlation,  $r(162) = .36, p < .01$ . The two continuous dependent variables were examined for normality separately, persuasiveness (skewness = -.42, kurtosis = -.23),

intent (skewness = 1.03, kurtosis = 1.20). Normality for the groups assigned to each framing condition were examined separately for persuasiveness; gain frame (skewness = -.87, kurtosis = .46) and loss frame (skewness = -.38, kurtosis = -.33), and as well as for intent; gain frame (skewness = -1.42, kurtosis = 2.92), and loss frame (skewness = -8.70, kurtosis = .46). Though some of these values are high indicating deviations from normality, MANOVA is robust against violations of the normality assumption (O'Brien, Ralph, & Kaiser, 1985). Linearity was examined using scatter plots for each pair of variables, showing no violation. Homogeneity of covariance matrices were analyzed using Box's test with nonsignificant results,  $F(3, 4815941.23) = .65, p = .58$ , indicating that the data satisfied the homoscedasticity assumption. MANOVA was determined to be more appropriate for our data as suggested by Tabachnick and Fidell (2001) due to the lack of strong correlation between the two outcome variables and the reduction in the chances of Type I error associated with multiple ANOVA analyses.

The result of MANOVA did not reveal a significant difference between gain and loss frame conditions in terms of engagement in career exploratory behavior as evidenced by the non-significant main effect (Pillai's Trace = .96,  $F(2, 161) = 2075.47, p = .09$ , partial  $\eta^2 = .02$ ).

### **Hypothesis 1C. The Effect of Message Frames on Career Exploratory Behavior**

A chi-square test of independence was conducted to test the hypothesis 1C prediction that there would be significant group differences between individuals in the gain frame message condition and the loss frame message condition in their engagement in career exploratory behavior as measured by whether or not they visited the website.

Analysis showed no significant differences between gain and loss frame message groups  $\chi^2 = (1, N = 164) = .01; p = .93$ .

### **Hypothesis 2. The Moderating Effect of Career Decision Self-Efficacy**

Hypothesis 2 was examined using moderated hierarchical regression analyses. Hypotheses 2A and 2B were investigated using a hierarchical linear-regression analysis and hypothesis 2C was examined using logistic regression analysis. Table 3 shows the zero order correlations, means, and standard deviations of all variables. Prior to running the analysis, the moderator variable was standardized in an attempt to reduce problems associated with multicollinearity (Frazier, Tix, & Barron, 2004). The predictor condition of message frame was left as-is due to the dichotomous nature of the variable. The interaction term was then created by taking the product of the standardized moderator variable, career decision self-efficacy as measured by the Career Decision Self-Efficacy Scale (CDESES) total score, and the dichotomous independent variable, framing condition.

Table 3

*Means, Standard Deviations, and Correlations of All Variables*

<i>Variable</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>M</i>	<i>SD</i>
1. Frame	-	-.07**	.02**	-.15**	-.07**	-	-
2. CDSE		-	.2**	.16**	-.07**	197.01	25.72
3. Intent			-	.36**	.02**	8.05	1.78
4. Persuasiveness				-	.02**	3.73	.08
5. Behavior					-	-	-

*Note.*  $N = 164$ ,  $M$  = Sample mean;  $SD$  = Standard Deviation; Frame = Message frame; CDSES= Career Decision Self-Efficacy Scale total score; Intent = Self-reported intent to engage in career exploratory behaviors; Persuasiveness = Self-reported persuasiveness of message; Behavior = Engagement in career exploratory behavior.

\*\* =  $p < .001$ . The relationship between two continuous variables is represented by Pearson's  $r$  correlations and the relationship between a dichotomous and a continuous variable is represented by point biserial correlations.

**Hypothesis 2A. CDSE as a Moderator of the Relationship Between Framing Condition and Self-Reported Intention to Engage in Career Exploratory Behaviors**

Hypothesis 2A states that response to positively or negatively framed messages is moderated by Career Decision Self-Efficacy (CDSE), with message response measured by self-reported intent to perform career exploratory. Initial analyses to determine if assumptions were met for regression showed a problem with residual normality (skewness = -1.16, kurtosis = 1.70) so data was transformed using a square transformation. Analysis of the transformed data showed no problem with linearity, homoscedasticity, or residual normality (skewness = -.46, kurtosis = -.39). Additionally, multicollinearity was again problematic for the interaction between the variables of framing condition and CDSE (Tolerance = .02, VIF = 66.01); however the correlation between CDSE and the interaction between condition and CDSE was weak  $r = .30$ ,  $p <$

.01, therefore we conducted a hierarchical regression analyses to investigate the hypothesis. The normality of the residuals was conducted using the results of the hierarchical moderated regression are represented in Table 4.

Table 4

*Hierarchical Multiple Regression: CDSE as a Moderator of Intent*

Variable	B	SE	$\beta$	t	p	Lower	Upper	R <sup>2</sup>	F	p
						CI 95%	CI 95%			
Model 1								.05	3.97	.21
Frame	1.96	3.93	.04	.50	.62	-5.81	9.72			
CDSE .22	.08	.22	2.8	.01	.06	.37				
Model 2								.05	2.63	.05
Interaction	.01	.15	.20	.09	.93	-.29	.32			
Total R <sup>2</sup>	.04									

*Note.* N = 163. Frame = Dummy coded message framing condition; CDSE = Career Decision Self-Efficacy Scale Total Score.

Framing condition and CDSE accounted for .05% of the variance in intent  $F(2, 161) = 3.97, p = .02$  in the first step of the moderated hierarchical regression analysis to determine the moderating effect of CDSE on frame condition in influencing self-reported intention to engage in career exploratory behavior (intent). In the second and final step, the two-way interaction term (i.e., CDSE X frame condition) accounted for an additional .05% over and above the variance accounted for by the frame condition,  $F(3, 160) = 2.63, p = .05$ . The increase in variance explained by the inclusion of the interaction terms in the model was not statistically significant  $\Delta R^2 = .05, \Delta F(1, 160) = .01, p = .93$ .

### **Hypothesis 2B. CDSE as a Moderator of the Relationship Between Framing Condition and Persuasiveness of the Message**

Hypothesis 2B states that response to gain or loss framed messages is moderated by Career Decision Self-Efficacy (CDSE), with message response measured by reported persuasiveness of the message. Preliminary analyses to determine if assumptions were met for regression showed no problem with linearity, homoscedasticity, or residual normality (skewness = -.32, kurtosis = -.34). Multicollinearity was again problematic for the interaction variable of framing condition and CDSSES total score (Tolerance = .02, VIF = 66.01); however, the correlation between CDSSES total score and the interaction between condition and CDSSES total score was weak  $r = .30, p < .01$ , therefore we conducted a hierarchical regression analyses to investigate the hypothesis. Results of the hierarchical moderated regression are represented in Table 5.

In the first step of the moderated hierarchical regression analysis to determine the moderating effect of CDSSES total score on self-reported persuasiveness of the message (persuasiveness), framing condition accounted for .04% of the variance in persuasiveness  $F(2, 161) = 3.46, p = .03$ . In the second and final step, the two-way interaction term (i.e., CDSE X frame condition) accounted for an additional .03% over and above the variance accounted for by the frame condition  $F(3, 160) = 2.59, p = .06$ ; however, this increase in variance explained by the inclusion of the interaction terms was not statistically significant  $\Delta R^2 = .03, \Delta F(1, 160) = .8, p = .36$ .

Table 5

*Hierarchical Multiple Regression: CDSE as a Moderator of Persuasiveness*

Variable	B	SE	$\beta$	<i>t</i>	<i>p</i>	Lower	Upper	<i>R</i> <sup>2</sup>	<i>F</i>	<i>p</i>
						CI	CI			
						95%	95%			
Model 1								.04	3.46	.03
Frame	-1.8	1.1	-.13	-1.63	.10	-3.98	.38			
CDSE	.04	.02	.15	1.9	.05	.08				
Model 2								.05	2.58	.06
Interaction	-.04	.04	-.57	-.91	.36	-.12	.05			
Total <i>R</i> <sup>2</sup>		.05								

*Note.* *N* = 163. Frame = Message frame condition; CDSE = Career Decision Self-Efficacy Scale Total Score.

### **Hypothesis 2C. CDSE as a Moderator of the Relationship Between Message Frame and Career Exploratory Behavior**

Hypothesis 2C states that the effect of message frame on engagement in career exploratory behavior is moderated by career decision self-efficacy (CDSE). Because the criterion variable was dichotomous, a logistic regression analysis was used to test this hypothesis. Preliminary analyses to determine if assumptions were met for logistic regression were performed. The linearity of the logit was determined by transforming the continuous variable of CDESES total score to natural log form. The interaction term was then created by taking the product of CDESES total score and its natural log form. A logistic regression analysis was run including the predictor and interaction term. The interaction term did not significantly predict career exploratory behavior,  $p = .87$ , showing that the linearity of the logit assumption was met. The other logistic regression assumptions, independent measurements and a dichotomous dependent variable were also satisfied.

Logistic regression was performed to determine if CDESES total score acts as a moderating variable on frame condition in influencing career exploratory behavior as measured by whether the respondent visited the website. If the respondent visited the website, this was dummy coded as one and if they failed to visit the website, it was dummy coded as 0. The model contained a predictor variable (frame condition), a moderator (CDESES total score), and a two-way interaction term (i.e., CDSE X frame condition). Block 0 did not contain predictors, Block 1 contained message frame and CDESES total score, and Block 2 contained message frame, CDESES total score, and the interaction term. The model as a whole explained between .20% (Cox and Snell R square) and .30% (Nagelkerke R squared) of the variance in career exploratory behaviors and correctly classified 76.8% of the cases; however the full model containing all predictors and the interaction term was not statistically significant  $\chi^2 (3, N = 164) = .29$ ,  $p = .96$ , indicating that the model was unable to distinguish between respondents who were in the differing frame conditions. As shown in Table 6, neither the independent variables nor the interaction term made a unique statistically significant contribution to the model.

Table 6

*Logistic Regression Predicting Career Exploratory Behavior with CDSE as Moderator*

	<i>B</i>	S.E.	Wald	<i>df</i>	<i>p</i>	Odds	95% C.I. for Odds Ratio	
						Ratio	Lower	Upper
Frame	-.1	2.94	.00	1	.97	.90	.00	288.59
CDSE	.00	.02	.02	1	.90	1.00	.96	1.05
Interaction	.00	.02	.00	1	.96	1.0	.97	1.03
Constant	-1.81	4.66	.15	1	.70	.16		

*Note.* *N* = 164. Frame = Message frame; CDSE = Career Decision Self-Efficacy Scale total score.

### **Hypothesis 3. The Moderating Effect of Locus of Control**

Hypothesis 3 was examined using moderated regression analysis. Hypotheses 3A and 3B were investigated using hierarchical linear regression analysis and hypothesis 3C was examined using logistic regression analysis. Table 7 shows the zero order correlations, means, and standard deviations of all variables in the model. Prior to running the analysis, the moderator variable was standardized in an attempt to reduce problems associated with multicollinearity (Frazier et al., 2004). The predictor condition of message frame was left as-is due to the dichotomous nature of the variable. The interaction term was then created by multiplying framing condition, and the standardized moderator variable, Locus of Control as measured by the Rotter Locus of Control Scale.

Table 7

*Means, Standard Deviations, and Correlations of All Variables*

<i>Variable</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>M</i>	<i>SD</i>
1. Frame	-	-.07**	.02**	-.15**	-.07**	-	-
2. LOC		-	-.02**	.07**	.06**	10.8	3.49
3. Intent			-	.36**	.02**	8.05	1.78
4. Persuasiveness				-	.02**	3.73	.08
5. Behavior					-	-	-

*Note.*  $N = 164$ ,  $M$  = Sample mean;  $SD$  = Standard Deviation; Frame = Message frame; LOC = Locus of control; Intent = Self-reported intent to engage in career exploratory behaviors; Persuasiveness = Self-reported persuasiveness of message; Behavior = Engagement in career exploratory behavior.

\*\* =  $p < .001$

**Hypothesis 3A. LOC as a Moderator of the Relationship Between Framing Condition and Self-Reported Intent to Engage in Career Exploratory Behaviors**

Hypothesis 3A stated that response to gain or loss framed messages is moderated by Locus of Control (LOC), with message response measured by self-reported intent to perform career exploratory behaviors and self-reported persuasiveness of the message, respectively. Preliminary analyses to determine if assumptions were met for regression showed no problem with linearity, homoscedasticity, or residual normality (skewness = -.370, kurtosis = -.523). Additionally, tests to determine if data met the assumption of collinearity indicated that multicollinearity is of concern (LOC, Tolerance = .10, VIF = 10.00; Interaction of LOC X Condition Tolerance = .05, VIF = 21.97). The correlation between the variables used in the model, LOC and the interaction between frame condition and LOC was strong  $r = .72$ ,  $p < .01$ , and is at the upper end of the acceptable range of  $p < .8$  (Mason & Perreault, 1991). The implications of this high correlation are

discussed further in Chapter 4. Results of the hierarchical moderated regression are represented in Table 8.

Table 8

*Hierarchical Multiple Regression: LOC as a Moderator of Intent*

Variable	B	SE	$\beta$	<i>t</i>	<i>p</i>	Lower	Upper	<i>R</i> <sup>2</sup>	<i>F</i>	<i>p</i>
						CI	CI			
						95%	95%			
Model 1								.00	.09	.92
Frame	.09	.28	.24	.3	.77	-.472	.64			
LOC	-.01	.04	-.03	-.31	.75	-.1	.01			
Model 2								.01	.58	.63
Interaction	-.1	.08	-.46	-1.24	.21	-.26	.06			
Total <i>R</i> <sup>2</sup>	.01									
<i>n</i>	163									

*Note.* *N* = 163. Frame = Message framing condition; LOC = Locus of Control

In the first step of the moderated hierarchical regression analysis to determine the moderating effect of LOC on frame condition in influencing self-reported intention to engage in career exploratory behavior (intent), framing condition and locus of control accounted for less than .01% of the variance in intent  $F(2, 161) = .09, p = .92$ . In the second and final step, the two-way interaction term (i.e., LOC X frame condition) accounted for an additional .01% over and above the variance accounted for by the frame condition  $F(3, 160) = .58, p = .63$ ; however, this increase in variance explained by the inclusion of the interaction terms in the model was not statistically significant  $\Delta R^2 = .01, \Delta F(1, 160) = 1.56, p = .21$ .

### Hypothesis 3B. LOC as a Moderator of the Relationship Between Framing Condition and Persuasiveness

Hypothesis 3B stated that response to gain or loss framed messages is moderated by Locus of Control (LOC), with message response measured by self-reported persuasiveness of the message. Preliminary analyses to determine if assumptions were met for regression showed no problem with linearity, homoscedasticity, or residual normality (skewness = -.36, kurtosis = -.28); however, tests to determine if data meet the assumption of collinearity indicated that multicollinearity was of concern (LOC, Tolerance = .10, VIF = 1.03; Interaction of LOC X Condition Tolerance = .05, VIF = 21.97). Results of the hierarchical moderated regression are represented in Table 9.

Table 9

#### *Hierarchical Multiple Regression: LOC as a Moderator of Persuasiveness*

Variable	B	SE	$\beta$	$t$	$p$	Lower	Upper	$R^2$	$F$	$p$
						CI	CI			
						95%	95%			
Model 1								.03	2.49	.09
Frame	-.32	.16	-.16	-2.1	.04	-.63	-.01			
LOC	.03	.02	.09	1.1	.27	-.02	.07			
Model 2								.03	1.89	.15
Interaction	-.03	.05	-.26	-.71	.48	-.12	.06			
Total $R^2$	.03									

*Note.*  $N = 163$ . Frame = Message framing condition; LOC = Locus of Control.

In the first step of the moderated hierarchical regression analysis to determine the moderating effect of LOC on self-reported persuasiveness of the message (persuasiveness), framing condition and LOC accounted for .03% of the variance in persuasiveness  $F(2, 161) = 2.49, p = .09$ . In the second and final step, the two-way interaction term (i.e., LOC X frame condition) accounted for an additional .03% variance

over and above the variance accounted for by the frame condition  $F(3, 160) = 1.89, p = .15$ ; however, this increase in variance explained by the inclusion of the interaction terms was not statistically significant  $\Delta R^2 = .02, \Delta F(1, 160) = .50, p = .48$ .

### **Hypothesis 3C. LOC as a Moderator of the Relationship Between Message Frame and Career Exploratory Behavior.**

Hypothesis 3C stated that the effect of message frame on engagement in career exploratory behavior is moderated by Locus of Control (LOC). Because the criterion variable was dichotomous, a logistic regression analyses was used to test this hypotheses. Preliminary analyses to determine if assumptions were met for logistic regression were performed. The linearity of the logit was determined by transforming the continuous variable of LOC to natural log form. Interaction term was then created by taking the product of LOC and its natural log form. A logistic regression analysis was run including the predictor and interaction term. The interaction term did not significantly predict career exploratory behavior,  $p = .95$ , showing that the linearity of the logit assumption was met. The other logistic regression assumptions, independent measurements and a dichotomous dependent variable were also satisfied.

Logistic regression was performed to determine if Locus of Control (LOC) acted as a moderating variable on frame condition in influencing career exploratory behavior as measured by whether the respondent visited the website. The model included a predictor variable (frame condition), a moderator (LOC), and a two-way interaction term (i.e., LOC X frame condition). Block 0 did not contain predictors, Block 1 contained message frame, and LOC, and Block 2 contained message frame, LOC, and the interaction term (LOC X Frame). The model as a whole explained between .4% (Cox and Snell R square)

and .6% (Nagelkerke R squared) of the variance in career exploratory behaviors and correctly classified 76.8% of the cases; however the full model containing all predictors and the interaction term was not statistically significant  $\chi^2 (3, N = 164) = .68, p = .88$ , indicating that the model was unable to distinguish between respondents who were in the different framing conditions. As shown in Table 10, neither the independent variables nor the interaction term made a unique statistically significant contribution to the model.

Table 10

*Logistic Regression Predicting Career Exploratory Behavior with LOC as Moderator*

	<i>B</i>	S.E.	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Frame	.06	1.28	.00	1	.96	1.07	.09	12.79
LOC	.05	.17	.10	1	.77	1.06	.75	1.48
Interaction	-.01	.11	.00	1	.96	1.0	.8	1.23
Constant	-1.78	1.96	.82	1	.36	.19		

*Note.*  $N = 164$ . Frame = Message frame; LOC = Locus of Control.

## **CHAPTER FOUR**

### **DISCUSSION**

The purpose of the current study was to examine the effects of message framing on career exploratory behavior. Additionally this study examined whether the constructs of locus of control and career decision self-efficacy had moderating effects on the relationship between message frame condition and career exploration outcomes. The overall findings of the study did not show significant differences between the groups related to intent or actual engagement in career exploratory behavior. Additionally, no significant moderating effects for locus of control or career decision self-efficacy were found between the message frame and career exploratory behavior.

#### **Findings and Implications**

##### **Message Framing**

It was hypothesized that there would be a significant difference in career exploratory behaviors as well as response to the message between the two groups, depending on whether they received gain or loss framed messages. The results of the analysis failed to support this prediction as there would be a significant framing effect and there were no significant differences between the groups in terms of reported intent to engage in career exploratory behavior, how persuasive they reported the message to be, or engagement in career exploratory behavior based on visiting the provided website.

When prompted to provide self-reported ratings of intention to perform career exploratory behaviors after reading the message, there were no significant group differences on ratings. There were also no significant group differences on how persuasive those in the gain or loss frame reported the message to be. Additionally, there were no significant group differences in terms of engagement in career exploratory behavior as indicated by visitation to the provided website.

Of the 164 participants who were used in the study, only 38 students (23%) visited the website. Eighteen (47.3%) of those visiting the website were in the gain frame condition and twenty (52.7%) were in the loss frame condition, 18:81 and 20:83, respectively for the framing effects. This between group difference was not statistically significant but showed a slight advantage of the loss frame in encouraging the target behavior. Additionally there was no significant framing effect.

There is inconsistency in the literature regarding whether gain or loss framed messages are more effective. Levin et al., (1998) outlined three determinants of how message frames affect individuals: the content of the message, what is affected by the message, and how the effect of the frame is measured. The message in this study was an example of goal framing in which the message is framed in terms of gains or losses with the goal of persuading the respondent based on the consequences of his or her engaging or failing to engage in a specified action. In goal framing, respondents are more likely to be influenced by negatively framed messages that highlight the losses that may occur from a failure to act and are therefore more likely to engage in the target behavior after receiving a loss frame message than a gain frame message (Levin et al., 1998). Though

this trend was observed in the data, the results were not statistically significant so no conclusion can be drawn as the small difference may have been due to chance.

There are several potential reasons why the sample used in this study did not show significant differences in receptivity to either of the messages. The first of which relates to what is affected by the message. Due to the fact that the majority of the sample had already chosen a major, it is likely that for many respondents, not much was affected by the message as they may not have perceived it as pertaining to them. It was expected that by sampling from mostly entry level classes, more students who were undecided on a major would have participated in the study and it is possible that a sample comprised only of students who had not yet chosen a major would yield more significant results.

Another additional explanation could lie in the message itself. Though the messages were constructed in order to highlight gains and losses from engaging or not engaging in career exploratory behaviors, it is possible that they were the gains and losses were not presented in a strong enough manner to elicit a significantly stronger response to one message over the other. Additionally, the message may not have been worded in a manner specific enough to career exploration to encourage the target behavior. Finally, the messages may not have differed enough to show that the gain or loss frame message had a significantly bigger impact on behavior.

### **Moderators**

It was hypothesized that both locus of control and career decision self-efficacy would act as moderators of the effect of the message frame on the target behavior. These hypotheses were not supported as the analyses failed to determine any significant moderating effect of either variable. Though there has been much research into the

possible underlying mechanisms that influence message receptivity, few studies have been able to show a significant moderating or mediating effect of such constructs (Gerend et al., 2008). This study is not an exception which may have been partially due to the fact that the moderating variables both were significantly correlated with the interaction term, raising concerns about multicollinearity. This was particularly true for Locus of Control as the interaction between frame condition and Locus of Control was strong at .72. One of the major consequences of multicollinearity is it significantly raises the chance of Type II error, failing to find a statistical relationship where a true relationship exists (Mason & Perreault, 1991). Though moderation analyses can be conducted with significant correlations using a cutoff of  $p < .8$ , the results must be interpreted with caution as the likelihood of falsely rejecting the null hypothesis is increased (Mason & Perreault, 1991). It may be that using other measures that are not as highly correlated with the interaction term would yield significant between group differences.

An additional explanation for the lack of significant findings lies in the coefficient alpha measure of internal consistency on the Locus of Control Scale within the sample used for this study. Though the Locus of Control Scale is within the acceptable range of internal consistency with published alphas between .65 and .79, the coefficient alpha for this sample was relatively poor at .58, suggesting that this may not have been a reliable measure of locus of control within this sample. The Career Decision Self-Efficacy Scale had a high alpha within this sample at .91 indicating that internal consistency was not a problem within this population; however, the analysis of the moderating effect showed non-significant results. This may have had more to do with the sample of the study than

the measure itself as most of the participants had already chosen their major so they were unlikely to engage in career exploratory behaviors regardless of their career decision self-efficacy. It is possible that using a sample of undecided college students would yield a significant moderating effect of this measure on career exploratory behaviors.

Both locus of control and career decision self-efficacy are widely researched and empirically supported constructs relevant to career decision making and career development (Bandura, 1977; Betz & Vuyten, 1997; Blustein, 1989; Chhabra, 2013; Feldt & Woelfel, 2009; Gianakos, 1999; Hackett & Betz, 1980; Judge & Bono, 2001; Judge et al., 2002; Ochs & Roessler, 2004; Paulsen & Betz, 2004; Phillips & Gully, 1997; Reese & Miller, 2006; Roddenberry & Renk, 2010; Rodriguez & Blocher, 1988; Saks, 1995; Saks, 2006; Solberg et al., 1994; Weinstein et al., 2002; Williams-Pichota et al., 2004); however, their effect on receptivity to messages remains unknown. Due to the lack of research on the application of message frames to influence career exploratory behavior, it is possible that there are other, more significant, moderators of this behavior that were not measured in this study that could be investigated in future studies on this topic.

### **Limitations**

One major limitation of the current study may lie in the sample of students used. Participants were recruited from undergraduate classes in a college of education. The majority of the students (55.1%) had already declared a major and may have already engaged in the process of career exploration and informed career decision prior to their participation in the study. Only eight of the 168 individuals who completed the study were undecided. One of the objectives of the current study was to determine the best way

to influence students to begin the process of informed career decision making and there was no measure included in the study to determine where in the process the student was when participating. It is unlikely that a student who had already made an informed decision regarding major choice and career path would be persuaded to begin the process of career exploration again if they felt secure in their major choice. The message highlighted the importance of job and major fit in determining satisfaction and fit; however, it is unknown if the participants already felt satisfied in their choice and as if it is a good fit for their current and future goals. If the current study had been conducted on a sample of students who were known to have not yet decided on a major or engaged in prior career exploratory behavior, it is possible that there would be a clearer distinction between the influences of the differential message frames. However, as many students choose a major initially and change it several times throughout their academic career, the impact of using a sample of undecided students only is unknown. It is also unknown if participants actually read the messages in their entirety. While they were instructed to, there was no way to know if participants attentively read the messages.

Another potential limitation of the present study may have been the sample size. Though the number of participants was statistically appropriate, a larger sample may have shown a greater difference between the two groups in terms of engagement in career exploratory behavior as well as response to the message. The number of visits to the website, signifying career exploratory behavior, was low and there was a very similar incidence rate between the two groups so it is possible that a larger sample size would reveal a significant difference between the groups. Again, the sample was sufficiently

large based on the design, so it is unknown what affect a larger sample would have had and it is uncertain that this would reveal any additional differences between the groups.

An additional possible limitation was the use of the website to measure career exploratory behavior. The website visit was a specific behavior that was used to assess whether or not participants engaged in career exploratory behavior within 60 days of receiving the message; however, it is possible that participants engaged in career exploratory behaviors using other resources such as internet sites, visiting Career Services at the university, or discussing career issues with their academic advisor. Additionally, the instructions provided to each participant did not specify that the website was a part of the study or that they should visit the website by themselves, only that they needed their participant number to access the site. It is possible that multiple participants visited the website together which would not allow for the tracking of individual participants' visits to the site. Specifying the importance of participants visiting the site individually may have allowed for the tracking of additional participants' visits to the site; however, the effect of this addition is unknown as each participant was given an individual handout with a unique access code to the site and instructions for visiting.

Additionally, a final possible limitation of the present study may lie in the operational definition of the variables used. Analysis failed to support any of the moderator related hypotheses. Locus of control and career decision self-efficacy were chosen as moderating variables based on the support within the literature for personal differences affecting the way an individual is impacted by differing message frames. While many studies have attempted to identify moderators and mediators of message frames, few have been able to show the effect of these underlying mechanisms on

message frame effect and this difficulty may lie in the way these constructs are operationalized (Gerend et al., 2008). Due to the lack of available literature on message frames being used to increase career exploratory behaviors, these variables were chosen due to their relevance to the career decision process; however, the correlation between message frame with the moderator and the interaction term may have been too high to detect a significant moderating relationship, particularly in the case of career decision self-efficacy and the interaction term which had a strong correlation. Additionally, the coefficient alpha from this sample on the Rotter Locus of Control Scale was significantly lower than the published alpha of the scale. Such low internal consistency could indicate that it may be a poor measure of the underlying construct of locus of control in this sample. Further, there are no available standardized measures of persuasiveness or intent to engage in career exploratory behaviors. It is possible that a significant moderating relationship exists between message frame and these constructs that could be detected when operationally defining them differently; however, it is unknown if there if defining them differently could allow for the detection of an effect as no other measures are available that are as empirically supported and widely used to measure locus of control and career decision self-efficacy.

### **Future Research**

There are several ways that the present study can be improved upon in order to better determine the effect of differential message frames on career exploratory behavior and response to the message. Future research in the area could be designed differently, taking into consideration the shortcomings of the present study which may have contributed to the lack of significant findings.

The current study attempted to assess the impact that differential message frames have on behavioral outcomes in the area of early and informed career decision. Past research has shown that framing messages in terms of gains or losses can have significant impacts on behavioral outcomes, particularly in increasing behaviors which prevent potential negative consequences. Early career decision making is a preventive behavior; however, most of the existing research on message frames and such behaviors has been within the field of health prevention. The current study attempted to generalize this finding to the field of career development but was unable to detect significant differences between the message frames in influencing behavior, intention to perform the behavior, or self-reported persuasiveness of the message. Part of the reason for this may have been that the sample was recruited without taking their level of career development or progress within the career exploration process. One of the most important determinants of effective message framing is the population to which you are presenting the message (Levin et al., 1998). The target population for this study was students who had not engaged in career exploration and informed career decision and it is likely that a good portion of the sample had already begun this process as the vast majority had already chosen their major prior to participating in this study. Tailoring the study better to the population of interest and using a more representative sample may yield significant results, more specifically using students for the study who have not yet chosen a major or career path or those who have not yet undergone the process of career exploration and informed career decision.

Other improvements that can be made upon the current study include choosing other constructs with which to investigate their moderating effect. Despite the wealth of

literature on the efficacy of framing effects, few studies have been able to demonstrate what processes may influence receptivity, and this difficulty may be tied to the difficulty in operationalizing such complex underlying personal constructs (Abhyankar et al., 2008). Career decision self-efficacy is a construct specific to the area of career development that was chosen due to its relationship with the target behavior of career exploration; however, it is rooted in overall self-efficacy which has been studied more thoroughly. Due to the lack of research on the effect of message frames in regard to career decision, it may be beneficial to look at overall self-efficacy to determine if there is a more general underlying mechanism for responding to gain or loss framed messages. Additionally, it may be valuable to explore data concerning those who do engage in career exploratory behaviors to investigate underlying constructs which influence message receptivity in this domain.

### **Conclusion**

Indecision about major and career path is a problem facing college students and can have many social, financial, and academic consequences; however, little research has been done to determine how to best encourage students to take advantage of the career resources available to assist them in career development and informed career decision. The present study investigated the effects of message frames on influencing career decision making behaviors. The reaction to the messages in terms of how persuasive participants found the messages to be as well as their self-reported intent to engage in career exploratory behaviors after reading the messages were also measured. Additionally, the moderating effects of the personal constructs, locus of control and career decision self-efficacy on each of these outcomes were explored.

The present study failed to find significant effects of message frames on behavior, self-reported intent to engage in career decision behaviors, and how persuasive the participants found the message to be. Additionally, the present study failed to find any significant moderating effects of locus of control or career decision self-efficacy on these outcomes. Potential limitations leading to the lack of significant findings include the sample used as it may not have been representative of the target population, the method by which career exploratory behavior was measured, and the moderating variables chosen.

Research in the area of message framing consistently shows that the way that messages are framed, in terms of gains or losses, can have an impact on behavioral outcomes. Additionally, research shows that early career exploration and informed career decision making prevents social and emotional consequences associated with career indecision, poor major fit and satisfaction, increased time to graduation and student debt, and eventually lowered career satisfaction and success. As much of the research on message frames affecting behavior has been in the area of early behavioral prevention of health problems, it was proposed that message frames can influence preventative behavior in the field of career decision making; however, the present study failed to support this. As this was an application of message framing in an area where little research exists, it would be beneficial for future research to improve upon the limitations of this study as career indecision is a significant problem facing college students in order to discover more effective ways to frame messages targeted at those who would benefit from early career exploration, helping students better target and streamline their academic path and increase career satisfaction and fit after graduation.

## REFERENCES

- Abhyankar, P., O'connor, D. B., & Lawton, R. (2008). The role of message framing in promoting MMR vaccination: Evidence of a loss-frame advantage. *Psychology, Health & Medicine, 13*(1), 1-16. doi:10.1080/13548500701235732
- Assema, P., Martens, M., Ruiters, R. A. C., & Brug, J. (2001). Framing of nutrition education messages in persuading consumers of the advantages of a healthy diet. *Journal of Human Nutrition and Dietetics, 14*, 435-442. doi:10.1046/j.1365-277X.2001.00315.x
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215. doi:10.1037/0033-295X.84.2.191
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall. doi:10.5465/amr.1987.4306538
- Bandura, A. (1989). Perceived self-efficacy in the exercise of personal agency. *The Psychologist: Bulletin of the British Psychological Society, 2*, 411-424. doi:10.1080/10413209008406426
- Banks, S., Salovey, P., Greener, S., Rothman, A., Moyer, A., Beauvais, J., & Epel, E. (1995) The effects of message framing on mammography utilization. *Health Psychology, 14*, 178-184. doi:10.1037/0278-6133.14.2.178

- Baron, R., & Kenny, D. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*: 1173–1182. doi:10.1037/0022-3514.51.6.1173.
- Bartels, R. D., Kelly, K. M., & Rothman, A. J. (2010). Moving beyond the function of the health behaviour: The effect of message frame on behavioural decision-making. *Psychology & Health, 25*, 821-838. doi: 10.1080/08870440902893708
- Beach, L. R., Puto, C. P., Heckler, S. E., Naylor, G., & Marble, T. A. (1996). Differential versus unit weighting of violations, framing, and the role of probability in image theory's compatibility test. *Organizational Behavior and Human Decision Processes, 65*, 77–82. doi:10.1006/obhd.1996.0007
- Betz, N. E., & Luzzo, D. A. (1996). Career assessment and the career decision self-efficacy scale. *Journal of Career Assessment, 4*, 413-428. doi:10.1177/106907279600400405
- Betz, N. E., & Voyten, K. (1997). Efficacy and outcome expectations influence career exploration and decidedness. *Career Development Quarterly, 46*, 179-189. Retrieved from EBSCOhost. doi:10.1002/j.2161-0045.1997.tb01004.x
- Block, L. G., & Keller, P. A. (1995). When to accentuate the negative: The effects of perceived efficacy and message framing on intentions to perform a health-related behavior. *Journal of Marketing Research, May*, 192–203. doi:10.2307/3152047

- Blustein, D. L. (1989). The role of goal instability and career self-efficacy in the career exploration process. *Journal of Vocational Behavior, 35*, 194-203.  
doi:10.1016/0001-8791(89)90040-7
- Braun, K., Gaeth, G., & Levin, I. (1997). Framing effects with differential impact: the role of attribute salience. *Advances in Consumer Research, 24*, 405-411. doi: 10.1086/378612
- Brown, D. (2003). *Career information, career counseling, and career development*. (10th ed.). Upper Saddle River, NJ: Prentice Hall.  
doi:10.1177/103841621202100107
- Brown, S., & Lent, R. (2005) *Career development and counseling: putting theory and research to work*. John Wiley & Sons. doi:10.4135/9781452275086.n2
- Chang, C., & Lee, Y. (2008). All charity advertisements are not created equal: Influences of message framing, vividness valance, and number size framing. *Advances in Consumer Research, 35*. doi:10.1111/j.1559-1816.2009.00555.x
- Chhabra, B. (2013). Locus of control as a moderator in the relationship between job satisfaction and organizational commitment: a study of Indian IT professionals. *Organizations & Markets In Emerging Economies, 4(2)*, 25-41.  
doi:10.1504/ijicbm.2014.065193
- Cheung, R., & Arnold, R. (2009). Antecedents of career exploration among Hong Kong Chinese university students: Testing contextual and developmental variables. *Journal of Vocational Behavior, 76(1)*, 25-36. doi:10.1016/j.jvb.2009.05.006

- Creed (1998). Developmental issues in career maturity and career decision status. *The Career Development Quarterly*, 49, 336-351. doi:10.1002/j.2161-0045.2001.tb00961.x
- Creed, P., Prideaux, L., & Patton, W. (2005). Antecedents and consequences of career decisional states in adolescence. *Journal of Vocational Behavior*, 67, 397-412. doi:10.1016/j.jvb.2004.08.008
- Crites, J. (1965). Measurement of vocational maturity in adolescence: I, Attitude test of the vocational development inventory. *Psychological Monographs: General and Applied*, 79(2), 1-34. doi:10.1037/h0093875
- Das, E., Kerkhof, P., & Kuiper, J. (2008). Improving the effectiveness of fundraising messages: The impact of charity goal attainment, message framing, and evidence on persuasion. *Journal of Applied Communication Research*, 36, 161-175. doi:10.1080/00909880801922854
- DeLorenzo, D. R. (1998). *The relationship of cooperative education exposure to career decision self-efficacy and career locus of control*. (Doctoral dissertation). doi:10.1016/0001-8791(90)90004-1
- Detweiler, J., Bedell, B., Salovey, P., Pronin, E., & Rothman, A. (1999). Message framing and sunscreen use: Gain-framed messages motivate beach-goers. *Health Psychology*, 18, 189-196. doi:10.1037/0278-6133.18.2.189
- DuPre, C., & Williams, K. (2011). Undergraduates' perceptions of employer expectations. *Journal of Career and Technical Education*, 26(1), 1-9. doi:10.1111/j.1467-629x.2007.00245.x
- Erikson, E. (1963). *Childhood and society*. WW Norton & Company.

- Esters, L. (2008). Influence of career exploration process behaviors on agriculture students' level on career certainty. *Journal of Agricultural Education*, 49(3), 23-33. doi:10.5032/jae.2008.03023
- Fagley, N. S., & Miller, P. M. (1987). The effects of decision framing on choice of risky vs. certain options. *Organizational Behavior and Human Decision Processes*, 39, 264-277. doi:10.1016/0749-5978(87)90041-0
- Fagley, N. S., Miller, P. M., & Jones, R. N. (1999). The effect of positive or negative frame on the choices of students in school psychology and educational administration. *School Psychology Quarterly*, 14, 148-162. doi:10.1037/h0089002.
- Feldt, R. C., & Woelfel, C. (2009). Five-factor personality domains, self-efficacy, career-outcome expectations, and career indecision. *College Student Journal*, 43, 429- 437. doi:10.1177/1069072711434413
- Fouad, N. A., Guillen, A., Harris-Hodge, E., Henry, C., Novakovic, A., Terry, S., & Kantamneni, N. (2006). Need, awareness, and use of career services for college students. *Journal of Career Assessment*, 14, 407-420. doi:10.1177/1069072706288928
- Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology*, 51, 115-134. doi:10.1037/0022-0167.51.2.157

- Gable, R., Thompson, D., & Glanstein, P. (1976). Perceptions of personal control and conformity of vocational choice as correlates of vocational development. *Journal of Vocational Behavior, 8*, 259-267. doi:10.1016/0001-8791(76)90041-5
- Gamliel, E., & Herstein, R. (2007). The effect of framing on willingness to buy private brands. *Journal of Consumer Marketing, 24*, 334-339. doi:10.1108/07363760710822918
- Gerend, M. A., & Cullen, M. (2008). Effects of message framing and temporal context on college student drinking behavior. *Journal of Experimental Social Psychology, 44*, 1167-1173. doi:10.1016/j.jesp.2008.02.007
- Gerend, M. A., Shepherd, J. E., & Monday, K. A. (2008). Behavioral frequency moderates the effects of message framing on HPV vaccine acceptability. *Annals of Behavioral Medicine, 35*, 221-229. doi:10.1007/s12160-008-9024-0
- Gianakos, I. (1999). Patterns of career choice and career decision self-efficacy. *Journal of Vocational Behavior, 54*, 244-258. doi:10.1006/jvbe.1998.1668
- Greenhaus, J. H., & Sklarew, N. D. (1981) Some sources and consequences of career exploration. *Journal of Vocational Behavior, 18*, 1-12. doi:10.1016/0001-8791(81)90025-7
- Grier-Reed, T. L., & Skaar, N. R. (2010). An outcome study of career decision self-efficacy and indecision in an undergraduate constructivist career course. *Career Development Quarterly, 59*, 42-53. Retrieved from EBSCOhost. doi:10.1002/j.2161-0045.2010.tb00129.x

- Guay, F., Senécal, C., Gauthier, L., & Fernet, C. (2003). Predicting career indecision: A self determination theory perspective. *Journal of Counseling Psychology, 50*, 165-177. doi:10.1037/0022-0167.50.2.165
- Gushue, G. V., Clarke, C. P., Pantzer, K. M., & Kolone, R. L. (2006). Self-efficacy, perceptions of barriers, vocational identity, and the career exploration behavior of Latino/a high school students. *The Career Development Quarterly, 54*, 207-317. doi:10.1002/j.2161-0045.2006.tb00196.x
- Gushue, G. V., Scanlan, K. R., Pantzer, K. M., & Clarke, C. P. (2006). The relationship of career decision self-efficacy, vocational identity, and career exploration behavior in African American high school students. *Journal of Career Development, 33*, 19-28. doi:10.1177/0894845305283004
- Hackett, G., & Betz, N. (1980). A self-efficacy approach to the career development of women. *Journal of Vocational Behavior, 18*, 326–339. doi:10.1016/0001-8791(81)90019-1
- Hammond, M. S. (2001). Career centers and needs assessments: Getting the information you need to increase your success. *Journal of Career Development, 27*, 187-197. doi:10.1177/089484530102700305
- Hamsher, J. H., Geller, J. D., & Rotter, J. B. (1968). Interpersonal trust, internal-external control, and the Warren Commission Report. *Journal of Personality and Social Psychology, 9*, 210. doi:10.1037/h0025900
- Hawkins, J., Bradley, R., & White, G. (1977). Anxiety and the process of deciding about a major and vocation. *Journal of Counseling Psychology, 24*, 398-403. doi:10.1037/0022-0167.24.5.398

- Healy, C. C., O'Shea, D., Crook, R. H. (1985). Relation of career attitudes to age and career progress during college. *Journal of Counseling Psychology, 32*, 239-244. doi:10.1037/0022-0167.32.2.239
- Hilton, T. L. (1962). Career decision. *Journal of Counseling Psychology, 9*, 291-298. doi:10.1037/h0048309
- Holland, J. L., & Holland, J. E. (1977). Vocational indecision: More evidence and speculation. *Journal of Counseling Psychology, 24*, 404 – 414. doi: 10.1037//0022-0167.24.5.404
- Homer, P. M., & Yoon, S.-G. (1992). Message framing and the interrelationships among ad-based feelings, affect, and cognition. *Journal of Advertising, 21*, 1932. doi:10.1080/00913367.1992.10673357
- Hornak, J., & Gillingham, B. (1980). Career indecision: A self-defeating behavior. *Personnel & Guidance Journal, 59*, 252-253. doi:10.1002/j.2164-4918.1980.tb00543.x
- Jepsen, D., & Dickson, G. (2003). Continuity in life-span career development: career exploration as a precursor to career establishment. *Career Development Quarterly, 51*, 217-233. doi:10.1002/j.2161-0045.2003.tb00603.x
- Johnson, R. D. (1987). Making judgments when information is missing: Inferences, biases, and framing effects. *Acta Psychologica, 66*, 69–82. doi:10.1016/0001-6918(87)90018-7
- Jones, L. K., & Chenery, M. F. (1980). Multiple subtypes among vocationally undecided college students: A model and assessment instrument. *Journal of Counseling Psychology, 27*, 469–477. doi:10.1037//0022-0167.27.5.469

- Judge, T. A., & Bono, J. E. (2001). Relationship of core self-evaluations traits- self-esteem, generalized self-efficacy, locus of control, and emotional stability- with job satisfaction and job performance: A meta-analysis. *Journal of Applied Psychology, 86*, 80-92. doi:10.1037//0021-9010.86.1.80
- Judge, T. A., Erez, A., Bono, J., & Thoresen, C. J. (2002). Are measures of self-esteem, neuroticism, locus of control, and generalized self-efficacy indicators of a common core construct? *Journal of Personality and Social Psychology, 83*, 693-710. doi:10.1037/0022-3514.83.3.693
- Kahneman, D., Knetsch, J., & Thaler, R. H. (1990). Experimental tests of the endowment effect and the Coase theorem. *Journal of Political Economy, 98*, 1325–1348. doi:10.1017/cbo9781139175197.009
- Kahneman, D., & Tversky, A. (1979). Prospect theory: an analysis of decision under risk. *Econometrica, 47*, 263-292. doi:10.2307/1914185
- Keenan, A., & McBain, G. D. M. (1979). Effects of Type A Behaviour, Intolerance of Ambiguity, and Locus of Control on the Relationship Between Role Stress and Work-Related Outcomes. *Journal of Occupational Psychology, 52*, 277-285. doi:10.1111/j.2044-8325.1979.tb00462.x
- Keller, P., Lipkus, I., & Rimer, B. (2003). Affect, framing, and persuasion. *Journal of Marketing Research, 40*, 54-64. doi:10.1016/j.jesp.2009.04.002
- Kiener, M. (2006). Decision making and motivation and its impact on career search behaviors: The role of self-regulation. *College Student Journal, 40*, 350-360.

- Krieshok, T. S. (2001). How the decision literature might inform career center practice. *Journal of Career Development, 27*, 207-216.  
doi:10.1177/089484530102700307
- Lam, S. S., Chen, X. P., & Schaubroeck, J. (2002). Participative decision making and employee performance in different cultures: The moderating effects of allocentrism/idiocentrism and efficacy. *Academy of Management Journal, 45*, 905-914. doi:10.2307/3069321
- Lange, R., & Tiggemann, M. (1981). Dimensionality and reliability of the Rotter I-E Locus of Control Scale. *Journal of Personality Assessment, 45*, 398-406.  
doi:10.1207/s15327752jpa4504\_9
- Larson, L. M., Heppner, P. P., Ham, T., & Dugan, K. (1988). Investigating multiple subtypes of career indecision through cluster analysis. *Journal of Counseling Psychology, 35*, 439-446. doi:10.1037//0022-0167.35.4.439
- Lauriola, M., & Levin, I. (2001). Personality traits and risky decision making in a controlled experimental task: An exploratory study. *Personality and Individual Differences, 31*, 215-226. doi:10.1016/s0191-8869(00)00130-6
- Lauver, D., & Rubin, M. (1990). Message framing, dispositional optimism, and follow-up for abnormal papanicolaou tests. *Research in Nursing & Health, 13*, 199-207.  
doi:10.1002/nur.4770130309.
- Lease, S. H. (2004). Effect of locus of control, work knowledge, and mentoring on career decision difficulties: Testing the role of race and academic institution. *Journal of Career Assessment, 12*, 239-254. doi:10.1177/1069072703261537

- Levin, I. P. (1987). *Associative effects of information framing on human judgments*. Paper presented at the annual meeting of the Midwestern Psychological Association, May, Chicago, IL. doi:10.1016/0167-4870(89)90028-7
- Levin, I. P., Chapman, D. P., & Johnson, R. D. (1988). Confidence in judgments based on incomplete information: An investigation using both hypothetical and real gambles. *Journal of Behavioral Decision Makings, 1*, 29–41. doi: 10.1002/bdm.3960010105
- Levin, I. P., & Gaeth, G. J. (1988). Framing of attribute information before and after consuming the product. *Journal of Consumer Research, 15*, 374–378. doi: 10.1086/209174
- Levin, I. P., Gaeth, G. J., Schreiber, J., & Lauriola, M. (2002). A new look at framing effects: Distribution of effect sizes, individual differences, and independence of types of effects. *Organizational Behavior and Human Decision Processes, 88*, 411–429. doi:10.1006/obhd.2001.2983
- Levin, I. P., Johnson, R. D., Russo, C. P., & Deldin, P. J. (1985). Framing effects in judgment tasks with varying amounts of information. *Organizational Behavior and Human Decision Processes, 36*, 362-377. doi:10.1016/0749-5978(85)90005-6
- Levin, I., Schneider, S., & Gaeth, G. (1998) All frames are not created equal: a typology and critical analysis of framing effects. *Organizational Behavior and Human Decision Processes, 76*, 149-188. doi:10.1006/obhd.1998.2804

- Levin, I. P., Schnittjer, S. K., & Thee, S. L. (1988). Information framing effects in social and personal decisions. *Journal of Experimental Social Psychology*, 24, 520–529. doi:10.1016/0022-1031(88)90050-9
- Loewenstein, G., & Issacharoff, S. (1994). Source dependence in the valuation of objects. *Journal of Behavioral Decision Making*, 7, 157–168. doi: 10.1002/bdm.3960070302
- Loke, W. H., & Lau, S. L. (1992). Effects of framing and mathematical experience on judgments. *Bulletin of the Psychonomic Society*, 30, 393-395. doi:10.3758/BF03334098.
- Luzzo, D. A. (1996). A Psychometric evaluation of the career decision self efficacy scale. *Journal of Counseling & Development*, 74, 276-279. doi: 10.1002/j.1556-6676.1996.tb01865.x
- Luzzo, D. A., & MacGregor, M. W. (2001). Practice and research in career counseling and development. *The Career Development Quarterly*, 50, 98-139. doi:10.1002/j.2161-0045.2001.tb00978.x.
- Luzzo, D. A., & Ward, B. E. (1995). The relative contributions of self-efficacy and locus of control to the prediction of vocational congruence. *Journal of Career Development*, 21. 307-317. doi:10.1177/089484539502100404
- Maheswaran, D., & Meyers-Levy, J. (1990). The influence of message framing and issue involvement. *Journal of Marketing Research*, 27, 361-367. doi: 10.2307/3172593

- Marcia, J. (1966). Development and validation of ego-identity states. *Journal of Personality and Social Psychology*, 3, 551-558. doi:10.1007/978-1-4613-8330-7\_1
- Marcia, J. (2010). Life transitions and stress in the context of psychosocial development. In T. W. Miller (Ed.), *Handbook of Stressful Transitions Across the Lifespan* (pp. 19-34). doi:10.1007/978-1-4419-0748-6\_2
- Marteau, T. M. (1989). Framing of information: Its influence upon decisions of doctors and patients. *British Journal of Social Psychology*, 28, 89-94. doi:10.1111/j.2044-8309.1989.tb00849.x
- Mason, C. H., & Perreault, W. D. (1991). Collinearity, power, and interpretation of multiple regression analysis. *Journal of Marketing Research*, 28, 268-280. doi:10.2307/3172863
- Mendoca, J., & Siess, T. (1976). Counseling for indecisiveness: Problem-solving and anxiety-management training. *Journal of Counseling Psychology*, 23, 339-347. doi:10.1037/0022-0167.23.4.339.
- Meyerowitz, B. E., & Chaiken, S. (1987). The effect of message framing on breast self-examination attitudes, intentions, and behavior. *Journal of Personality and Social Psychology*, 52, 500-510. doi:10.1037/0022-3514.52.3.500
- Murphy, K. A., Blustein, D. L., Bohlig, A. J., & Platt, M. G. (2010) The college-to-career transition: An exploration of emerging adulthood. *Journal of Counseling and Development*, 88, 174-81. doi:10.1037/e524702007-001

- Ochs, L., & Roessler, R. (2004). Predictors of career exploration intentions a social cognitive career theory perspective. *Rehabilitation Counseling Bulletin*, 47, 224-233. doi:10.1177/00343552040470040401
- O'Brien, R. G., & Kaiser, M. K. (1985). MANOVA method for analyzing repeated measures designs: an extensive primer. *Psychological Bulletin*, 97, 316-333. doi:10.1037//0033-2909.97.2.316
- O'Connor, D., Ferguson, E., & O'Connor, R. (2005) Intention to use hormonal male contraception: The role of message framing, attitudes, and stress appraisals. *British Journal of Psychology*, 96, 251-369. doi:10.1348/000712605x49114
- O'Hare, M., & Tamburi, E. (1986). Coping as a moderator of the relation between anxiety and career decision making. *Journal of Counseling Psychology*, 33, 255-264. doi:10.1080/10510970701849388
- O'Keefe, D. J., & Jensen, J. D. (2008). Do loss-framed persuasive messages engender greater message processing than do gain-framed messages? A meta-analytic review. *Communication Studies*, 59, 51-67. doi: 10.1080/10510970701849388
- Olekalns, M., Robert, C., Probst, T., Smith, P. L., & Camevale, P. (2005). The impact of message frame on negotiators' impression, emotions, and behaviors. *International Journal of Conflict Management*, 164, 379-402. doi:10.1111/j.1464-0597.2008.00336.x
- Osipow, S. H. (1980). *Career decision scale: Manual*. Psychological Assessment Resources. doi:10.4135/9781412952675.n38

- Osipow, S. H. (1999). Assessing career indecision. *Journal of Vocational Behavior, 55*, 147–154. doi:10.1006/jvbe.1999.1704
- Pallant, J. (2007). SPSS survival manual: A step-by-step guide to data analysis using SPSS version 15. *Nova Iorque: McGraw Hill*.
- Paulsen, A. M., & Betz, N. E. (2004). Basic confidence predictors of career decision-making self-efficacy. *Career Development Quarterly, 52*, 354-362. Retrieved from EBSCOhost. doi:10.1002/j.2161-0045.2004.tb00951.x
- Phillips, J., & Gully, S. (1997). Role of goal orientation, ability, need for achievement, and locus of control in the self-efficacy and goal--setting process. *Journal of Applied Psychology, 82*, 792-802. doi:10.1037//0021-9010.82.5.792
- Phillips, S. D., & Strohmer, D. C. (1983). Vocationally mature coping strategies and progress in the decision process: A canonical analysis. *Journal of Counseling Psychology, 30*, 395-402. doi:10.1037/0022-0167.30.3.395.
- Reese, R., & Miller, C. (2006). Effects of a university career development course on career decision self-efficacy. *Journal of Career Assessment, 14*, 252-266. doi:10.1177/1069072705274985
- Roddenberry, A., & Renk, K. (2010). Locus of control and self-efficacy: Potential mediators of stress, illness, and utilization of health services in college students. *Child Psychiatry & Human Development, 41*, 353-370. doi:10.1007/s10578-010-0173-6
- Rodriguez, M., & Blocher, D. (1988) A comparison of two approaches to enhancing career maturity in Puerto Rican college women. *Journal of Counseling Psychology, 35*(3), 275-280. doi:10.1037/0022-0167.35.3.275

- Rojewski, J. (2005). Occupational aspirations: Constructs, meanings, and application. In S. Brown & R. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 131-149). Hoboken, NJ: John Wiley & Sons, Inc.
- Rothman, A. J., & Salovey, P. (1997). Shaping perceptions to motivate healthy behavior: The role of message framing. *Psychological Bulletin*, *121*, 3–19. doi:10.1037/0033-2909.121.1.3
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, *80*, 1-28. doi:10.1037/h0092976
- Saks, A. M. (1995). Longitudinal field investigation of the moderating and mediating effects of self-efficacy on the relationship between training and newcomer adjustment. *Journal of Applied Psychology*, *80*, 211. doi:10.1037/0021-9010.80.2.211
- Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, *21*, 600-619. doi:10.9790/487x-0935257
- Saunders, D. E., Peterson, G. W., Sampson, J. P., & Reardon, R. C. (2000). Relation of depression and dysfunctional career thinking to career indecision. *Journal of Vocational Behavior*, *56*, 288-298. doi:10.1006/jvbe.1999.1715
- Savickas, M. L. (2005). The theory and practice of career construction. In Brown, S. D. & Lent, R. W. (Eds.), *Career development and counselling: Putting theory and research to work* (pp. 42–70). Hoboken, NJ: Wiley.
- Scott, L., & Curbow, B. (2006). The effect of message frames and CVD risk factors on behavioral outcomes. *American Journal of Health Behavior*, *30*, 582-597. Retrieved from EBSCOhost. doi:10.5993/ajhb.30.6.5

- Sharf, R. S. (2006). *Applying career development theory to counseling* (4<sup>th</sup> ed.). Pacific Grove, CA: Brooks/Cole. doi:10.1177/103841620401300315
- Sherman, D. K., Mann, T., & Updegraff, J. A. (2006). Approach/avoidance motivation, message framing, and health behavior: understanding the congruency effect. *Motivation & Emotion, 30*, 164-168. doi:10.1007/s11031-006-9001-5.
- Singaravelu, H., & Pope, M. (2007). *A handbook for counseling international students in the United States*. Alexandria, VA: American Counseling Association. 1-329.
- Smart, R., & Peterson, C. (1997) Super's career stages and the decision to change careers. *Journal of Vocational Behavior, 51*, 358-374. doi:10.1006/jvbe.1996.1544
- Smith, G., & Berger, P. (1995). The impact of framing, anchorpoints, and frames of reference on direct mail charitable contributions. *Advances in Consumer Research, 22*, 705-712.
- Solberg, V. S., Good, G. E., & Nord, D. (1994). Career search efficacy: Ripe for applications and intervention programming. *Journal of Career Development, 21*, 63-72. doi:10.1177/089484539402100106
- Spokane, A., & Cruza-Guet, M. (2005). Occupational aspirations: Constructs, meanings, and application. In J. Brown & J. Brown (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 24-41). Hoboken, NJ: John Wiley & Sons, Inc.
- Storms, P. L., & Spector, P. E. (1987). Relationships of organizational frustration with reported behavioural reactions: The moderating effect of locus of control. *Journal of Occupational Psychology, 60*, 227-234. doi:10.1111/j.2044-8325.1987.tb00255.x

- Swanson, J., & Fouad, N. (1999). *Career theory and practice: Learning through case studies*. Thousand Oaks, CA: SAGE Publications, Inc.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics*. Needham Heights, MA: Allyn & Bacon.
- Tansley, D. P., Jome, L. M., Haase, R. F., & Martens, M. P. (2007). The effects of message framing on college students' career decision making. *Journal of Career Assessment, 15*, 301-316. doi:10.1177/1069072707301204
- Taveira, M., & Moreno, L. (2003). Guidance theory and practice: The status of career exploration. *British Journal of Guidance & Counseling, 31*, 289-208. doi:10.1080/0306988031000102360.
- Taylor, K. M., & Betz, N. E. (1983). Applications of self-efficacy theory to the understanding and treatment of career indecision. *Journal of Vocational Behavior, 22*, 63-81. doi:10.1016/0001-8791(83)90006-4.
- Thaler, R. (1980). Toward a positive theory of consumer choice. *Journal of Economic Behavior and Organization, 1*, 39–60. doi:10.1016/0167-2681(80)90051-7
- Tversky, A., & Kahneman, D. (1991). Loss aversion in riskless choice: A reference-dependent model. *Quarterly Journal of Economics, 107*, 1039–1061. doi:10.2307/2937956
- Tversky, A., & Kahneman, D. (1992). Advances in prospect theory: Cumulative representation of uncertainty. *Journal of Risk and Uncertainty, 5*, 297-323. doi:10.1007/bf00122574

- U.S. Department of Labor, Bureau of Labor Statistics. (2009). *Occupational Outlook Handbook, 2010-11 Edition*. Retrieved from <http://www.bls.gov/oco/ocos069.htm>
- Uskul, A. K., & Oyserman, D. (2010). When message-frame fits salient cultural-frame, messages feel more persuasive. *Psychology & Health, 25*, 321-337. doi:10.1080/08870440902759156
- Uskul, A. K., Sherman, D. K., & Fitzgibbon, J. (2009). The cultural congruency effect: Culture, regulatory focus, and the effectiveness of gain- vs. loss-framed health messages. *Journal of Experimental Social Psychology, 45*, 535-541. doi:10.1016/j.jesp.2008.12.005
- van Schie, E. C. M., & van der Pligt, J. (1995). Influencing risk preference in decision making: The effects of framing and salience. *Organizational Behavior and Human Decision Processes, 63*, 264-275. doi:10.1006/obhd.1995.1078
- Vondracek, F., Hostetler, M., Schulenberg, J., & Shimizu, K. (1990). Dimensions of career indecision. *Journal of Counseling Psychology, 37*, 98-106. doi:10.1037/h0090386
- Weinstein, F. M., Healy, C. C., & Ender, P. B. (2002). Career choice anxiety, coping, and perceived control. *The Career Development Quarterly, 50*, 339-349. doi:10.1002/j.2161-0045.2002.tb00582.x
- Williams-Piechota, P., Schneider, T. R., Pizarro, J., Mowad, L., & Salovey, P. (2004). Matching health messages to health locus of control beliefs for promoting mammography utilization. *Psychology & Health, 19*, 407-423. doi:10.1080/08870440310001652678.

- Wilson, D. K., Kaplan, R. M., & Schneiderman, L. J. (1987). Framing of decisions and selections of alternatives in health care. *Social Behaviour, 2*, 51–59.
- Wilson, D. K., Wallston, K. A., & King, J. E. (1990). Effects of contract framing, motivation to quit, and self-efficacy on smoking reduction. *Journal of Applied Social Psychology, 20*, 531–547. doi:10.1111/j.1559-1816.1990.tb00426.x
- Wong, C. O., & McMurray, N. E. (2002). Framing communication: Communicating the antismoking message effectively to all smokers. *Journal of Community Psychology, 30*, 433-447. doi:10.1002/jcop.10015

**APPENDIX A**

**DEMOGRAPHICS**



**APPENDIX B**

**CONDITIONS**

### Condition 1

Making informed career decisions early can lead to a feeling of purpose in college due to classes and career goals that are appropriate to your values, interests, and skills. Some of the benefits of making an early and informed decision about your academic major and career path can lead to the following benefits:

1. Increased satisfaction and in your academic major
2. Increased job satisfaction and fit after graduation
3. Decreased time to graduation due to choosing an appropriate major early
4. Decreased student debt due to staying in the same major
5. Increased interest in your academic major and future career which is associated with psychological and financial benefits.

How likely are you to seek information pertaining to majors and careers?

Very Unlikely					Very Likely
1	2	3	4	5	

How likely are you going to seek guidance in the career exploration process?

Very Unlikely					Very Likely
1	2	3	4	5	

How persuasive did you find this message?

Very Unpersuasive					Very Persuasive
1	2	3	4	5	

## Condition 2

Failure to make informed career decisions early can lead to a lack of a feeling of purpose in college due to classes and career goals that may not be appropriate to your values, interests, and skills. Some of the risks of not making an early and informed decision about your academic major and career path include the following:

1. Decreased satisfaction and in your academic major
2. Decreased job satisfaction and fit after graduation
3. Increased time to graduation due to choosing an inappropriate major early
4. Increased student debt due to changing majors
5. Decreased interest in your academic major and future career which is associated with psychological and financial problems.

How likely are you to seek information pertaining to majors and careers?

Very Unlikely					Very Likely
1	2	3	4	5	

How likely are you going to seek guidance in the career exploration process?

Very Unlikely					Very Likely
1	2	3	4	5	

How persuasive did you find this message?

Very Unpersuasive					Very Persuasive
1	2	3	4	5	

**APPENDIX C**

**CAREER INFORMATION**

## Career Information

Want to know the next step to make in your career development process?

Visit this website to begin your exploration: <http://surveymonkey.com>....

Here you will find resources to assist you in choosing the right career path for you. You will find:

General career information:

- Salaries
- Required degree
- The future outlook of careers

Personality type:

- Communication style
- Preferred work environment
- Leadership style

Job Types:

- Figure out your work preferences, you may be surprised!
- Find jobs that people with similar personalities find satisfying
- Match jobs to your preferences

Information about free career guidance on campus.

**APPENDIX D**

**LOCUS OF CONTROL SCALE (ROTTER)**

### Locus of Control Scale (Rotter)

1. a. Children get into trouble because their parents punish them too much.  
b. The trouble with most children nowadays is that their parents are too easy with them.
2. a. Many of the unhappy things in people's lives are partly due to bad luck.  
b. People's misfortunes result from the mistakes they make.
3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.  
b. There will always be wars, no matter how hard people try to prevent them.
4. a. In the long run people get the respect they deserve in this world.  
b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
5. a. The idea that teachers are unfair to students is nonsense.  
b. Most students don't realize the extent to which their grades are influenced by accidental happenings.
6. a. Without the right breaks one cannot be an effective leader.  
b. Capable people who fail to become leaders have not taken advantage of their opportunities.
7. a. No matter how hard you try some people just don't like you.  
b. People who can't get others to like them don't understand how to get along with others.
8. a. Heredity plays the major role in determining one's personality.  
b. It is one's experiences in life which determine what they're like.
9. a. I have often found that what is going to happen will happen.  
b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10. a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.  
b. Many times exam questions tend to be so unrelated to course work that studying is really useless.
11. a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.  
b. Getting a good job depends mainly on being in the right place at the right time.

12. a. The average citizen can have an influence in government decisions.  
b. This world is run by the few people in power, and there is not much the little guy can do about it.
13. a. When I make plans, I am almost certain that I can make them work.  
b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
14. a. There are certain people who are just no good.  
b. There is some good in everybody.
15. a. In my case getting what I want has little or nothing to do with luck.  
b. Many times we might just as well decide what to do by flipping a coin.
16. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.  
b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
17. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.  
b. By taking an active part in political and social affairs the people can control world events.
18. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.  
b. There really is no such thing as "luck."
19. a. One should always be willing to admit mistakes.  
b. It is usually best to cover up one's mistakes.
20. a. It is hard to know whether or not a person really likes you.  
b. How many friends you have depends upon how nice a person you are.
21. a. In the long run the bad things that happen to us are balanced by the good ones.  
b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
22. a. With enough effort we can wipe out political corruption.  
b. It is difficult for people to have much control over the things politicians do in office.
23. a. Sometimes I can't understand how teachers arrive at the grades they give.  
b. There is a direct connection between how hard I study and the grades I get.
24. a. A good leader expects people to decide for themselves what they should do.  
b. A good leader makes it clear to everybody what their jobs are.

25.
  - a. Many times I feel that I have little influence over the things that happen to me.
  - b. It is impossible for me to believe that chance or luck plays an important role in my life.
  
26.
  - a. People are lonely because they don't try to be friendly.
  - b. There's not much use in trying too hard to please people, if they like you, they like you.
  
27.
  - a. There is too much emphasis on athletics in high school.
  - b. Team sports are an excellent way to build character.
  
28.
  - a. What happens to me is my own doing.
  - b. Sometimes I feel that I don't have enough control over the direction my life is taking.
  
29.
  - a. Most of the time I can't understand why politicians behave the way they do.
  - b. In the long run the people are responsible for bad government on a national as well as on a local level.

**APPENDIX E**

**HUMAN USE APPROVAL LETTER**



LOUISIANA TECH  
UNIVERSITY

OFFICE OF UNIVERSITY RESEARCH

MEMORANDUM

TO: Ms. Lauren Tressler and Dr. Donna Thomas  
 FROM: Dr. Stan Napper, Vice President Research & Development  
 SUBJECT: Human Use Committee Review  
 DATE: June 11, 2014  
 RE: Approved Continuation of Study HUC 1075  
 TITLE: **“The Importance of Career Explorations”**

**HUC 1075**

The above referenced study has been approved as of June 10, 2014 as a continuation of the original study that received approval on March 5, 2013. **This project will need to receive a continuation review by the IRB if the project, including collecting or analyzing data, continues beyond June 10, 2015.** Any discrepancies in procedure or changes that have been made including approved changes should be noted in the review application. Projects involving NIH funds require annual education training to be documented. For more information regarding this, contact the Office of University Research.

You are requested to maintain written records of your procedures, data collected, and subjects involved. These records will need to be available upon request during the conduct of the study and retained by the university for three years after the conclusion of the study. If changes occur in recruiting of subjects, informed consent process or in your research protocol, or if unanticipated problems should arise it is the Researchers responsibility to notify the Office of Research or IRB in writing. The project should be discontinued until modifications can be reviewed and approved.

If you have any questions, please contact Dr. Mary Livingston at 257-5066.

A MEMBER OF THE UNIVERSITY OF LOUISIANA SYSTEM

P.O. BOX 3092 • RUSTON, LA 71272 • TEL: (318) 257-5075 • FAX: (318) 257-5079

AN EQUAL OPPORTUNITY UNIVERSITY