Research Self-Efficacy and Research Mentoring Experiences as Predictors of Occupational Commitment in Counselor Education Doctoral Students

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RESEARCH SELF-EFFICACY AND RESEARCH MENTORING EXPERIENCES
AS PREDICTORS OF OCCUPATIONAL COMMITMENT IN
COUNSELOR EDUCATION DOCTORAL STUDENTS

by

Glinda Jeanette Rawls

A Dissertation
Submitted to the
Faculty of The Graduate College
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requirements for the
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Counseling Psychology
Advisor: Stephen Craig, Ph.D.

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TABLE OF CONTENTS

ACKNOWLEDGMENTS ........................................................................................................ ii

LIST OF TABLES ................................................................................................................. xi

LIST OF FIGURES .............................................................................................................. xiii

CHAPTER

I. INTRODUCTION ............................................................................................................. 1

Statement of the Problem .................................................................................................. 4

Statement of Purpose ........................................................................................................ 7

Significance of the Study ................................................................................................... 8

Definition of Terms .......................................................................................................... 10

Summary ............................................................................................................................. 10

II. LITERATURE REVIEW ................................................................................................. 13

Research Training in Counselor Education .................................................................... 13

Criticisms of Research Training in Counselor Education ........................................... 16

Concerns About Research Competencies in Counselor Education ............................ 19

Counselor Educator Shortage .......................................................................................... 20

Counselor Educator Shortage and the Demands of Research ....................................... 21

Research Training in Counseling Psychology ................................................................ 23
## Table of Contents—Continued

### CHAPTER

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Self-Efficacy</td>
<td>27</td>
</tr>
<tr>
<td>Research Mentorship</td>
<td>31</td>
</tr>
<tr>
<td>Mentorship</td>
<td>31</td>
</tr>
<tr>
<td>Various Types of Mentoring Relationships</td>
<td>36</td>
</tr>
<tr>
<td>Mentorship in Counselor Education</td>
<td>41</td>
</tr>
<tr>
<td>Mentorship and Benefits to Graduate Students/Faculty</td>
<td>43</td>
</tr>
<tr>
<td>Mentorship and Underrepresented Groups</td>
<td>45</td>
</tr>
<tr>
<td>Challenges With Mentoring Relationships</td>
<td>50</td>
</tr>
<tr>
<td>Occupational Commitment</td>
<td>58</td>
</tr>
<tr>
<td>Commitment in the Workplace</td>
<td>58</td>
</tr>
<tr>
<td>Career Salience as an Early Form of Career Commitment</td>
<td>62</td>
</tr>
<tr>
<td>Career Commitment Evolves Into Occupational Commitment</td>
<td>66</td>
</tr>
<tr>
<td>Significance of Occupational Commitment to This Research</td>
<td>70</td>
</tr>
<tr>
<td>Career or Occupational Commitment and Students</td>
<td>71</td>
</tr>
<tr>
<td>Theoretical Framework</td>
<td>77</td>
</tr>
<tr>
<td>Self-Efficacy Theory</td>
<td>77</td>
</tr>
<tr>
<td>Self-Efficacy and Behavior</td>
<td>78</td>
</tr>
<tr>
<td>Role of Mentor in Building Self-Efficacy</td>
<td>79</td>
</tr>
<tr>
<td>CHAPTER</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>Research Question 2 ......................................................... 100</td>
<td></td>
</tr>
<tr>
<td>Research Question 3 ......................................................... 101</td>
<td></td>
</tr>
<tr>
<td>Research Question 4 ......................................................... 103</td>
<td></td>
</tr>
<tr>
<td>Research Question 5 ......................................................... 104</td>
<td></td>
</tr>
<tr>
<td>Summary ................................................................. 106</td>
<td></td>
</tr>
<tr>
<td>IV. RESULTS ............................................................ 107</td>
<td></td>
</tr>
<tr>
<td>Demographic Information .................................................. 107</td>
<td></td>
</tr>
<tr>
<td>Data Analysis ................................................................. 113</td>
<td></td>
</tr>
<tr>
<td>Research Question 1 ......................................................... 113</td>
<td></td>
</tr>
<tr>
<td>Research Question 2 ......................................................... 118</td>
<td></td>
</tr>
<tr>
<td>Research Question 3 ......................................................... 121</td>
<td></td>
</tr>
<tr>
<td>Research Question 4 ......................................................... 125</td>
<td></td>
</tr>
<tr>
<td>Research Question 5 ......................................................... 128</td>
<td></td>
</tr>
<tr>
<td>Summary ................................................................. 131</td>
<td></td>
</tr>
<tr>
<td>V. DISCUSSION ............................................................. 136</td>
<td></td>
</tr>
<tr>
<td>Summary of the Study ....................................................... 136</td>
<td></td>
</tr>
<tr>
<td>Overview of the Problem .................................................. 137</td>
<td></td>
</tr>
<tr>
<td>Purpose Statement and Research Questions ...................... 139</td>
<td></td>
</tr>
<tr>
<td>Chapter Title</td>
<td>Page</td>
</tr>
<tr>
<td>---------------</td>
<td>------</td>
</tr>
<tr>
<td>Review of the Methodology</td>
<td>140</td>
</tr>
<tr>
<td>Major Findings</td>
<td>141</td>
</tr>
<tr>
<td>Findings Related to the Literature</td>
<td>143</td>
</tr>
<tr>
<td>Discussion</td>
<td>146</td>
</tr>
<tr>
<td>Conclusions</td>
<td>150</td>
</tr>
<tr>
<td>Delimitations</td>
<td>150</td>
</tr>
<tr>
<td>Limitations</td>
<td>150</td>
</tr>
<tr>
<td>Implications for Counselor Education and Doctoral Training</td>
<td>152</td>
</tr>
<tr>
<td>Recommendations for Future Research</td>
<td>158</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>162</td>
</tr>
<tr>
<td>APPENDICES</td>
<td></td>
</tr>
<tr>
<td>A. Human Subjects Institutional Review Board Letter of Approval</td>
<td>178</td>
</tr>
<tr>
<td>B. Letters Requesting Permission to Use Instruments</td>
<td>180</td>
</tr>
<tr>
<td>C. Emails Granting Permission to Use Instruments</td>
<td>184</td>
</tr>
<tr>
<td>D. Online Survey</td>
<td>188</td>
</tr>
<tr>
<td>E. Consent Letter</td>
<td>200</td>
</tr>
<tr>
<td>F. Email Invitations to Participants</td>
<td>202</td>
</tr>
<tr>
<td>G. Gift Card Notification Letter</td>
<td>207</td>
</tr>
</tbody>
</table>
LIST OF TABLES

1. SERM, RME, and OCS Subscales Mean Scores by Year .............................................. 115
2. Correlation Table for Research Self-Efficacy, Research Mentoring Experiences, and Occupational Commitment (Weighted and Unweighted) .......................................................................................................................... 118
3. Correlation Table for Subscales of Research Self-Efficacy, Research Mentoring Experiences, and Occupational Commitment .......................................................... 120
4. Linear Regression Analysis Results: Research Self-Efficacy, Research Mentoring Experiences, and Occupational Commitment (Unweighted) .................................................. 123
5. Linear Regression Analysis Results: Research Self-Efficacy, Research Mentoring Experiences, and Occupational Commitment (Weighted) ................................. 124
6. Linear Regression Analysis Results: Research Self-Efficacy, Research Mentoring Experiences, and Occupational Commitment (CFC) ........................................... 125
7. Results from MANOVA analyzing Sex, Ethnic Background, SERM, RMES, and Occupational Commitment .......................................................... 127
8. Group Statistics for Male and Female Counselor ED Doctoral Students and Research Mentoring Experiences .................................................................................... 128
9. Test of Independent Samples for Male and Female Counselor ED Doctoral Students' Research Mentoring Experiences ......................................................... 128
10. Results From the MANOVA Analyzing Ethnic Background, Sex, and Subscale of Occupational Commitment Scale ......................................................... 129
11. Results From Comparison of Ethnic Background and Subscales of the SERM, RMES, and Occupational Commitment Scale ................................................. 130
List of Tables—Continued

12. Mean Scores for Research Self-Efficacy and Research Mentoring Experiences by Year in the Doctoral Program and Carnegie Research Classification ............................................................................. 131

13. Results of MANOVA Analyzing Year, Commitment to Faculty Career, Research Self-Efficacy and Research Mentoring Experiences in Counselor ED Doctoral Students............................................................................. 132

14. Multivariate Test Analyzing Research Self-Efficacy, Research Mentoring Experiences, and Occupational Commitment by Year and Commitment to Pursue a Faculty Career ............................................................................. 133
LIST OF FIGURES

1. Percentage of Male and Female Counselor ED Doctoral Students .................. 109
2. Percentage of Counselor ED Doctoral Students by Ethnic Background .......... 110
3. Percentage of Counselor ED Doctoral Students by Year in Program .......... 111
4. Percentage of Counselor ED Doctoral Students in Each Age Category .......... 112
CHAPTER 1

INTRODUCTION

Occupational commitment is defined as the psychological link between an individual and his or her occupation that is based on an affective reaction to that occupation (Lee, Carswell, & Allen, 2000). It has also been described as one’s attitude towards one’s profession or vocation (Blau, 1985) or one’s motivation to work in a chosen vocation (Carson & Bedeian, 1994). Although occupational commitment has its roots in the field of vocational psychology and human resource management, this concept has specific relevance to counselor education since the profession was besieged by a shortage of counselor educators (Altekruse, 1991a; Maples, 1989, 1990).

Over the past two decades, the counselor education profession has been concerned about the increased demand for qualified professionals to prepare and train counselors and the limited supply of counselor educators (Altekruse, 1991a; Maples, 1989, 1990). Several research articles during the late 1980s and early 1990s were devoted to exploring the reasons why doctoral graduates in counselor education were not pursuing faculty positions. Some conclusions drawn from the research include more career opportunities besides teaching for doctoral graduates in counselor education (Maples, 1989; Hollis & Wantz, 1990; Wittmer & Loesch, 1990; Zimpfer & DeTrude, 1990), greater earning potential outside of the academy (Maples, Altekruse, & Testa,
1993), and the desire to do private practice work (Altekruse, 1991a). One subtle, yet significant reason revealed in the counseling literature regarding why doctoral graduates in counselor education less frequently choose faculty careers is the demands of conducting research. Maples et al. (1993) stated that many counselor education doctoral graduates prefer to be practitioners as opposed to professors who have the inherent pressures of publishing. Swickert (1997) also revealed similar findings on doctoral graduates in counselor education who chose to pursue private practice rather than faculty careers because they disliked research.

For doctoral graduates, the demand of research as a deterrent in pursuing faculty careers in counselor education is a significant finding, since research productivity and the motivation to publish are vital to survive and prosper in the professorate (Thomas & McKenzie, 1986). Success and promotion as a counselor educator in an academic setting relies heavily on the ability to publish scholarly works (Smaby & Crews, 1998). Moreover, scholarship has been identified as the single most important criterion for promotion and tenure (Brewer, Marmon, & McMahan-Landers, 2004; Renegar, 1993; Smaby & Crews, 1998).

Although the demand of research has been identified as one of the reasons doctoral graduates prefer to be practitioners rather than counselor educators (Maple et al., 1993; Swickert, 1997), research is an important aspect of doctoral training. Many scholars have stated that research is a central component to doctoral study, and the student’s ability to create, expand, question, test, integrate, organize and communicate
knowledge is considered essential to a successful educational process (LaPidus, 1995, 1998; Meyer, 1991). LaPidus (1998) describes the doctoral educational process as preparing students for scholarship through various roles and responsibilities. Moreover, the Council for Accreditation of Counseling and Related Educational Programs (CACREP) which is the accrediting body for the 52 counselor education and supervision doctoral programs across the country asserted that the primary function of doctoral programs in counselor education and supervision is to encourage and train students to extend the knowledge base of professional counseling through research (CACREP, 2009).

Since research is a fundamental part of the educational process for doctoral students, it is important to explore their research training which includes the type of academic environment that supports research productivity. Gelso (1993) described the research training environment as all of the instructional and interpersonal elements in graduate training programs that reflect attitudes toward research. According to Gelso, the research training environment can influence doctoral students in two specific ways: (a) increase students' self-efficacy in doing research, and (b) facilitate the development of positive attitudes towards research. Several studies have shown that the research training environment increases research self-efficacy and research interest in doctoral students (Bishop & Bieschke, 1998; Gelso, Mallinckrodt, & Judge, 1996; Kahn & Scott, 1997; Phillips & Russell, 1994). Moreover, doctoral students with high research self-efficacy have greater interest in future research involvement (Bieschke, Bishop, &

While the research training environment increases research self-efficacy and research interest in doctoral students, "faculty mentoring emerges as a consistently important undercurrent in the research training environment" (Hollingsworth & Fassinger, 2002, p. 324). Dohm and Cummings (2002) describes research mentoring as a more experienced person joining with someone less experienced to promote awareness, skill, and productivity in research and scholarly endeavors. Research mentoring is effective in influencing doctoral student attitudes about research. For example, interaction with role models or advisors provided the strongest positive influence on research interest for doctoral students (Royalty & Reising, 1986). Faculty modeling or mentoring in research activities has other benefits for doctoral students including higher rates of research involvement and productivity (Cronan-Hillix, Gensheimer, Cronan-Hillix, & Davidson, 1986; Galassi, Stoltz, Brooks, & Trexler, 1987; Krebs et al., 1991).

Statement of the Problem

There is little information available on the research self-efficacy of doctoral students in counselor education and supervision. Most of the literature available on research self-efficacy involves doctoral students from disciplines like rehabilitation counseling (Bieschke, Bishop, & Herbert, 1995) and counseling psychology (Bishop &
Bieschke, 1998; Kahn & Scott, 1997; Phillips & Russell, 1994). The lack of information available on the research self-efficacy of doctoral students in counselor education is significant, because there has been a growing concern about the research training and competencies of counselor educators (Betz, 1997; Fong, 1992; Kline & Farrell, 2005; Lundervold & Belwood, 2001; Reisetter et al., 2004). Specifically, this concern has centered on the frequent and recurring research related errors in manuscripts submitted for publication (Kline & Farrell, 2005). Moreover, the concerns about the research abilities of counselor educators have caused many scholars to highlight deficiencies in the research training of counselor education doctoral programs (Galassi et al., 1987; Kahn, 2001; Kline & Farrell, 2005; Lundervold & Belwood, 2001). Even though doctoral programs should provide a research training environment that facilitates research self-efficacy in doctoral students (Betz, 1986), it is unclear how confident doctoral students in counselor education feel about their ability to complete research-related tasks. Competency in completing research-related tasks or research self-efficacy is particularly relevant to doctoral students in counselor education, since their training provides preparation for faculty careers. Moreover, a faculty career involves producing knowledge through research.

Another problem related to research and doctoral students in counselor education is faculty mentoring. Although faculty mentorship and collaborative relationships have been recognized as important aspects of doctoral training (Baird, 1991; Faan, 1992; Gaffney, 1995; Hirt & Muffo, 1998; Nelson & Jackson, 2000),
mentorship receives very little attention in counselor education literature (Black, Suarez, & Medina, 2004). Furthermore, very little is known about the research mentoring experiences of doctoral students in counselor education. Research mentorship specifically remains under examined (Dohm & Cummings, 2002; Melicher, 2000) despite the many benefits doctoral students receive from mentoring and its significance in preparing doctoral students as researchers, counselor educators and future leaders in the counseling profession.

Research mentoring experiences and research self-efficacy are shown to be predictors of increased research interest and research productivity (Cronan-Hillix et al., 1986; Galassi et al., 1987; Hollingsworth & Fassinger, 2002; Krebs et al., 1991; Phillips & Russell, 1994). In addition, research productivity is a central component of a successful academic career (Smaby & Crews, 1998). Yet with the historical shortages of counselor education doctoral graduates interested in pursuing faculty careers, few studies have examined doctoral graduates' motivation to pursue or their attachment towards faculty careers (occupational commitment), its relationship to their confidence and competence in completing research related tasks (research self-efficacy) and their experiences with research mentors. Therefore, an investigation on the relationship between research self-efficacy and research mentoring experiences and the degree to which these two variables could predict the career intentions or the motivation of doctoral students to become counselor educators (occupational commitment) is warranted.
Statement of Purpose

The purpose of the study was to examine the research self-efficacy and research mentoring experiences of doctoral students in counselor education and to determine the extent to which these two variables could predict occupational commitment. Given the purpose of the study, the following research questions were used:

1. What is the level of research self-efficacy, research mentoring experiences, and occupational commitment of counselor education doctoral students? What relationship, if any, exists between research self-efficacy and research mentoring experiences?

2. What relationship, if any, exists among research self-efficacy, research mentoring experiences and occupational commitment?

3. Can research self-efficacy and research mentoring experiences predict occupational commitment?

4. Are there sex and/or racial differences in research self-efficacy, research mentoring experiences and occupational commitment in counselor education doctoral students? Are there sex and/or racial differences in the subscales of research self-efficacy, research mentoring experiences and occupational commitment in counselor education doctoral students?
5. Are there differences in research self-efficacy and research mentoring experiences in counselor education doctoral students by year in doctoral program and institution type?

Significance of the Study

Even though Maples et al. (1993) and Swickert (1997) identified the demands of research as one of the reasons doctoral graduates in counselor education less frequently seek positions as counselor educators, their findings suggest opportunity for further exploration on the effect research has on the career intentions of counselor education doctoral students. This study extends their research by providing empirical data on the relationship that specific aspects of research have on doctoral students' motivation to pursue faculty careers or leave counselor education for another profession, like private practice. This study also helps to highlight for the counseling profession aspects of research, namely self-efficacy and mentoring experiences that could be associated with the attachment doctoral students have towards working in counselor education (occupational commitment) or their desire to leave the profession. Furthermore, the examination of these two aspects of research is important to the counselor education profession, because there are virtually no studies in counselor education literature which have explored the perceptions that doctoral students have of their research abilities and their experiences with research mentors. Both areas are not only under examined but also have relevance to the profession, since the training of doctoral
students in counselor education is tailored for those students seeking careers as counselor educators. Another reason the examination of research self-efficacy and research mentoring experiences is important for the counseling profession is the relationship that research self-efficacy and research mentoring experiences have with future research involvement and research productivity. Both are vital to a successful faculty career.

Current discussions within the counselor education literature indicate there is a growing concern regarding the research training and competences of counselor educators (Kline & Farrell, 2005; Lundervold & Belwood, 2001; Reisetter et al., 2004). However, within this literature base few studies have explored the research training and competencies of counselor education doctoral students. This research study is relevant to the counseling profession because it adds to this current discussion on research competencies by specifically exploring the perceived competence and confidence of doctoral students in completing research related tasks and their experiences with research mentors. Moreover, this study is important to the counseling profession since it focuses on research self-efficacy and research mentoring experiences. There are virtually no studies that have examined these two aspects of research within counselor education doctoral students. This is a gap in counselor education literature since research self-efficacy and research mentoring have been associated with future research involvement and research productivity. These are important areas for future counselor educators.
Definition of Terms

*Occupational commitment*—The psychological link between an individual and his or her occupation that is based on an affective reaction to that occupation (Lee et al., 2000); one’s attitude towards one’s profession or vocation (Blau, 1985) or one’s motivation to work in a chosen vocation (Carson & Bedeian, 1994).

*Research mentorship or mentoring*—A more experienced person joining with someone less experienced to promote awareness, skill, and productivity in research and scholarly endeavors (Dohm & Cummings, 2002).

*Research self-efficacy*—The degree to which an individual believes he or she has the ability to complete research tasks and is thought to affect the initiation and persistence of research behaviors (Bieschke et al., 1995).

*Research training environment*—All of the instructional and interpersonal elements in graduate training programs that reflect attitudes toward research and science; is instrumental to the development of students as scientists (Gelso, 1993, 1997; Gelso & Lent, 2000).

Summary

There has been a shortage of doctoral graduates in counselor education who are available to train and prepare future counselors (Altekruse, 1991a; Maples, 1989, 1990). Several studies conducted over the past two decades reveal doctoral graduates less
frequently choose careers as counselor educators for various reasons including the
demands of research (Maples et al., 1993; Swickert, 1997).

There are two significant aspects of research within the research training
environment that have not been explored with counselor education doctoral students.
These areas are research efficacy and research mentoring experiences. Research self-
efficacy and research mentoring experiences are important aspects of doctoral training,
since they influence future research involvement and research productivity (Cronan-
Hillix et al., 1986; Galassi et al., 1987; Hollingsworth & Fassinger, 2002; Krebs et al.,
1991; Phillips & Russell, 1994). Moreover, these areas are important to a faculty career.
This study seeks to examine the relationship between research self-efficacy and
research mentoring experiences to determine the extent to which these variables can
predict occupational commitment in counselor education doctoral students.

Since the first chapter highlighted the rationale for conducting this dissertation
research, the next chapter provides a review of the literature on research training in
counselor education and counseling psychology, research self-efficacy, research
mentoring experiences and occupational commitment. This chapter also explores the
theoretical framework for the study. Chapter II is the methodology section. In this
chapter, the researcher discusses the steps taken to implement the study. Such
information includes the research design, participants and sampling, instrumentation,
data collection procedures and methods used to analyze the data. Chapter IV presents
the results from the data analysis. It also includes a report on the descriptive statistics
gathered from the demographic information and reports on the statistical analyses used, which include correlations, analysis of variance (ANOVA), multivariate analysis of variance (MANOVA), and linear regression. In the last chapter of the dissertation, there is a summary of the study. Also in this chapter, the researcher offers some conclusions drawn from the data analysis, explores the implications the study has for counselor education and suggests some areas for future research.
CHAPTER II

LITERATURE REVIEW

Since the purpose of this study was to examine the research self-efficacy and research mentoring experiences of counselor education doctoral students and determine the extent to which these two variables could predict occupational commitment, this chapter presents an overview of relevant literature which supports the necessity to conduct the present investigation. The chapter is divided into the following sections: (a) research training in counselor education, (b) research training in counseling psychology, (c) research self-efficacy, (d) research mentorship, (e) occupational commitment, and (f) self-efficacy theory as a theoretical framework.

Research Training in Counselor Education

La Pidus (1998) describes the doctoral educational process as preparing students for scholarship through various roles and responsibilities. Within the framework of doctoral education, other scholars have stated that research is central to doctoral study and the student’s ability to create, expand, question, test, integrate, organize, and communicate knowledge is considered essential to a successful educational process (LaPidus, 1995, 1998; Meyer, 1991). Thus research, regardless of the academic discipline is a very important aspect of doctoral training.
As research training is pivotal to all doctoral programs including counselor education, the Council for Accreditation of Counseling and Related Educational Programs (CACREP) recognized its importance to doctoral study within the counseling discipline by asserting that the primary function of doctoral programs in counselor education and supervision is to encourage and train students to extend the knowledge base of professional counseling through research (CACREP, 2001). Lanning (1990) also emphasized the significance of research within counselor education doctoral programs. He suggested doctoral programs in counselor education use an educator/practitioner model of training where a systematic curricular emphasis was on research in the counseling field as well as other training elements like supervision, teaching, and advanced counseling practice. Lanning described the educator/practitioner model as training for skilled counselors who also were systematically prepared to perform the tasks of an educator. He further described the educator/practitioner model in counselor education as a departure from the scientist/practitioner model used in counseling psychology and by the American Psychological Association (APA), the accrediting body for academic programs in psychology.

While Lanning’s proposed educator/practitioner model placed an emphasis on research relevant to the counseling field as the training emphasis for the doctorate in counselor education, other scholars have made different suggestions for the training emphasis and preparation of doctoral students in counselor education. For example, advanced clinical practice as an alignment to counseling psychology was identified as
an area that should be a training focus for doctoral study in counselor education (Randolph, 1990). However according to CACREP, which is the accrediting body for the 52 counselor education and supervision doctoral programs across the country, doctoral programs in counselor education and supervision have a specific training focus that includes research. The research training requirements are in the following areas: (a) design and implementation of quantitative research and methodology, including univariate, multivariate, and single-subject design; and (b) design and implementation of qualitative research, including grounded theory, ethnographic, and phenomenological methodologies (CACREP, 2009).

Even though the 2001 CACREP Standards offered provisions for training in both qualitative and quantitative research methodologies, the 2009 CACREP Standards place a greater emphasis on research training for counselor education doctoral programs such that there are specific research learning outcomes that programs should ensure their graduates obtain. These learning outcomes include the following: (a) understand univariate and multivariate research designs and data analysis methods; (b) understand qualitative designs and approaches to qualitative data analysis; (c) know models and methods of instrument design; (d) know models and methods of program evaluation; (e) demonstrate the ability to formulate research questions appropriate for professional research and publication; (f) demonstrate ability to create a research designs appropriate to qualitative and quantitative research questions; (g) demonstrate professional writing skills necessary for journal and newsletter publication; (h)
demonstrate the ability to develop and submit a program proposal for state, regional, and national counseling conferences; (i) demonstrate the ability to write grant proposals appropriate for research, program enhancement, and program development; and (j) demonstrate the ability to implement a program evaluation design (CACREP, 2009). Many of the research learning outcomes in the 2009 Training Standards were not specifically delineated in the 2001 CACREP Training Standards, yet they have become important aspects of the doctoral curricula. These new research learning outcomes involve more training on grant writing, publishing, and program evaluation. These are all skills necessary and vital to a faculty career.

Criticisms of Research Training in Counselor Education

As the Council for Accreditation of Counseling and Related Educational Programs (CACREP) has been in the process of initiating specific changes to research training of counselor education doctoral students, many counselor educators who graduated from CACREP accredited programs also suggested changes to research training were necessary. In a study which gathered the perceptions of counselor educators on their research training, Okech, Astramovich, Johnson, Hoskins, and Rubel (2006) surveyed 167 counselor educators from CACREP accredited programs and determined there were differences in the quantity and type of research training counselor education faculty received. Specifically, the counselor educators in their study reported they received more training in quantitative research methods.
Consequently, these counselor educators reported feeling better trained in quantitative rather than qualitative research methods. Okech and colleagues (2006) also reported that more than half of the counselor educators in their study agreed or strongly agreed they needed more research training in both qualitative and quantitative research methods.

In addition to counselor educators expressing a desire for change in research training, changes in the CACREP research training standards for doctoral students might be a response to the complaints many scholars have about research training in counselor education (Galassi et al., 1987; Kline & Farrell, 2005; Lundervold & Belwood, 2001). For example, Lundervold and Belwood (2001) stated that counselor education has failed to adequately train counselors in research methodology. They contend that some of the problems in research training reside in who teaches research methodology, and others relate to the content of the research methods courses. For this reason, Lundervold and Belwood discussed ways to use single case designs and data analysis to improve the research training of counselors. Galassi et al. (1987) also had criticisms for the research training of counselors and discussed ways to improve research training in the counseling professions. Similarly, Kline and Farrell (2005) offered critiques of the research training of counselor educators as a result of their study on the frequent and recurrent errors in article submissions. They recommended CACREP strengthen course work that prepared counselor educators as researchers. Furthermore, they stated greater effort should be given towards training counselor educators to be more effective
qualitative researchers. Reisetter et al. (2004) also suggested that CACREP strengthen research training standards such that CACREP should promote an integration of research into counseling practice, education, and identity. They also recommended CACREP standards be more specific in the way doctoral programs assists students in making the connection between learning about research and actually conducting research. According to Reisetter and colleagues (2004), teaching the integration of research from theory into practice helps to affirm counselors’ research identity.

In addition to these criticisms that were offered, several scholars suggested ways to improve the research training. These recommendations include: (a) examining the way science was traditionally taught to students (Gelso, 1979); (b) monitoring faculty teaching styles and behaviors (Gelso, 1979; Heppner, Gelso, & Dolliver, 1987); (c) understanding the role of statistics in conducting research (Betz, 1986; Gelso, 1979); and (d) providing structured research instruction (Gelso, 1979; Gelso et al., 1988). Some other areas for improving the research training in counselor education include: (a) requiring participation in research teams, (b) providing hands on research experiences for first-year doctoral students, and (c) placing greater emphasis on research design rather than statistics (Galassi et al., 1987). Galassi and his colleagues (1987) also found strong support for an apprenticeship or mentoring model of research training. They discovered that counseling programs with high student research productivity provided their students with mentoring and were encouraging toward getting their students involved with research activities early in their training. Such encouragement and
reinforcement from faculty mentors were strongly related to both student research interest and productivity (Galassi et al., 1987; Royalty & Reising, 1986). Thus, early research involvement was another suggestion they had to offer regarding the research training of doctoral students.

Concerns About Research Competencies in Counselor Education

Even though many scholars have suggested ways of improving research training in counselor education, there has been a growing concern about the research competencies of counselor educators (Fong, 1992; Fong & Malone, 1994; Kline & Farrell, 2005; Lundervold & Belwood, 2001; Reisetter et al., 2004). For instance, Fong (1992) wrote an editorial article entitled “When a Survey Isn’t Research” in Counselor Education and Supervision, a prominent journal for the counselor education profession. Fong noted as editor of the journal in 1992 that she often received large numbers of survey studies with poor research designs which made them unpublishable (Fong, 1992). In another article, Fong and Malone (1994) examined 111 manuscripts submitted for publication in Counselor Education and Supervision from July 1991 through June 1992. They reviewed these articles to determine the types of errors presented in the article submissions and concluded from their findings that some counselor educators had serious problems with poorly designed and executed research. For example, they discovered that out of the 55 manuscripts classified as research studies 32 had research design errors which made the findings invalid.
Although the two articles Fong wrote were published over 15 years ago, current scholars have also noted research competencies concerns among counselor educators. Kline and Farrell (2005) wrote an editorial in *Counselor Education and Supervision* also highlighting the frequent and recurring research related errors found in manuscripts submitted for publication during that year. Kline and Farrell noted that of the 227 manuscripts submitted for publication to the journal 47% were rejected because of the following reasons: (a) problems with the format required for submitting articles, (b) errors in qualitative and quantitative research methods, and (c) low response rates with survey studies. Typically, when scholars like Fong (1992), Fong and Malone (1994), and Kline and Farrell have discussed these research deficiencies in counselor educators, they have pointed to doctoral research training as the source of their challenges with research skills. However, many scholars have suggested doctoral training is the place where graduate students should not only become interested in research but also it is the time upon when they learn how to perform research related activities (Gelso, 1979, 1993; LaPidus, 1995).

*Counselor Educator Shortage*

Although doctoral training is the time where doctoral students should learn how to conduct research, their very existence in training programs is significant. For instance, doctoral students are significant to the field of counselor education. They represent the future since they will advance the counseling profession on both the
master's and doctoral level (Engels & Muro, 1986). Moreover, doctoral students as promising faculty members will extend the knowledge base of the counseling profession through their research (CACREP, 2001). Yet, the counselor education profession has placed little emphasis on studying the experiences of doctoral students (Hughes & Kleist, 2005).

Despite the significance of counselor education doctoral graduates as future counselor educators, there was a counselor educator shortage during the late 1980s and early 1990s (Maples, 1989; Maples et al., 1993). For instance, Zimpfer (1996) reported that 22.8% of the 270 counseling doctoral graduates they surveyed were employed in four-year college or a university. This was a slight decline from the 25.4% of graduates who worked in this setting five years earlier (Zimpfer & DeTrude, 1990). Zimpfer also discovered that more graduates were choosing to pursue careers in private practice during the late 1980s and early 1990s such that 30% of the doctoral graduates surveyed were employed in private practice (Zimpfer, 1996) whereas five years earlier only 13.6% of graduates were employed in this setting (Zimpfer & DeTrude, 1990). Zimpfer concluded that licensing of counselors was a huge catalyst which opened the doors for doctoral graduates in counseling to pursue private practice work.

Counselor Educator Shortage and the Demands of Research

Because of the shortage in doctoral graduates seeking positions in higher education and more of them pursuing careers in private practice, several studies within
the past 15 years were devoted to exploring the reasons doctoral graduates in counselor education were not pursuing faculty positions. Research uncovered the following reasons: (a) more career opportunities besides teaching for doctoral graduates in counselor education (Maples, 1989; Hollis & Wantz, 1990; Wittmer & Loesch, 1990; Zimpfer & DeTrude, 1990); (b) greater earning potential outside of the academy (Maples, 1993); and (c) the desire to do private practice work (Altekruse, 1991a).

While there are many reasons why doctoral students less frequently pursued faculty careers, one less obvious reason was research. Maples et al. (1993) stated that many counselor education doctoral graduates prefer to be practitioners as opposed to professors who have the inherent pressures of publishing. Other scholars have also noted research as an area that doctoral students in counselor education least preferred. When examining the vocational aspirations, preferred professional activities and perceptions of self-efficacy of 207 doctoral students, Poidevant, Loesch, and Wittmer (1991) noticed that both counselor education and counseling psychology doctoral students preferred teaching, counseling, training, and supervising over research and administration activities. Additionally, Swickert (1997) also revealed similar findings on doctoral graduates in counselor education. She conducted a qualitative study in which she interviewed 10 graduates of CACREP-accredited counselor education programs. One of the themes she gathered from the study was the participant's disliked for research (Swickert, 1997).
Research as a deterrent in pursuing faculty positions is a significant finding among doctoral students and graduates of counselor education programs since research is vital to survive and prosper in a faculty career (Thomas & McKenzie, 1986). For a counselor educator, success and promotion in an academic setting relies heavily on the ability to publish scholarly works (Smaby & Crews, 1998). Moreover, scholarship and research has been identified as the single most important criterion for promotion and tenure (Brewer et al., 2004; Renegar, 1993; Smaby & Crews, 1998).

Research Training in Counseling Psychology

Doctoral training programs should provide an environment which facilitates the research self-efficacy of doctoral students (Betz, 1986). Yet, few studies in counselor education literature have examined the research self-efficacy of doctoral students in this discipline. Research self-efficacy is defined as the degree to which an individual believes he or she has the ability to complete research related tasks (Biechke et al., 1995). Research self-efficacy is related to self-efficacy, but it emphasized the perceptions one has to perform research related tasks. Moreover, it was not a term that originated in the counselor education literature. Rather, this term was first discussed in counseling psychology which is a very similar and related field to counselor education (Altekruse, 1991b). Since the discussion of this term and concept did not begin in counselor education, much of the research and literature on research self-efficacy resides in counseling psychology. In order to understand research self-efficacy and how this
concept emerged, a brief discussion of research training in counseling psychology follows.

Counseling psychology is a similar profession to counselor education, in that both professions (a) endorse the preventive or development model of working with clients, (b) have some of the same historical pioneers and past leaders, and (c) reside in college of education departments (Altekruse, 1991b). Despite the similarities, there are some distinct differences within these professions, specifically in regards to their training philosophies. Counselor education has used the educator/practitioner model (Lanning, 1990); counseling psychology emphasized the scientist/practitioner model. "The scientist-practitioner model for psychology training programs has been endorsed since the first major training conference in counseling psychology" (Bishop & Bieschke, 1998). The goal of this training model is to produce doctoral graduates who are interested in research as well as the integration of science into clinical practice (Mallinckrodt & Gelso, 2002).

Like counselor education, counseling psychology also has had many scholars to express their concerns about the research competencies and training of their doctoral graduates. Gelso (1979) was the first to initiate this discussion in the late 1970s and early 1980s in his article entitled "Research in Counseling: Methodological and Professional Issues," which was published in The Counseling Psychologist. Like Gelso, many of these scholars were concerned about the doctoral students' lack of a connection with their scientific identity (Gelso, 1979; Magoon & Holland, 1984) and their low research
productivity (Gelso, 1993). At the time, low research productivity among doctoral graduates in all applied areas of psychology became a prominent issue, particularly in counseling psychology. Research productivity among doctoral graduates in counseling psychology was historically low (Gelso, 1993). Moreover, many scholars suggested the reason for the low research productivity phenomenon among doctoral graduates in counseling psychology was an overall lack of interest in doing research (Gelso, 1979, 1993). Some scholars believed counseling psychology graduates and students viewed research as something they had to do or as a necessary evil (Betz, 1986).

Given that low research productivity was a contradiction to the scientist-practitioner training model for counseling psychology, many scholars developed research investigations and conceptual discussions on this phenomenon during the late 1980s and early 1990s (Betz, 1986; Gelso, 1993; Krebs et al., 1991; Phillips & Russell, 1994). Questions like how do doctoral graduates in counseling psychology feel about research, what elements of their research training contributed to their disinterest or interest in research, and what factors would be conducive towards doctoral students in counseling psychology having positive attitudes about research and high research productivity became the basis for several research studies and articles.

Since he first theorized that the lack of graduate student interest in research activities was a result of the lack of necessary ingredients to facilitate their attitudes towards research and research productivity, Gelso wrote articles describing the necessary ingredients that contributed to an effective research training environment.
These ingredients included the following nine elements: (a) faculty provide appropriate models of scientific behavior and attitudes, (b) faculty positively reinforcing students' research activities, (c) students participate in research early in their training in a minimally threatening way, (d) students are taught science can be a social experience, (e) students are taught that all research studies limited in some way, (f) students are taught to look inward for research ideas, (g) training programs value and teach varied approaches to research, (h) students are taught relevant statistics and research designs, and (i) students are shown how they can marry science and practice (Gelso, 1979, 1993).

Gelso defined all of the instructional and interpersonal elements in graduate training that reflected attitudes towards research and science as the research training environment. In further exploring the concept of the research training environment, Kahn and Gelso (1997) discovered that there were two factor structures of the research training environment, interpersonal and instructional. Kahn and Gelso declared that the first four aspects of the research training environment represented the interpersonal factor structure and the last five aspects embodied the instructional aspects of the research training environment. Also in further understanding the research training environment, Royalty, Gelso, Mallinckrodt, and Garrett (1986) developed the Research Training Environment Scale (RTES) which had nine subscales that represented the nine ingredients Gelso discussed were components of the RTE. Each of the nine subscales had six questions; therefore, the scale had 54 items. The RTES was revised 10 years after its development by Gelso et al. (1996). After the development of the RTES, several
studies (Bishop & Bieschke, 1998; Gelso et al., 1996; Kahn & Scott, 1997; Phillips & Russell, 1994) were conducted to provide evidence for Gelso's claim of the importance of the research training environments to doctoral students' research training. Research demonstrated that the research training environment was significant to the research training of counseling psychology doctoral students. Gelso (1993) also determined that a research training environment could influence students in two specific ways: (a) facilitate the development of positive attitudes towards research, and (b) increase students' self-efficacy in doing research.

Research Self-Efficacy

In addition to the research training environment, research self-efficacy was identified as a very important component of the research training for counseling psychology doctoral students (Bishop & Bieschke, 1998; Kahn & Scott, 1997; Phillips & Russell, 1994). But how did the concept of research self-efficacy become associated with the research training environment? Since counseling psychology doctoral graduates had low research productivity and seemed disinterested in research (Gelso, 1993), Nancy Betz wrote an article in 1986 entitled “Research Training in Counseling Psychology: Have We Addressed the Real Issues” in The Counseling Psychologist. Nancy Betz became well known in the counseling psychology field for her use of Bandura's Self-Efficacy Theory and its application to career decision making during the early 1980s. Through her work, she really emphasized the role that self-efficacy has in how
individuals make decisions about their careers. Given that many scholars in the counseling psychology field were discussing (a) the low research activities of doctoral graduates, (b) the impact of this occurrence on the viability of the field, and (c) ways the profession could address these issues, Betz significantly contributed to this discussion by suggesting in her article a reason why this phenomenon existed. According to Betz, the problem with doctoral graduates in counseling psychology and low research productivity involved low research self-efficacy beliefs which according to Bandura's theory lead to their behavioral avoidance. Betz felt as though doctoral students and graduates in counseling psychology needed to increase their research self-efficacy during their training since engagement and persistence of research related tasks was associated with high research self-efficacy (Bandura, 1997). Within the context of her perspective on the problem, Betz asserted that doctoral programs should be a place where doctoral students build their research self-efficacy (Betz, 1986).

With Betz's discussion of the importance of research self-efficacy to the research training environment and the development of the Research Self-Efficacy Scale (Bieschke et al., 1986), several studies explored the concept of research self-efficacy and the research training environment among doctoral students in counseling psychology. For instance, Phillips and Russell (1994) surveyed 125 students in order to determine the relationship between research self-efficacy, the research training environment and research productivity. They discovered that research self-efficacy was positively correlated with the research training environment and research productivity. Phillips
and Russell also found no gender or ethnic differences in perceptions of research self-efficacy among doctoral students in counseling psychology. In this study, they also asserted that research self-efficacy played a significant role in graduate research training.

Kahn and Scott (1997) also examined research self-efficacy in their study which explored predictors of research productivity and science-related career goals in counseling psychology doctoral students. They concluded the career goals and research productivity of counseling psychology doctoral students could be predicted by their perceptions of the research training environment, research interest, research self-efficacy and Holland's Investigative interests. In addition, both Kahn and Scott and Phillips and Russell (1994) found that student's year in their doctoral program was directly related to research self-efficacy such that students who were more advanced in the program had higher levels of research self-efficacy than beginning doctoral students. However unlike Phillips and Russell, Kahn and Scott did not find a relationship between research self-efficacy and research productivity.

Bishop and Bieschke (1998) conducted another study which examined research self-efficacy in counseling psychology and rehabilitation counseling doctoral students. They found research self-efficacy, research outcome expectations, investigative interests, artistic interests and age were predictors of research interest. They also determined year in the program affected research self-efficacy which was similar to the finding obtained by Kahn and Scott (1997) and Phillips and Russell (1994). Bishop and
Bieschke (1998) also reported research self-efficacy had a direct relationship with research interest and an indirect relationship to research outcome expectation. Their research also supported the use of social cognitive career theory to the research interest of doctoral students.

With the exception of the study conducted by Bishop and Biescke (1998), all of the above mentioned studies examined research self-efficacy and research productivity in counseling psychology doctoral students. Each of these studies determined that research self-efficacy was correlated to research productivity. Another study by Krebs et al. (1991) also examined research productivity. However, their study explored the relationship between vocational personality and the research training environment on the research productivity of counseling psychology doctoral students. They found research productivity to be positively correlated with students' perception of the research training environment. They also discovered research interest was correlated with research self-efficacy. In addition to research self-efficacy, mentoring also has an important role in student research interest and research productivity (Royalty & Reising, 1986).

Mentoring also has been associated with enhancing graduate students' professional identity, scholarly productivity, dissertation success, and satisfaction with doctoral program (Clark, Harden, & Johnson, 2000). But what is mentorship?
Research Mentorship

Mentorship

Mentorship is an important element in developing doctoral students as scientists and researchers (Hollingsworth & Fassinger, 2002). It is a common concept or term discussed in many industries including business, education, and counseling, yet it lacks a clear definition (Benishek, Biechke, Park, & Slattery, 2004; Tentoni, 1995). For instance, Kram (1985) who is very well known in the mentoring literature described mentoring as relationships between junior and senior colleagues or between peers that provide a variety of developmental functions. Similarly, Brinson and Kottler (1993) also defined mentoring in such a way that also involved a hierarchical structure. They stated that mentoring was a complex process, by which persons of superior rank, experience, special achievements, and prestige instruct, provide support, sponsor, and assist the intellectual, personal, and career development of persons identified as protégés.

Viewing mentoring from a different perspective, Clark and Corcoran (1986) discussed mentorship or sponsorship as the process of advancing the career of others through the informal strategies that exist in the professional environment while Crosby (1999) thought of mentorship in terms of role modeling or the intentional or unintentional modeling of skills that may be pertinent to the personal and professional development of others. This lack of a consistent definition perpetuates the perception that mentoring relationships are simplistic when they are quite complex (Benishek et
al., 2004). Also, the definitional difficulties of mentoring cause other problems like limiting the ability to clearly conceptualize the process of mentoring which creates doubts about the validity of research findings involving mentoring (Benishek et al., 2004).

Although there has been numerous discrepancies regarding the definition of mentoring, Tentoni (1995) asserted based on the work of Jacobi (1991) and Johnson (1989) that there were five components to mentoring: (a) mentoring was a helping relationship in which the goals were long term success for the protégés; (b) mentoring functions contained three domains: psychosocial, career, and role modeling; (c) mentoring remained a reciprocal relationship even though mentoring focused on the protégé's success; (d) the mentoring relationship was centered upon direct personal interaction between student and mentor; and (e) the mentor possessed more knowledge, experience, or influence in the setting where the mentoring occurred. Of the five components, the mentoring functions (psychosocial, career, and role modeling) seem to get the most attention in the mentoring literature.

Even though Tentoni (1995), Jacobi (1991) and Johnson (1989) discussed three domains of mentoring functions, Kram (1985) summarized mentoring into two broad categories, career and psychosocial, whereby she included the role modeling functions in the psychosocial category. Each of these categories serves as the primary functions of mentoring (Clark et al., 2000; Kram, 1985). Moreover, both Kram and Clark et al. stated
that skillful mentors seamlessly blended these two functions in working with their protégés.

*Psychosocial Mentoring.* Psychosocial functions were those aspects of the mentoring relationship that enhanced a sense of competence, clarity of identity, and effectiveness in a professional role (Kram, 1986). Moreover, Kram (1986) stated that the psychosocial functions of mentoring helped to establish the interpersonal bond between the mentor and mentee which fosters mutual trust and increased intimacy. Given this, the psychosocial function pertained to the more relational aspect of mentoring. Other scholars also made reference to the relational aspects of the psychosocial mentoring such that Lyons and Scroggins (1990) stated the psychosocial domain involved bolstering the protégés' confidence through nurturing and praise. Clark et al. (2000) also alluded to the relational aspect of psychosocial mentoring whereby they said it involved confirmation, counseling, and friendship. Similarly, Casto, Caldwell, and Salazar (2005) stated that psychosocial domain included the mentor offering support, understanding, and protecting the protégé.

Kram (1986) identified four activities that characterized the psychosocial mentoring functions: (1) role modeling, (2) counseling, (3) acceptance and confirmation, and (4) friendship. Brinson and Kottler (1993) described the role modeling aspect of psychosocial mentoring as the protégé has a successful model to emulate. Moreover, through role modeling, the protégé or mentee has an example to model in terms of
professionalism (Casto et al., 2005). When the mentor used the counseling function of psychosocial mentoring, he or she typically engaged in basic attending behaviors. This form of mentoring also involved assisting the protégé get through difficult employment and life phases (Tentori, 1995). According to Kram (1986), the counseling aspect of psychosocial mentoring offered the mentee a helpful and confidential forum for exploring personal and professional dilemmas. For the acceptance and confirmation aspect of psychosocial mentoring, the mentor provided ongoing support, respect and admiration of the mentee which according to Kram strengthens their self-confidence and self-image. The befriending function of mentoring involved the mentor making time for the protégé and making a commitment to accept the protégé as a whole and separate individual (Tentori, 1995). The friendship aspect of psychosocial mentoring also entailed mutual caring between the mentor and mentee that extends beyond the requirements of daily work tasks (Kram, 1986). Moreover, Brinson and Kottler suggested that the mentor have a genuine concern for their protégé's personal welfare within the befriending nature of mentorship. However, unlike friendship the mentoring relationship always has the mentee's learning and professional development as its focus and there was a power differential (Casto et al., 2005). Additionally, the target behaviors in befriending were to accept, relate, and treat those in the supervisor's charge as equals (Tentori, 1995).
Career Mentoring. The career function of mentoring included offering the protégé career advisement and instruction (Casto et al., 2005), initiation into the profession (Lyons & Scroggins, 1990), and sponsorship (Clark et al., 2000). Kram (1986) described the career function of mentoring as those aspects of the mentoring relationship that enhanced the ability of the mentor to learn the ropes and prepare for advancement in an organization. Furthermore she stated that while the psychosocial mentoring function involved the more relational aspects of mentoring, the career function served to assist the mentee’s professional advancement. Similarly, Casto and her colleagues also described the career aspects of mentoring as the mentor providing career advisement, instruction, support, understanding, positive role modeling, protection, and overall assistance to propel students to the next level of development.

Like the psychosocial functions of mentoring, Kram (1986) also identified five activities which characterized the career function of mentoring. These activities were sponsorship, coaching, protection, exposure, and challenging work. According to Tentoni (1995), sponsorship included protecting, supporting, and promoting the mentee. It also involved opening doors for the mentee and supporting their career advancement (Casto et al., 2005; Kram, 1986). This would include the mentor using their professional status to introduce the protégé to noteworthy professional contacts or scholars (Black et al., 2004). The coaching aspect of the career mentoring function was equated to being a teacher and providing instruction to the protégé (Casto et al., 2005). As a teacher, the mentor showed the mentee the “ropes” and provided them with
feedback which would improve their performance and potential (Kram, 1986). When the mentor protected the protégé, Kram believed he or she was acting as a buffer. As such, she stated that protection was providing the protégé with support in different situations and taking responsibility for the protégé’s mistakes. In addition, Kram defined exposure as the mentor creating opportunities for the protégé to demonstrate competence or taking the protégé to important meetings that would enhance his or her visibility. Within an academic setting, Black et al. (2004) described exposure as the mentor inviting the protégé to conduct research to introduce the protégé to the scholarly discourse environment. Regarding challenging work which was the last of the career mentoring function activities, Kram stated the mentors might delegate assignments or tasks to the protégé that would stretch their knowledge and skills to encourage growth and preparation in order to move the protégé ahead in their career.

Various Types of Mentoring Relationships

There are many different types of mentoring relationships. The two types most common types discussed in the mentoring literature involve formal and informal mentoring relationships (Ragins & Cotton, 1999). Formal mentoring relationships occurs when a faculty member or mentor is assigned to a student or mentee for a predetermined period of time while an informal mentoring relationship occurs on its own where the relationship simply develops without any predefined specifications (Casto et al., 2005). Ragins and Cotton (1999) noted that both mentors and mentees
evaluated informal mentoring relationships as more meaningful and effective than formal ones. Similarly, Johnson (2002) also stated that protégés were more satisfied with informal mentoring relationships. He also indicated that protégés received more career and psychosocial mentoring functions in informal mentoring relationships than formal ones.

Besides informal and formal mentoring relationships, there are three other types of mentoring relationships. They include primary, secondary and tertiary (Johnson, 2002). Primary mentoring relationships are between a single mentor and mentee whereby they have established an enduring and bonded relationship that last for several years (Russell & Adams, 1997). Secondary mentoring relationships are less comprehensive as primary mentoring relationships and are shorter in duration while tertiary mentoring relationship are those in which the mentor provides one or more mentoring functions during a circumscribed period of time (Johnson, 2002).

Considering these three forms of mentoring relationships, it is possible for a mentee to have more than one mentor with each serving different roles and functions (Casto et al., 2005). Moreover, Benishek et al. (2004) asserted that one mentor could not possibly meet all of the needs of some graduate students. Therefore, having multiple mentors increase the likelihood that most of the student’s needs would be met (Casto et al., 2005).

Mentoring not only has two broad functions (Kram, 1986) but also there are four specific stages of the mentoring relationship. Kram (1988) indicated that those stages were: initiation (0 to 1 year), cultivation (2 to 5 years), autonomy (after 2 to 5 years), and
separation (several years after autonomy). In addition to the mentor relationship stages, there are many different kinds of mentoring. A brief discussion of the different kinds of mentoring found in many different industries, like business and academic settings, is mentioned in the next section.

_A Business Mentoring._ There are many types of mentoring relationships in business. For example, the grooming-mentoring relationship occurred between two men, one older and younger who were in a business setting and the goal of the relationship was for the protégé to take over the mentor’s position (Haring-Hidore, 1987). Typically, the grooming-mentoring relationship promoted homogeneity between mentor and mentee whereby the mentor sought a protégé who resembled them in culture and background (Haring-Hidore, 1987).

Another type of mentoring relationship found in business was networking-mentoring. This form of mentoring was different from grooming-mentoring in that it was neither traditional nor hierarchical and evolved out of the mentoring needs of women (Briggs, 2006). Under networking-mentoring, mentoring occurred informally whereby peers acted not only as alternating mentors but also were protégés when situations demanded mentoring. Moreover, with this form of mentoring there were a number of peers within or outside of the organization that could serve as mentors (Haring-Hidore, 1987). Both grooming-mentoring and networking-mentoring are forms of mentoring found in business.
Research Mentoring. While there are many forms of mentoring in business, research mentoring is a construct that emerged in the academic community. It is specific to academic, scientific, or other research intensive occupations (Briggs, 2006). According to Clark and Watson (1998), research mentoring is the most common form of mentoring in academia. This form of mentoring developed as less experienced academicians paired with more experienced colleagues to produce scholarly works (Briggs, 2006). Like the mentoring found in business, research mentoring involved supporting, affirming, and offering guidance to protégés (Lyons & Scroggins, 1990; Pierce, 1998). Research mentoring included but was not limited to assisting in submitting scholarly articles for publication, generating research ideas, refining research methodology, creating scholarly presentations for conferences; and writing grants (Dixon-Reeves, 2003; Erwin, 2001). Research mentorship is also described as a more experienced person joining with someone less experienced to promote awareness, skill, and productivity in research and scholarly endeavors (Dohm & Cummings, 2002). Moreover, research mentoring is often associated with senior faculty mentoring junior faculty in scholarly endeavors (Bullard & Felder, 2003). Its purpose was to increase faculty members’ scholarly productivity. For example, research demonstrated that new faculty members in counselor education who had mentors to help them navigate through the research process not only had greater research productivity but also experienced less job related stress (Hill, 2004; Magnuson et al., 2003; Melicher, 2000). Such benefits were important to new counselor educators as many of them reported feeling unprepared to engage in
that many counselor educators, including those new to the professorate expressed a need for more research related mentoring.

Given the significance and benefits of research mentoring to new faculty, Gelso (1993) outlined faculty mentor behaviors associated with good research related mentoring. These behaviors included: (a) offering interpersonal reinforcement for research activity; (b) displaying enthusiasm for science and research; (c) recognizing the inevitability of flaws in research; (d) introducing a variety of research methods; (e) modeling a balance between science and practice; and (f) demonstrating relationship skills that express empathy, positive regard, and genuineness. Rather than faculty behaviors, other scholars have discussed the ideal personal traits or qualities of faculty mentors (Clark et al., 2000; Cronan-Hillix et al., 1986). These personal traits included intelligence, caring, appropriately humorous, flexible, emphatic, patient, encouraging, interpersonally supportive, and poised (Johnson, 2002). Other qualities included being (a) ethical (Warren, 2005); (b) psychologically well-adjusted (Cronan-Hillix et al., 1986); (c) intentional about role modeling; and (d) well-known scholars (Johnson, 2002).

Research mentoring is not only beneficial to new faculty, but also it is helpful to graduate students as they navigate through the doctoral process (Casto et al., 2005). According to Hurte (2002), mentoring is an essential tool for student success. Moreover as stated by Casto and colleagues (2005), "it is not always the best student who gets through a difficult graduate program; it is the one with endurance and perseverance."
More often than not, this is achieved because that student has received support and guidance from a mentor” (p. 331). In demonstrating the significance of research mentoring to doctoral students, Hollingsworth and Fassinger (2002) examined the role faculty mentoring has in predicting research self-efficacy and past research attitudes in 194 doctoral students in counseling psychology, a related field. In their study, Hollingsworth and Fassinger developed the Research Mentoring Experiences Scale (RMES) which is a 16-item instrument that measured the career and psychosocial functions of research mentoring. Results from this study further demonstrated faculty mentoring experiences, research self-efficacy, and past research attitudes were predictors of research productivity in doctoral students (Hollingsworth & Fassinger, 2002). They also determined that faculty mentoring was a critical component in the research training environment and students’ experiences with faculty research mentors were important to students developing as their confidence and competence as researchers (Hollingsworth & Fassinger, 2002). This finding further supported previous studies regarding doctoral students and various components of research like mentoring and self-efficacy (Gelso & Lent, 2000; Hill, 1997).

*Mentorship in Counselor Education*

Only recently has the counseling field looked at mentoring processes (Walker, 2006). Some of the recent topics for mentoring which have been addressed in the counseling literature include mentoring relationships between female faculty and
students (Casto et al., 2005); cross-cultural mentoring (Brinson & Kottler, 1993); using a relational model of mentoring for cross gender and cross cultural mentoring relationships (Walker, 2006); and peer mentoring relationships (Black et al., 2004). Despite the recent discussions in the counseling literature involving mentorship (Benishek et al., 2004; Black et al., 2004; Brinson & Kottler, 1993; Bruce, 1995; Casto et al., 2005; Tentoni, 1995; Walker, 2006), the counselor education profession knows very little about mentoring. Few studies in counselor education have centered upon mentorship. Black et al. (2004) stated that less than 1% of all journal articles in counselor education explored mentoring.

In addition to scarcity of literature on mentoring in counselor education, research mentoring remains under examined (Dohm & Cummings, 2002; Melicher, 2000) particularly among faculty and graduate students. While there is more information available on research mentorship and the importance of senior faculty mentoring junior faculty (Bullard & Felder, 2003) and student-to-student mentoring relationships (Black et al., 2004), less is known in counselor education about research mentorship between faculty and graduate students. The limited literature available in counselor education on mentoring between faculty and graduate students is significant since faculty mentoring of graduate students is encouraged in counselor education through activities such as advising, collaborative research, teaching, and service (CACREP, 2001). Also, faculty mentorship and collaborative relationships has been recognized as an important aspect of doctoral training (Baird, 1991; Faan, 1992, Gaffney,
Mentorship and Benefits to Graduate Students/Faculty

A role expectation of many faculty advisors in doctoral programs is to work closely with doctoral students on research projects (Paglis, Green, & Bauer, 2006). As such, doctoral students presume they would be mentored by faculty. Consequently, they believe mentoring has an important role in their academic training (Atkinson, Neville, & Casas, 1991; Lark & Croteau, 1998). In two studies which examined mentoring with graduate students in psychology which is a related field to counselor education, Cronan-Hillix et al. (1986) and Mintz, Bartels, and Rideout (1995) discovered that more than half of the participants in each of their studies had mentors during their graduate training. Another study which examined psychology doctoral students and mentoring revealed that male doctoral students reported higher rates of mentoring and more than 65% of graduate students in psychology reported having a mentor during their academic program (Clark et al., 2000).

Bruce (1995) also examined mentoring with doctoral students; however these students were in counselor education. She interviewed female doctoral students since she stated they had different mentoring needs and represented the majority of graduate students in counselor education. Through qualitative inquiry, the female doctoral
students in her study reported the encouragement and supportive aspects of mentoring were beneficial. These doctoral students also felt they benefited from the professional development opportunities they received from the mentoring relationship. Additionally, the role modeling aspect of mentoring by female counselor education faculty was an added benefit from the mentoring relationship for these female doctoral students.

As Bruce (1995) discussed in her research, doctoral students received many benefits from mentoring experiences. Luna and Cullen (1998) reported some of the mentoring benefits to graduate students included role modeling, guidance, support, listening, enhancing self-confidence and career advice. Having an overall positive evaluation of graduate school (Lyons & Scroggins, 1990) was recognized as another benefit of mentoring. Mentoring has other positive outcomes for doctoral students such that finding a faculty mentor was a significant factor for female doctoral students finishing their academic programs early (Maher, Ford, & Thompson, 2004). It was also shown to affect graduate students overall experience (Ellis, 2001) and improve their quality of work. Mentoring also produced other benefits like having a positive interest in research because of the interaction with faculty (Royalty & Reising, 1986). Faculty modeling or mentoring in research activities profit doctoral students in other ways like having higher rates of research involvement and productivity (Cronan-Hillix et al., 1986; Galassi et al., 1987; Krebs et al., 1991).
Just as there were noted benefits of mentoring for graduate students, faculty also profit from engaging in mentoring relationships. Russell and Adams (1997) noted that mentors receive various extrinsic rewards like accelerated research productivity, greater networking, and enhanced professional recognition. Johnson (2002) also highlighted that faculty mentors receive intrinsic rewards such as career satisfaction, rejuvenation of creative energy and a sense of generativity.

*Mentorship and Underrepresented Groups*

Many underrepresented groups like women and ethnic minorities experience difficulties with mentorship in graduate school (Noe, 1988b; Walker, Wright, & Hanley, 2001). A major reason for this is the lack of available mentors from their same sex and racial backgrounds. “Many graduate programs have tremendous difficulty attracting and keeping female and minority faculty members; consequently, same-gender or same-race mentors are not available to many students” (Johnson, 2002, p. 90). The lack of available same race mentors for African American graduate students is a unique challenge since racial similarity has been identified as a preference for many ethnic minorities in initiating mentoring relationships (Atkinson et al., 1991; Grant-Thompson & Atkinson, 1997). Moreover, racial similarity is also important to African American students who may be mistrustful of Whites (Grant-Thompson & Atkinson, 1997). As a result, many African American graduate students might not seek out cross-cultural mentoring relationships during their academic careers and the opportunities for such
students to be mentored by African-American professors are limited. For example, in a study by Smith and Davidson (1992) it was reported that one third of the African-American graduate students they surveyed had not received mentoring support or guidance in their academic programs. In another study which examined opportunities for same race mentoring among African American students and faculty in business, Catalyst (2000) determined that only 7% of the African-American students surveyed either strongly agreed or agreed they had adequate opportunities to work with professors of color. While this study was associated with the business discipline, such reports mirrors the obstacles that ethnic minority graduate students face when searching for same race mentors in counselor education. Students of color may find it difficult to find mentors from similar ethnic backgrounds because of the limited number of ethnic minority faculty in counselor education (Dinsmore & England, 1996; Walker, 2006).

Although same race mentoring is important to some ethnic minority groups, Atkinson et al. (1991) surveyed psychologists and found no evidence which supported the notion that mentoring relationships with same race psychologists were more satisfying or provided more benefits than cross cultural mentoring relationships with European American psychologist. Therefore, same race mentoring did not necessarily equate to a successful mentoring relationship (Ensher & Murphy, 1997). In addition, European American professors and senior professionals in psychology and possibly
other related disciplines could successfully serve as mentors to ethnic minority students
and novice professionals based on Atkinson and his colleagues' findings.

Just as same race mentoring has been difficult for ethnic minority graduate
students in higher education; same sex mentoring also has been identified as a
challenge for female graduate students in counselor education (Bruce, 1995; Casto et al.,
2005). This has been a challenge for female graduate students in counselor education
because, like ethnic minority faculty, women faculty might be scarce at some
universities (Casto et al., 2005) and those women faculty who are available may have
lower academic rank and status than their male faculty counterparts (Burke & McKeen,
1997). Although the number of women faculty who could serve as mentors to female
graduate students has been low, female doctoral students more often than male
doctoral students sought out same sex role models and mentors. This was because
female graduate students had different mentoring needs than men (Benishek et al.,
2004; Bruce, 1995) or they did not find cross-gender mentoring relationships as
beneficial (Noe, 1988a). In addition, female graduate students might want same sex
mentoring because of the negative perceptions and experiences that has been associated
with having male mentors. Many articles in the mentoring literature have documented
concerns about sexual relationships and romantic involvement between female mentees
and male mentors (Burke & McKeen, 1997; Schwiebert, Deck, Bradshaw, Scott, &
Harper, 2000), which has been recognized as a primary concern for cross gendered
mentoring relationships. Another concern within cross gender mentoring relationships
has been differences in treatment and experiences within institutions and organizations. Gilbert and Rossman (1993) discussed how male mentors might be unaware of their dissimilar treatment of female and male protégés. For instance, "women are sometimes viewed by their male mentors as not taking their professional goals seriously, and, therefore, they may be mentored in a qualitatively different way from men" (Benishek et al., 2004). Other differences between men and women involved women's experiences with different types of mentoring relationships. For example, women in formal mentoring relationships received less coaching, role modeling, friendship and social interactions than in informal mentoring relationships, whereas the type of mentoring relationship did not change the mentoring functions for men (Ragins & Cotton, 1999). Another example involved the way female mentees were treated such that male mentors might treat male and female protégés similar but might fail to take into account the different impact the organizational practices and structures have on their female and male protégés' experiences (Gilbert & Rossman, 1993).

Women face many gender related interpersonal and organizational barriers which might prevent them from developing potential mentoring relationships (Bruce, 1995; Ragins & Cotton, 1991). Consequently, many scholars have emphasized the importance of women faculty mentoring women students or woman to woman mentoring (Casto et al., 2005; Schwiebert et al., 2000). Although women mentoring women is relatively recent in most educational and professional settings (Gilbert & Rossman, 1993), there have been a number of advantages discussed in support of
woman to woman mentoring. Some of the advantages included: (a) women receiving encouragement and support from women mentors (Bruce, 1995); (b) women mentors providing personalized attention to assist female mentees in dealing with problems specific to women (Hurte, 2002); (c) women having higher reports of career and life satisfaction through mentoring relationships (Ragins & Cotton, 1999); (d) female students gaining a greater awareness of their academic program's organizational structure and politics (Casto et al., 2005); and (e) women having women role models (Bruce, 1995). While the numerous benefits of woman to woman mentoring have been well documented, there is a lack of research on female mentors who have male protégés (Schwiebert et al., 2000). Additionally, much of the research on mentoring relationships particularly in business and education has been in regards to male mentors and protégés.

With the scarcity of mentors in graduate school who are knowledgeable about culturally appropriate ways of guiding women and students of color, these students are likely at greater risk of (a) not receiving sufficient training in research and specialized content areas, (b) not completing their degree programs, and (c) not being well positioned to readily succeed in their postdoctoral careers. (Davidson & Foster-Johnson, 2001, p. 550)

Since having a mentor is absolutely essential in graduate school (Lyons & Scroggins, 1990), many scholars have advocated that ethnic minorities seek cross-cultural mentoring relationships in counselor education (Brinson & Kottler, 1993; Walker, 2006). Other scholars have promoted woman to woman mentoring for female graduate students in counselor education (Casto et al., 2005; Schwiebert et al., 2000). However,
despite these recommendations, there are many potential challenges that might arise within mentoring relationships (Benishek et al., 2004).

Challenges With Mentoring Relationships

While research has demonstrated there are many positive forms of support within mentoring relationships (Kram, 1985; Scandura, 1992), other findings suggest mentoring relationships could have some unhealthy aspects (Eby, McManus, Simon, & Russell, 2000). Thus, mentoring is not only defined by the functions it serves but also by the character of the relationship. Given this, when there are difficulties and challenges involved in mentoring, one area to examine is the mentoring relationship. Since mentoring relationships could be enhancing at times, these relationships could also become less satisfying and even destructive (Kram, 1985). Moreover, mentoring relationships, like work and personal relationships fall along a continuum whereby some of them are highly satisfying, some may be marginally satisfying, dissatisfying, dysfunctional, or even harmful (Eby et al., 2000; Kram, 1985; Ragins, Cotton, & Miller, 2000; Scandura, 1998).

Several things could cause a mentoring relationship to be categorized as marginal, dissatisfying or dysfunction. Johnson (2002) stated one of the reasons for dysfunctional mentoring relationships was graduate students and faculty mentors harbored discrepant assumptions about mentoring which included incongruent expectations about the role of mentor. Other scholars have also noted the differences in
perceptions of the relationship between faculty mentors and students as a major problem within mentoring relationships (Eby et al., 2000; Scandura, 1998). Another cause for dysfunctional or dissatisfying mentoring relationships is the role of both the mentor and the protégé. “Both members of a relationship dyad, in this case the mentor and protégé, impact the behavioral patterns that unfold” (Eby et al., 2000). Since both contribute to the effectiveness or ineffectiveness of the mentoring relationship, each of their dysfunctional behaviors within negative mentoring experiences is discussed below.

Mentors' Role in Negative Mentoring Experiences. Besides differences in perceptions of the mentoring relationships, another reason why mentoring relationships could become dissatisfying or dysfunction is the type of mentor. Levinson et al. (1978) said there were three types of mentors: good mentors, bad mentors, and good enough mentors. Good mentors were interpersonally supportive, encouraging, and poised (Johnson, 2002). Some of the other “good mentor” qualities Johnson mentioned included being kind, emotionally healthy, and competent. Good mentors were also associated with highly satisfying mentoring relationships which encouraged mentees to have positive work attitudes and behaviors like career commitment and job satisfaction (Ragins et al., 2000). Although several articles have explored the characteristics of “good or ideal mentors” (Johnson, 2002), less is written in the mentoring literature about “bad mentors.” However, one of the top characteristics of a
bad mentor included being unethical. As such, many scholars have discussed the importance of ethical behavior within mentoring relationships (Blevins-Knabe, 1992; Johnson & Nelson, 1999; Warren, 2005).

Good and bad mentors were the two extreme types of mentors discussed by Levinson and his colleagues (1978). However, a good enough mentor which was right in the middle, not a bad mentor and not a good one, was known as a marginal mentor (Ragins et al., 2000). Ragins and her colleagues defined marginal mentors as those mentors who were limited in the scope or degree of mentoring functions provided to their protégés. These mentors also were not attentive to the mentees' developmental needs. Additionally, a substantial proportion of mentors may be marginal (Ragins et al., 2000).

In addition to the characterization of the mentor as good, bad or marginal, Eby et al. (2000) surveyed 156 protégés from an executive development program at a large southeastern university and discovered there were other behaviors or qualities of the mentor which contributed to negative mentoring experiences. They categorized these activities or behaviors into the following themes: (a) match within dyad, (b) distancing behavior, (c) manipulative behavior, (d) lack of mentor expertise, and (e) general dysfunctionality. Within each theme, there were subthemes. For instance, under the match within dyad theme, protégés reported their mentors had values, work habits or personalities that were incompatible (Eby et al., 2000). Under the distancing behavior theme, protégés described such things as their mentors neglecting them by giving them
little to no feedback or the mentors were self-absorbed. They also described their experiences under this category as the mentor being intentionally exclusionary by ignoring the protégés or not being available to the protégé by keeping their office doors closed. When Eby and her colleagues (2000) discussed the manipulative behavior theme, they indicated that protégés felt their mentors practiced tyranny, used their position to put others down, and used inappropriate delegation or picking favorites. Politicking which included behaviors designed to maximize personal short-term or long-term gain was identified as another manipulative behavior which protégés discussed as something mentors did that contributed to their negative mentoring experiences. Other manipulative behaviors protégés mentioned included their mentors taking credit for the mentees' work, sabotaging the protégé, and deception (Eby et al., 2000). Lack of mentor expertise was the fourth theme that emerged from Eby and colleagues (2000) mixed method study on the protégé’s perspective regarding negative mentoring experiences. Under this category, protégés mentioned technical and interpersonal incompetency (i.e., mentors who were difficult to talk to because they were not sensitive or lacked the ability to effectively communicate with people). The last theme was general dysfunctionality. Under this description, Eby and colleagues found that protégés felt their mentors had bad attitudes or personal problems which contributed to their negative mentoring experience. It was also important to note that 54% of the protégés in their study had been in at least one negative mentoring relationship (Eby et al., 2000).
Protégés Role in Negative Mentoring Experiences. Just as mentors played a significant role in the dissatisfaction or dysfunctionality of mentoring relationships, protégés also exhibited behaviors, attitudes, and qualities which contribute to negative mentoring experiences. While little attention in the mentoring literature has been given to the role of protégés in creating high or low quality mentoring relationships (Eby & McManus, 2004), there is research which has supported the notion that mentors perceived protégés as contributing to mentoring relationship problems despite the lesser power they have in the relationship (Ragins & Sundstrom, 1999).

Scandura (1998) outlined seven precise dysfunctional behaviors which might occur in mentoring relationships. These behaviors were deception, sabotage, harassment, difficulty, spoiling, submissiveness, performance below expectations and unwillingness to learn. Scandura also discussed whether good or bad intentions undergirded each dysfunctional behavior. For instance, Scandura explored whether there was malicious or harmless deception whereby the protégé was intentionally manipulatve and scheming towards the mentor versus benign or good deception in which the mentor felt the protégé just wanted him or her as a mentor to gain their approval (Eby & McManus, 2004). Additionally, Scandura described three types of dysfunctional mentoring relationships such that dysfunctional mentoring relationships were characterized by serious problems where one or both individuals expressed bad intent toward each other and the consequences were professionally and/or personally damaging. Marginally effective relationships were those where the problems within the
relationship minimize the potential of the relationships to meet important needs; however, there was no malice involved and the relationship was likely to stay intact (Scandura, 1998). Ineffective relationships, on the other hand, would lead to early termination of the mentoring relationship since these were marked by problems that the mentor and protégé had relating to each other because of feelings of disappointment or regret (Scandura, 1998). Since Wood and Duck (1995) advocated for the importance of viewing relational problems on a continuum, Eby and McManus (2004) contended that the continuum for dysfunctional mentoring relationships included dysfunctional mentoring relationships at one end, marginally effective mentoring relationships were at the other end and ineffective mentoring relationships were in the middle of the continuum.

Although Scandura’s work was significant in better understanding mentoring relationships, this research did not identify the extent to which the mentor or protégé was involved in creating mentoring relationship problems (Eby & McManus, 2004). Therefore, further research in this area was necessary. Eby and McManus (2004) used Scandura’s work to determine the frequency that mentors reported experiencing protégé’s dysfunctional behaviors. They discovered that 75% of the 161 mentors they surveyed had at least one negative mentoring experience. Additionally, the mentors in this study provided examples from their experiences that described marginally effective mentoring relationship experiences with their protégés (Eby & McManus, 2004). Some of the behaviors protégés exhibited within this relationship type included performance
below the mentor’s expectations and unwillingness to learn. According to Eby and McManus (2004), mentors felt that their protégé’s unwillingness to learn could further be described as unresponsive (i.e. listened but did not practice ideas) and defensive (i.e., takes it as a personal attack).

The next relationship type mentors discussed in this mixed methods study on the protégé’s role in negative mentoring experiences was ineffective mentoring relationship experiences. Of the examples that mentors provided, experiences which fell into the ineffective relationship category occurred 32.1% of the time. Moreover, some of the dysfunctional behaviors which protégés demonstrated within this relationship type were difficulty, spoiling, benign deception and submissiveness (Eby & McManus, 2004). Difficulty included conflicts and disagreements between the mentor and protégé which resulted from differences in judgment that led to problems in relating to one another (Scandura, 1998). According to Scandura, spoiling was a good mentoring relationship that had soured because of real or perceived disloyalty or disappointment. Benign deception included behaviors where the intent was to enhance one’s self-image (Scandura, 1998). Submissiveness has been described as over dependence on the mentor which created relationship problems that led to the termination of the mentorship (Ragins & Scandura, 1997; Scandura, 1998).

Even though marginal relationships and ineffective relationship experiences characterized the major of experiences mentors described in the study by Eby and McManus (2004), a small percentage of the mentors’ negative mentoring experiences
with protégés were considered dysfunctional mentoring relationships. This category only accounted for 15% of the examples mentors discussed about their interactions with their protégés. Within the dysfunctional relationship experiences, mentors described four behaviors of their protégés. These dysfunctional behaviors were: negative reactions, malevolent deception, sabotage, and harassment (Eby & McManus, 2004).

According to Scandura (1998), negative reactions referred to bullying, exploitation, or egocentric behavior with the intent to harm the other person. In addition, Scandura stated that negative reactions were considered serious forms of relational dysfunction. Similar to negative reactions, malevolent deception has been described as harming another person and was motivated by revenge, vindication, and hate (O'Hair & Cody, 1994). Like negative reactions and malevolent deception, sabotage involved harming someone. However, it included committing some type of act like badmouthing the mentor to others or passive like giving the mentor the silent treatment (Eby & McManus, 2004). Of all of the dysfunctional behaviors of protégés, Eby and McManus stated that passive sabotage acts were something that protégés were likely to use since they did not have direct control within the mentoring relationship. Moreover, they stated that sabotage could be very damaging to the mentor’s professional and personal reputation. Harassment was another serious dysfunctional behavior which affected the mentoring relationship. It could take on many forms like sexual, gender or racial harassment (Scandura, 1998). Eby and McManus stated that protégés were less likely to harass their mentors given their lesser power in the mentoring relationship, however
with more women and racial minorities moving into management positions it was probable some protégés would commit harassing behaviors.

After discussing mentoring experiences and research self-efficacy, two important variables in this research study, the next section of this literature review would be devoted to discussing occupational commitment which was another important variable examined in the study.

Occupational Commitment

Commitment in the Workplace

According to Morrow (1993), commitment in its broadest sense has been a central concept in psychology. Commitment is generally defined as a willingness to persist in a course of action (Cooper-Hakim & Viswesvaran, 2005). While this definition seems rather simplistic, commitment is a complex and multifaceted construct many theorists and researchers have defined and operationalized in many different ways (Meyer, Smith, & Allen, 1993). Some recent dimensions of commitment studies in psychology have included commitment to individual goals (Donovan & Radoevich, 1998), commitment to family and friends (Sprecher, Metts, Burleson, Hatfield, & Thompson, 1995), commitment and religion (Anderson, 1998), and commitment to one's community (Greer & Stephens, 2001). However, the most extensive studies on commitment within psychology have involved commitment and the workplace (Cooper-Hakim & Viswesvaran, 2005; Morrow, 1993).
Commitment in the workplace has a long history in the vocational psychology literature that dated back to the late 1960s and early 1970s and continued into the present. Commitment in the workplace or work commitment embodied various facets of employee commitment within the realm of work (Hackett, Lapierre, & Hausdorf, 2001). Within this context, Morrow (1983) identified five forms of work commitment. They include: work ethic endorsement, union commitment, job involvement, organizational commitment, and career salience. Work ethic endorsement according to Morrow (1993) is the extent to which an employee believes in the importance of work. Additionally, she discussed work ethic endorsement as the essence of working hard and the personal worth one is measured by for their willingness to work hard. The work ethic endorsement encompassed the Protestant work ethic, work involvement, and employment commitment (Cooper-Hakim & Viswesvaran, 2005). Furthermore, Mirels and Garrett first introduced the concept of work ethic endorsement in 1971.

Union commitment, another form of work commitment proposed by Morrow (1993) referred to the loyalty or degree of allegiance that one has toward one's union (Gordon, Philpot, Burt, Thompson, & Spiller, 1980). There were four forms of union commitment: union loyalty, responsibility to the union, willingness to work for the union, and belief in unionism (Gordon et al., 1980). The next form of work commitment mentioned by Morrow was job involvement. Lawler and Hall (1970) defined job or work involvement as the degree upon which the job situation is central to the person and his identity. Other early scholars discussed job or work involvement in this way.
“A person who is involved in his job is one who takes it seriously” (Locke, 1976, p. 1301). Moreover, work was a central life interest to the extent that workers preferred to engage in work-related activities, as opposed to a non-work context (Dubin, 1976). Lodahl and Kejner (1965) also were historic figures in the job involvement literature. They described it in two ways whereby they associated job involvement with job performance and self-esteem. They also connected it with self-image or one’s personal identification with work. In developing the Job Involvement Scale, Kanungo (1982) had a much simpler definition of job involvement whereby it referred to the importance of work in one’s life.

Organizational commitment which is the fourth form of work commitment discussed by Morrow involved employees' commitment to their employers (Meyer et al., 1993). Some of the early organizational commitment literature included the work of Mowadays, Steers, and Porter (1979) and Porter, Steers, Mowaday and Boulian (1974). Like many of the other forms of work commitment, organizational commitment was considered a one-dimensional concept until the early nineties. Meyer and Allen (1991) developed a three-component model of organizational commitment that had three distinct themes. Organizational commitment was seen as an affective attachment to the organization known as affective organizational commitment. They discovered that there was a perceived cost associated with leaving the organization known as continuance organizational commitment and they believed some employees felt an obligation to remain with the organization known as normative organizational
commitment (Meyer et al., 1993). Additionally, according to their three component model, employees could have varying degrees of all forms of organizational commitment (Meyer et al., 1993).

Career salience was the fifth form of work commitment that Morrow (1983) identified. Greenhaus (1971) first defined career salience as the importance of work and career in one's total life. He found that career salience was related to such variables like congruence in occupational choice and selecting the ideal occupation (Greenhaus, 1973). Greenhaus and Sklarew (1981) also developed a 27-item questionnaire or scale that measured career salience. Within the scale, there were three subscales: (a) general attitudes toward work, (b) vocational planning and thought, and (c) the relative importance of work. Morrow discussed the ambiguity of the importance of work subscale and definition for career salience. She also mentioned that the three subscales for career salience were very closely related to aspects of two other work commitment forms, work ethic endorsement and job involvement (Morrow, 1983). Furthermore she noted that given the items on the Career Salience Scale, high career salience precluded high commitment to other things like family, leisure pursuits, friends or religious activities (Morrow, 1983).

Morrow's work on the five work commitments was groundbreaking, in that it helped clarify the theoretical and empirical interrelationships of the five work commitments. Morrow's work also gave her recognition within the commitment literature for highlighting the redundancy of the commitment concepts. According to
Morrow, many of the five work commitment forms were practically redundant and insufficiently distinct to warrant continued separation.

**Career Salience as an Early Form of Career Commitment**

As Morrow (1983) recognized the inherit concept overlap among the five work commitment forms, she also drew attention to the similarities between two specific work commitment forms, career salience and job involvement. In fact, the two work commitment forms are considered synonymous with career commitment (Cooper-Hakim & Viswesvaran, 2005; Goulet & Singh, 2002). Hall (1971) first defined career commitment as the strength of one's motivation to work in a chosen career role. However, Hall stated career commitment was distinct from other work related behaviors like job or work involvement whereby work involvement was an employee's identification with the tasks related to a specific job or work (Kanungo, 1982) and organizational commitment was the identification an employee had with an organization. The distinction between career commitment and the other work commitment forms is important to the literature on work related behaviors because it demonstrated that employees could have commitment to their job, organization, or career, representing a commitment to all three entities. On the other hand, an employee could also have a commitment to only one or two of the five work commitment forms (Blau, 2001a).
Of the five work commitment forms, Aryee and Tan (1992) noted that career commitment was the least studied even though it was first introduced in the early 1970's. Therefore, during the late 1980s and early 1990s several studies (Aryee & Tan, 1992; Blau, 1985, 1989; Colarelli & Bishop, 1990) examined career commitment. Gary Blau conducted three significant studies on career commitment and developed the Career Commitment Scale which was an 8-item instrument measuring this concept (Blau, 1985, 1988, 1989). These studies are often cited in the career commitment literature when referring to career commitment. In his first article, Blau (1985) conducted a longitudinal study where he surveyed a sample of 119 unionized registered nurses from a large urban hospital in order to (a) determine if a distinct measure of career commitment could be operationalized, and (b) examine whether the career commitment scale showed a relationship to the career withdrawal cognition scale in comparison to other work commitment concepts. Results from this study indicated that the career commitment scale was operationally distinguishable from job involvement and organizational commitment (Blau, 1985). Also, career commitment has an inverse but high correlation to career withdrawal cognitions which was defined as thoughts and feelings associated with leaving a particular profession (Lam, Foong, & Moo, 1995). Mobley (1977) asserted that withdrawal cognitions were related to three things: (a) thinking of quitting, (b) intention to search, and (c) intention to quit. Blau determined that career withdrawal intentions did not show a negative relationship to job involvement and organizational commitment. He also identified the following
variables as predictors of career commitment in nurses: tenure on the job (more experience), unmarried status, higher growth need strength, internal locus of control orientation, perceived less role ambiguity, more supervisor initiating structure and identify with their job and organization (Blau, 1985). In this same study, Blau developed the career withdrawal cognitions scale by substituting the word profession for job in the three-item Withdrawal Cognitions Scale. These three items were questions which reflected Mobley's three statements regarding withdrawal cognitions.

In a second study, Blau (1988) surveyed a sample of newspaper employees (circulation department supervisors) and insurance personnel to examine the validity and reliability of the career commitment scale. In this study, Blau also established that the career commitment scale was reliable and valid. Additionally, by corroborating the reliability, discriminant and convergent validity, he enhanced the generalizability of the instrument by using a sample of workers that was considered less professional in terms of training, professional orientation, professional organizations than the nurses (Blau, 1988). In his third career commitment study, Blau also tested the generalizability of the career commitment measure and its impact on employee turnover by using another diverse sample of employees (Blau, 1989). Blau surveyed 133 full-time bank tellers from a large bank. Results from this study also confirmed previous evidence that the career commitment scale was distinct from the job involvement and organizational commitment (Blau, 1985, 1988) and that career commitment was negatively correlated to turnover (Blau, 1989). Blau also discovered in this study the relationship between
career commitment and turnover was mediated by career withdrawal cognitions (Blau, 1989).

During the late 1980s, Blau's Career Commitment Scale helped to further extend the commitment research base. However, Blau's initial work on the Career Commitment Scale received much criticism in the early nineties, as a new paradigm shift for commitment was emerging (Meyer et al., 1993). For instance, Carson and Bedeian (1994) highlighted four significant problems with the Career Commitment Scale. First, they noted that the high correlation reported by Blau (1985, 1989) between career commitment and career withdrawal cognitions might be a result of the instrument's overemphasis on intent to remain in one's vocation. Second, they questioned the content validity of the scale since Blau used the best items from two existing instruments on work attitudes and career orientation but they noted he did not use a systematic procedure for his final item selection (Carson & Bedeian, 1994). Third, they stated that since there were problems with the content validity there may be other statistical problems with the instrument including upper bound or inflated estimates (Carson & Bedeian, 1994). Because of the aforementioned deficiencies noted in the Career Commitment Scale, Carson and Bedeian developed the first multidimensional scale that measured career commitment called the Career Commitment Measure (CCM). It had three subscales: career resilience (resisting career disruption in the face of adversity), career identity (establishing a close emotional association with one's career) and career planning (determining one's developmental needs and setting goals).
Despite the criticisms of Blau's Career Commitment Scale and the development of a new instrument for measuring career commitment, the Career Commitment Measure, the researcher decided to use Blau's instrument when conducting this research project. The researcher made this decision for two reasons. First, Blau's instrument measured career commitment in the same fashion as the original concept defined by Hall (1971), whereas Carson and Bedeian (1994) created their own definition of career commitment and developed their measure to fit this definition. Since the researcher wanted to be consistent with the original concept of career commitment as defined by Hall (1971), she decided to use Blau's instrument. Second, Blau's work on his instrument has evolved tremendously since the late eighties. The latest instrument reflects the current understanding of career commitment given that Blau used the work of current career commitment scholars like Meyer, Allen, and Smith (1993).

Career Commitment Evolves Into Occupational Commitment

Gary Blau's work in the late 1980s on career commitment was very central to (a) understanding work related behaviors like intent to remain or leave a particular career, and (b) viewing career commitment as a concept distinct from other work commitment forms (Blau, 1985, 1988, 1989). Even though Carson and Bedeian (1994) criticized Blau's initial work on the Career Commitment Scale, it has evolved over the past 20 years. For example, Blau no longer used the term career commitment since he believed occupational commitment was a more descriptive term. According to Blau (2001a) and many other
commitment scholars like Meyer et al. (1993), the terms career, profession, and occupation were used interchangeably in the work commitment literature. Therefore, Blau (2001a) further clarified the difference between career and occupational commitment such that occupation referred to “a group of people who consider herself or himself to be engaged in the same type of work” (Blau, 2001a, as cited by Van Maanen & Barley, 1984, p. 287) whereas career was a term used to define as a pattern of work-related experiences over one's life (Greenhaus & Callanan, 1994). With the clarification of terms for career and occupation, it was understood that one has a career despite making job, organizational, and/or occupational changes (Blau, 2001a).

Given the change in terminology, occupational commitment was now defined as the psychological link between an individual and his or her occupation that is based on an affective reaction to that occupation (Lee et al., 2000). Meyer et al. (1993), who developed a new model for understanding organizational commitment, stated that occupational commitment was a psychological state that characterized the employee's relationship with the occupation. They also stated that occupational commitment has implications for an employee's decision to continue or discontinue their involvement in the occupation. Moreover, Meyer et al. disputed the notion that occupational commitment was a one-dimensional construct given that this was the pervasive paradigm in the late 1980s (Meyer et al., 1993). Rather, Meyer and colleagues stated that occupational commitment was a multidimensional construct and provided empirical evidence to support a three-dimensional view of occupational commitment.
based upon the same three distinct dimensions they developed for organizational commitment. These three dimensions were affective occupational commitment, continuance occupational commitment, and normative occupational commitment (Meyer et al., 1993). According to Lee et al. (2000), affective commitment referred to the person’s desire to remain in to the occupational role, continuance commitment represented the perceived costs associated with leaving the occupation, and normative commitment was the obligation the individual felt to the occupation. Each of these domains or dimensions was represented in a new scale which measured occupational commitment (Meyer et al., 1993). The Occupational Commitment Scale developed by Meyer et al. (1993) had three subscales representing the three dimensions of occupational commitment and each subscale had six items corresponding to affective, continuance, and normative occupational commitment (Blau, 2003).

Blau, who developed the Career Commitment Scale (Blau, 1985, 1988, 1989), was inspired by the work of Meyer et al. (1993) and Carson, Carson, and Bedeian (1995). Meyer and colleagues created the multidimensional Occupational Commitment Scale and Carson and his colleagues developed the Occupational Entrenchment Scale which had three dimensions including occupational investment, emotional cost, and limitedness of occupational alternatives (Carson et al., 1995). Blau used these two instruments to create another version of the Occupational Commitment Scale. In Blau’s version, occupational commitment had a fourth dimensional structure which was limited alternatives occupational commitment. Limited alternatives occupational
commitment was defined as the occupational investment, emotional costs, and limitedness of occupational alternatives an individual perceived they will lose if they decided to leave an occupation (Blau, 2003). Blau and Holladay (2006) believed this fourth dimension which included concepts from occupational entrenchment enhanced the continuance occupational commitment dimension of the Occupational Commitment Scale since continuance commitment focused on the perceived cost associated with leaving an occupation. Moreover, he conducted research that helped to bridge the gap between occupational commitment and occupational entrenchment. According to Blau (2001b), this new dimension, the limited alternatives occupational commitment, when added to Meyer et al.'s Occupational Commitment Scale allowed researchers to not only explore the perceived emotional cost associated with leaving an occupation as in the case of continuance occupational commitment but also researchers could examine the limitedness of occupational alternatives and occupational investment employees perceived they would lose if they left the occupation (Blau, 2001b). Therefore in developing this fourth dimension, Blau simply utilized two of the three dimensions of the Occupational Entrenchment Scale to form the fourth subscale called limited alternatives occupational commitment. He then added this subscale to his version of the Occupational Commitment Scale. In addition, like the Occupational Commitment Scale developed by Meyer et al. (1993), each of the first three domains in Blau's Occupational Commitment Scale had six items. These items were the same as the ones created by Meyer et al. (1993). However, Blau's Occupational Commitment Scale had a fourth
dimension the limited alternatives occupational commitment subscale which had four items representing both occupational investment and limitedness of occupational alternatives (Blau, 2001b). Blau’s Occupational Commitment Scale was used in this research study.

*Significance of Occupational Commitment to This Research*

While career or occupational commitment has a long history in the vocational psychology and human resource literature, this concept has not been explored within counselor education. Given the historical shortage of counselor educators and counselor education doctoral graduates were less frequently selecting faculty careers within the past two decades (Maples et al., 1993), the researcher wanted to explore the career intentions of counselor education graduates (i.e. whether they were more or less likely to pursue a faculty career in counselor education). In addition, the researcher wanted to explore if counselor education doctoral students had the motivation to work as faculty. Since occupational commitment was a concept that could uncover doctoral students’ attachment and motivation to pursue faculty careers in counselor education, it was used in this study. Occupational commitment was also used in this study as an outcome variable which helped to establish doctoral students’ motivation or intention to work in this career field (Blau, 1985, 1988, 1989). Intention is an important concept within this research study since doctoral students have not yet entered the professorate as counselor educators. Moreover, occupational commitment measured behavioral
intention and could predict actions related to intention (Koslowsky, 1987). Another reason occupational commitment was utilized in this study involved its use as a work related behavior or attitude like job satisfaction. As a work related behavior or attitude, occupational commitment affects future decisions, actions, and performance (Lent, Brown, & Hackett, 1996) and influences subsequent work behaviors (Darden, Hampton, & Howell, 1989; Koslowsky, 1987). Moreover, career success, involvement, and satisfaction are intertwined with the discussion of career commitment (Baker, Exum, & Tyler, 2002). Blau and Lunz (1998) determined that after job satisfaction and career commitment were significant predictors of intent to leave and was a factor involved in the intent to remain in a profession. Moreover, Carless and Bernath (2007) stated that job satisfaction and career commitment were antecedents of intent to change careers.

**Career or Occupational Commitment and Students**

Many of the career or occupational commitment studies have primarily utilized individuals who were employed in various career fields like medical terminology (Blau, 2001b), nursing (Meyer et al., 1993), banking, and insurance (Blau, 1985, 1988, 1989) as participants. The aim of these studies were to distinguish career commitment or occupational commitment from other work commitment forms (Blau, 1985, 1988, 1989), to determine if their were antecedents and outcomes of career commitment (Aryee & Tan, 1992), and to predict work behaviors like intent to stay or leave the occupation or organization (Blau & Lunz, 1998).
Career or occupational commitment concepts have also examined the work related activities or behaviors of potential employees who have not entered a particular career field or occupation. Work commitment research using potential employees would be those studies utilizing student samples. The goal in utilizing student participants when researching career or occupational commitment has been to gauge career intention or assess the extent to which students are motivate to or pursue certain careers or occupations. For example, Rascati (1989) surveyed a sample of 250 pharmacy students to assess and compare aspects of career choice, career plans, and career commitment between male and female pharmacy students. No significant differences were found between gender regarding career commitment of pharmacy students and both genders had a strong commitment to the pharmacy career field (Rascati, 1989). Additionally, both genders (84.3% of the sample) indicated they would choose the same profession if they could do it all over again. In another study identifying the factors associated with student satisfaction and commitment to pharmacy practice, McGhan (1985) found the number of organizations pharmacy students in their last year of training joined was the leading predictor of career commitment.

Like Rascati and McGhan, Lam et al. (1995) also determined the potential commitment of students towards a given career field. Lam et al. surveyed 350 first-year teacher interns from a teacher training institute in Singapore in order to analyze the relationship between quality of work like, career commitment, job satisfaction and withdrawal cognitions. Results from this study revealed job satisfaction and career
commitment had a negative effect on withdrawal cognitions. Also, the following work life facets were shown to have a significant positive effect on career commitment and job satisfaction: autonomy, competency, and status (Lam et al., 1995). Another significant finding revealed in this study was that teacher interns perceived their status as very important to their feelings of career commitment, job satisfaction, and withdrawal cognitions (Lam et al., 1995).

Status was a central theme in another study using career commitment. Ulku-Steiner, Kurtz-Costes and Kinlaw (2000) examined how gender status influences perceptions of mentor support, partner support, peer support, academic self-concept, sensitivity to family issues, stress and career commitment in male and female doctoral students in academic programs with male or gender-balanced faculty. Using a sample of 341 doctoral students from male dominated departments (i.e., biology, business, chemistry, geography, history, math, and political science) and gender-balanced departments (i.e., anthropology, epidemiology, health behavior and health education, health policy administration, maternal and child health, romance and Slavic languages) at a large Southern state university, Ulku-Steiner et al. (2000) discovered the following during the first study from 1997–98: (a) students in gender-balanced programs reported significantly higher academic self-concepts and career commitments than those in male-dominated programs; (b) women in male-dominated programs experiences less sensitivity in their departments to family issues than other students; they also reported lower academic self-concepts and career commitment; (c3) career commitment was
positively related to mentor support, partner support, and academic self-concept for both male and female doctoral students and the correlation between peer support and career commitment was significant for males; (d) career commitment and academic self-concept was negatively related to stress; and (e) academic self-concept, mentor support, and stress were significant predictors of career commitment for women and mentor support, peer support and academic self-concept were predictors for career commitment in men. In the second study conducted in 1998–99 with the same focus, Ulku-Steiner et al. (2000) surveyed 373 doctoral students enrolled in male-dominated and gender-balanced programs at the same university used in the first study. They discovered the following: (a) students in male dominated programs reported lower self-concepts and career commitments than students in gender-balanced programs; (b) women in male dominated programs reported greater peer support and more negative self-concept when compared to other students; (c) younger students (classified by age group) reported higher peer support and lower self-concept and career commitment than older students; (d) career commitment was significantly correlated to academic self-concept, partner support, mentor support, peer support, family issues, and stress for both male and female students; (e) higher mentor support was associated with high academic self-concept, sensitivity to family issues, and low stress; and (f) no significant differences were found in career commitment over time. In both studies, women in male-dominated programs reported lower academic self-concepts, career commitment and less sensitivity in their departments to family issues than other students. There
were no differences found in mentor gender and student experiences. Additionally, academic self-concept and mentor support were the strongest predictors of career commitment (Ulku-Steiner et al., 2000).

Another study examined gender and career commitment in students; however, Chung also explored ethnic differences and career decision making self-efficacy (Chung, 2002). In this study, Chung surveyed 165 undergraduate students from a Southern university in order to determine if there was a relationship between career decision-making self-efficacy and career commitment which was defined in this study as the degree to which a person values career planning and the seeking of a meaningful and fulfilling career. Chung also replicated an earlier study by Betz, Klein, and Taylor (1996) that evaluated gender differences in self-efficacy. Additionally, Chung explored ethnic differences as a possible moderator variable since several studies (Gloria & Hird, 1999; Luzzo, 1996) have demonstrated that ethnic minorities face oppression and discrimination which influences their career decision-making self-efficacy. Results from this study found male and female college students differed significantly in their career commitment scores, but not on their career decision-making self-efficacy scores. Female college students had significantly higher career commitment than males. Regarding ethnic differences, Black respondents scored significantly higher than Whites on both the career commitment scale and the career decision-making scale short version which is a finding than the study by Gloria and Hird (1999) whereby they found Whites scored higher on the career decision-making self-efficacy scale.
The use of career commitment or occupational commitment concepts with student populations could be deemed questionable since it could be argued that students have not reached a stage where they could make an informed judgment on their career or occupational commitment nor have they experienced aspects of work which would allow them to develop an attachment. However, Lam et al. (1995) argued that teacher interns had enough experiences through internships which would make them able to assess their intentionality or feelings about their career commitment or withdrawal (i.e., whether they wanted to remain or leave the career or occupation). While Lam et al. (1995) felt exploring career commitment with teacher interns was appropriate because the teacher interns had enough experience, Ulku-Steiner et al. (2000) examined the career commitment of doctoral students as future professor for other reasons. They cited the high attrition of female doctoral students as a compelling reason in their study for exploring the predictors of students' career commitment. Just as Lam et al. and Ulku-Steiner et al. cited reasons for examining career commitment with student populations, the researcher for the present study also provided specific reasons for exploring occupation commitment with counselor education doctoral students.
Theoretical Framework

**Self-Efficacy Theory**

Albert Bandura developed a supposition known as self-efficacy theory to understand how people judged their capabilities and how their self-percepts of efficacy affected their motivation and behavior (Bandura, 1986). He defined self-efficacy as an individual's belief about his or her ability to successfully perform a given task or behavior (Bandura, 1977, 1986, 1997). According to self-efficacy theory, several sources of information led to the initial development of one's self-efficacy. These sources of information included performance accomplishment, vicarious learning, emotional arousal, and social persuasion (Bandura, 1997). Betz (2000) described performance accomplishment as enactive mastery experiences, vicarious learning as modeling, emotional arousal as physiological and affective states, and verbal or social persuasion as encouragement. These sources of information served to increase or strengthen one's self-efficacy (Betz, 2000).

Another aspect of self-efficacy theory involved the behavior consequences or action one took as a result of their level of self-efficacy beliefs. With this mind, self-efficacy has a behavioral referent (Betz, 2000). Moreover, there were three behavioral consequences associated with self-efficacy. They were performance, persistence, and avoidance or approach (Bandura, 1977, 1997). Performance described the quality of behavior in a target domain or task. Persistence referred to the long term pursuit of
one's goal in the face of obstacles, occasional failures, and dissuading messages for the environment. Avoidance behaviors was seen as what one would not try and approach explained behaviors one would try (Betz, 2000). Within self-efficacy theory, these three behavioral consequences were equally important as the sources of information one received in determining one's self-efficacy beliefs.

**Self-Efficacy and Behavior**

Since behavior is central to self-efficacy theory, self-efficacy beliefs determine one's choice of behavioral activities, their level of effort and their persistence in the face of obstacles or stressful conditions (Bandura, 1977, 1997). For instance, individuals with high self-efficacy might interpret difficult situations as a challenge; whereas, those with low self-efficacy would interpret difficult situations as a threat” (Denzine & Anderson, 1999). More specifically, people with low self-efficacy might avoid certain behaviors or tasks, have poorer performance, and tend to give when faced with discouragement or failure (Betz, 2000). Conversely, people with high self-efficacy would be more willing to approach certain behaviors, have better performance and tend to persist when faced with challenges.

In relating self-efficacy theory to research self-efficacy, individuals such as doctoral students would be less inclined to engage in research if they perceive they have low self-efficacy towards research related tasks. On the hand, doctoral students who have high self-efficacy would be more included to engage in research and have
high research productivity which speaks to their performance and persistence. Several
studies have demonstrated that doctoral students with high research self-efficacy also
had high research productivity (Phillips & Russell, 1994; Kahn & Scott, 1997).

Role of Mentor in Building Self-Efficacy

There are four sources of information which help to build self-efficacy beliefs.
These sources include performance accomplishment, vicarious learning, emotional
arousal, and social persuasion (Bandura, 1997). While there are several environmental
sources which create opportunities for one to develop their self-efficacy beliefs, mentors
are one of those environmental sources that play a significant role in building self-
efficacy. For instance, Kram (1986) indicated that there were two primary functions of
mentoring which were career and psychosocial. When a mentor performed the career
mentoring function, they were helping the protégé learn the ropes and establish his or
her professional role. In so doing, the mentor provided opportunity for the protégé to
learn and develop their performance accomplishment. By giving the protégé
opportunities to co-present at conferences and to join research projects, the mentor was
helping to build the ability to perform certain tasks.

The mentor also performs psychosocial mentoring functions which are more
relational (Casto et al., 2005; Kram, 1986). In performing the psychosocial mentoring
function, the mentor provides ongoing support, respect and admiration of the mentee
which strengthen the protégé’s self-confidence and self-image (Kram, 1986). Role
modeling is another aspect of the psychosocial mentoring function (Brinson & Kottler, 1993; Kram, 1986). When the mentor role modeled certain behaviors and attitudes they provided vicarious learning opportunities for the protégé. Another area of the psychosocial mentoring was encouragement and support (Kram, 1986). As mentor encouraged and supported the protégé, they were developing two areas involved in self-efficacy building, social persuasion and encouragement.

**Self-Efficacy and Career Choice**

Self-efficacy is not only important in terms of behavioral outcomes like research, but it is important also in terms of career choice. Betz and Hackett (1981) first discussed the connection between self-efficacy and career choices. They asserted vocational interest and self-efficacy were the strongest predictors of career choice (Betz & Hackett, 1981) such that self-efficacy and outcome expectations jointly promoted a particular career-related interest and one selects their career based upon a congruence with one's interests. In the case of doctoral students in counselor education, this theoretical framework suggests that high research self-efficacy would produce high research interest which would in turn create an interest in pursuing a faculty career since research is central to the role of a faculty career. This theoretical framework is also known as career self-efficacy theory or social cognitive career theory (Lent et al., 1996).
Self-Efficacy as the Foundation for This Research

Using the theoretical framework of self-efficacy theory, this research was grounded in the belief that mentors played a significant role in developing the research self-efficacy of doctoral students in counselor education. The research self-efficacy beliefs and outcome expectations of counselor education doctoral students for performing and completing research related tasks built interest in research. Research interest encouraged career aspirations towards a faculty career for counselor education doctoral students. Thus, research self-efficacy and research mentoring experiences would both contribute to doctoral students having a strong attachment to or motivation to work as a faculty which is known as occupational commitment.
CHAPTER III

METHODOLOGY

The purpose of the study was to examine research self-efficacy and research mentoring experiences of counselor education doctoral students and to determine the extent to which these two variables could predict occupational commitment. This chapter provides information on the research design, participants and sampling, survey instruments, data collection procedures, research questions and hypotheses used in this study. The methods used for data analysis are also mentioned.

Research Design

Quantitative research is used to test hypotheses and it seeks measurements for analysis that can be easily duplicated by other researchers (King, Keohane, & Verba, 1994). Since this study had research questions, tested hypotheses, and used measurements of variables in the form of a survey, it is classified as quantitative research. Moreover, quantitative research methods are used to discover factors that influence a specific outcome (Creswell, 2003). Within this research study, research self-efficacy and research mentoring experiences were examined to determine if these two factors could predict occupational commitment.
The research design used in this study was correlational. It also involved the use of an online survey administered to doctoral students in counselor education. Thus, this research design of this study also entailed survey research. Survey research requires the researcher systematically asking a large number of people the same questions and the researcher analyzes and records the results (Neuman, 2006). Survey research methods are also utilized when the researcher wants to learn about people’s beliefs or opinions (Neuman, 2006). Therefore, survey research methods were used in this study because the researcher systematically asked doctoral students in counselor education the same questions to learn their beliefs or opinions about their research self-efficacy, research mentoring experiences and occupational commitment.

This study sought to examine the research self-efficacy and research mentoring experiences of doctoral students in counselor education and determine the extent to which these two variables could predict occupational commitment. Although occupational commitment is a concept used in the vocational psychology and human resource management fields since the late seventies, this is a relatively new concept to counselor education. Moreover, this concept has not been explored within counselor education literature. Because this research study applied a new concept in counselor education, it is exploratory quantitative research. The primary purpose of exploratory research is to examine a little understood issue or phenomenon to develop preliminary ideas and move toward refined research questions by focusing on the “what” question (Neuman, 2006). The goal and nature of this research supported its classification as
...exploratory since it attempted to determine if the occupational commitment or career intention of counselor education doctoral students could be measured and if occupational commitment of doctoral students could be predicted by self-reported research self-efficacy and research mentoring experiences.

Participants and Sampling

The Association for Counselor Education and Supervision (ACES) is a division of the American Counseling Association and its purpose is to advance counselor education and supervision in order to improve the provision of counseling services in all settings of society. Since ACES is the primary organization for counselor educators and doctoral students interested in careers in counselor education, the researcher obtained a convenient sample of 577 student members from the organization.

ACES was also a suitable venue to gather research participants for two reasons: (1) number of members, and (2) the geographical diversity in membership. For example, there is a total 2,285 members of ACES and of that number, 1,017 represent counselor educators and students. In addition, ACES has five regional organizations across the country: (1) Western ACES, (2) North Central ACES, (3) North Atlantic ACES, (4) Southern ACES, and (5) Rocky Mountain ACES.
Instrumentation

The research self-efficacy, research mentoring experiences, and occupational commitment of counselor education doctoral students served as the independent and dependent variables examined in this study. Therefore, the following three instruments were used to measure these variables: Self-Efficacy in Research Measure (SERM) short version, Research Mentoring Experience Scale (RMES), and Occupational Commitment Scale (OCS). A description of each instrument is provided below. Additionally, the researcher obtained permission from the authors to use these surveys in this study (see Appendices B and C).

Self-Efficacy in Research Measure

The short version of the Self-Efficacy in Research Measure (SERM) was developed by Kahn and Scott (1997). The instrument has 12 items and is used to measure confidence in applying four types of research-related skills: research design, practical research skills, quantitative and computer skills, and writing skills. Responses to the items are measured using a 5-point Likert scale ranging from 1 (no confidence) to 5 (total confidence). Total scores on the instrument range from 12 to 60 since each response is added to yield a single score. Higher scores indicate greater self-efficacy and lower scores indicate lower feelings of research self-efficacy (Phillips & Russell, 1994). The short version of the SERM has a total internal consistency score of .90 (Kahn & Scott,
The short version of the SERM was adapted from the original 33 item instrument developed by Phillips and Russell (1994) with the same name and purpose. The original instrument used a level of confidence scale ranging from 0 (no confidence) to 9 (complete confidence). Using data gathered by Phillips and Russell, Kahn and Scott (1997) selected three items from each of the four factors (research design skills, practical research skills, quantitative and computer skills and writing skills). The items selected for the four factors had the highest item to subscale total correlations. The internal consistency for each of the four factors on the short version was generally acceptable (Kahn & Scott, 1997). The internal consistency for the four factor scales on the original SERM includes the following: Research Design Skills, $\alpha = .90$; Practical Research Skills, $\alpha = .83$; Quantitative and Computer Skills, $\alpha = .93$ and Writing Skills, $\alpha = .94$.

**Research Mentoring Experiences Scale**

The Research Mentoring Experiences Scale (RMES) is a 29-item scale used to measure mentoring experiences in doctoral students. The scale was developed by Hollingsworth and Fassinger in 2002. Hollingsworth and Fassinger created this scale from two comparable instruments used in the business setting (Noe, 1988b; Ragins & McFarlin, 1990). There are two subscales on the RMES: Psychosocial Mentoring and Career Mentoring. The Psychosocial Mentoring subscale has 13 items and measures the
affective aspects of research training, particularly the personal elements of the faculty
member and student relationship (Hollingsworth & Fassinger, 2002). The Psychosocial
Mentoring subscale allowed respondents to express the extent to which a faculty
member demonstrated emotional support, communicated respect, showed personal
regard, and modeled positive attitudes toward research. The Career Mentoring subscale
measured students' perception of their faculty members' efforts to help the student
acquire specific information necessary to complete research tasks successfully
(Hollingsworth & Fassinger, 2002). The Career Mentoring subscale has 16 items and
refers to faculty member's teaching of research skills, giving advice, and providing
research opportunities.

Both of the subscales measured responses to the items using a 5-point Likert
scale (1 = faculty member pays very little attention . . . to 5 = faculty member pays a great deal
of attention . . .). Moreover, respondents could only consider one faculty member when
responding to the items. When calculating a total score, responses to the items was
added and then divided by the number of items to generate a total score. Total scores
ranged from 1 to 5. The internal consistency of the measure was high with an alpha .74
(Hollingsworth & Fassinger, 2002). The instrument was initially tested and revised in a
pilot study in order to calculate the reliability.
The Occupational Commitment Scale (OCS) measured the degree to which an individual has occupational commitment. Occupational commitment has been defined as the psychological link between an individual and his or her occupation that is based on an affective reaction to that occupation (Lee et al., 2000). Meyer et al. (1993) stated that commitment was a psychological state that characterizes the employee’s relationship with the occupation and has implications for their decision to continue or discontinue their involvement in the occupation. Moreover, they stated that occupational commitment was a multi-dimensional, rather than unidimensional construct which was the pervasive paradigm during the late 1980s. During the 1980s, occupational commitment or career commitment measured simply one’s attitude towards one’s vocation. However, in the 1990s, Meyer and colleagues (1993) provided empirical evidence to support a three-dimensional view of occupational commitment based upon their three-dimensional structure for organizational commitment. They further developed an occupational commitment scale, which had three domains or dimensions: affective commitment, continuance commitment and normative commitment (Meyer et al., 1993). Affective commitment referred to the person’s desire to remain in to the occupational role. Continuance commitment represented the perceived costs associated with leaving the occupation and normative commitment was the obligation the individual felt to the occupation (Lee et al., 2000). Each of these
domains or dimensions on Meyer and colleagues occupational scale had six items (Blau, 2003). Blau who developed the a career commitment scale (Blau, 1985, 1988) used the work of Meyer et al. (1993) and Carson et al. (1995) to develop a four-dimensional structure of occupational commitment. The fourth domain or dimension in Blau (2003) Occupational Commitment Scale was limited alternatives occupational commitment, which involved the occupational investment, emotional costs, and limitedness of occupational alternatives an individual perceived they would lose if they decided to leave an occupation. The Limited Alternatives Occupational Commitment Subscale added another dimension to the continuance occupational commitment that measured just the perceived costs. This addition accounted for not only the perceived cost of leaving the occupation, but also the perceived lost of occupational investment and the limited occupational alternatives the individual would have if they left the occupation (Blau & Holladay, 2006).

Like the Occupational Commitment Scale developed by Meyer et al. (1993), each of the first three domains has six items. However, in Blau’s Occupational Commitment Scale, the Limited Alternatives Occupational Commitment Subscale has four additional items. Coefficient alphas for the subscales are as follows in a sample of working adults: Affective Occupational Commitment (.94), Normative Occupational Commitment (.92), Accumulated Costs Occupational Commitment (.86), and Limited Alternatives Occupational Commitment (.84). The coefficient alphas were the following in a sample of executive MBAs: .85, .86, .81, and .86 (Blau, 2003).
The researcher obtained permission to modify the scales from the authors of these three instruments. The researcher made modifications to the instruments only to ensure they were applicable for counselor education doctoral students, the sample of participants used in the study. Since this study involved the occupational commitment of doctoral students in counselor education, the researcher made changes only to the Occupational Commitment Scale to tailor the questions to the participants. Such changes included replacing the phrase *medical technology* with *counselor education* or *counselor educator*. The researcher changed some verb phrases of some items to the future tense to reflect intent to pursue the counselor education profession since doctoral students were not currently in the profession as counselor educators. Since the researcher made changes only to the occupation and verb tenses on the Occupational Commitment Scale, such changes did not affect the internal validity of the instrument (G. Blau, personal communication, January 7, 2008).

**Demographic Information**

In addition to the data gathered from the three instruments, demographic information was collected. This information included the following: year in doctoral program (First, Second, Third, Fourth, Fifth or More); number of research specific courses completed (One, Two, Three, Four, Five or More); type of institution (Very High Research Activity, formerly known as Research I; High Research Activity, formerly known as Research II; and Doctoral/Research University, formerly known as...
Doctoral/Research Extensive and Intensive); ethnic background (African/African-American, European American/Caucasian, Asian, Native American, Latino/Mexican American, International, Multiracial or Other); sex (Male or Female); age (22–29 years old, 30–37 years old, 38–45 years old, 46–52 years old, or 52 years old and older); and marital status (Single, Married, Divorced, Partnered, or Separated). Additionally, there were demographic items that were questions, such as (a) how committed was the doctoral student in pursuing a faculty career in counselor education, (b) did the doctoral student currently have a research mentor, (c) had the doctoral student participated in research activities, and (d) what type of research activities had the doctoral student completed. (The entire survey, which included the questions from the three instruments and the demographic questions, can be found in Appendix D.)

Human Subjects Review

The researcher obtained approval from the Western Michigan University Human Subjects Institutional Review Board (HSIRB) to conduct the study. Western Michigan University approved the HSIRB application in February 2008. A copy of the Institutional Review Board's approval letter is in Appendix A.

Data Collection Procedures

The researcher invited a convenient sample of 577 counselor education doctoral students who are members of ACES to take part in the research study. In order to gain
access to the sample, the researcher contacted the president and business advisor of
ACES to purchase the contact information of all members who self-identified as
students. Then, the researcher sent an email message to all ACES student members
inviting them to participate in the study. The email message contained information
about the study, provided a web link to the online survey and provided the contact
information of the researcher and dissertation chair (see Appendix F). It also included
the HSIRB approval information. Once the counselor education doctoral students
gained access to the web link that contained the survey, the researcher asked students
to provide their consent to take part in the study. Schmidt (1997) suggested that a
separate consent screen be available before respondents gained access to the survey.
This researcher used this recommendation in the study.

Even though the online survey was distributed to 577 counselor education
doctoral students who were available to take part in the study, a total of 525 students
(90.9%) were deemed eligible to participate. This is because some of the students' email
addresses were invalid (about 39). Consequently, the researcher was not able to contact
these students and decided to eliminate them from participating in the study.
Additionally, there were 8 students in the ACES membership database who had
already graduated and were no longer students. Another 5 students were not doctoral
students in counselor education; rather, they were master level students in counselor
education and doctoral students in counseling psychology which made them ineligible
to participate in the study. Of the 525 eligible students who took part in the study, the
researcher collected 285 surveys (54%). However, several of the participants who submitted the online survey did not complete it. Therefore, the researcher discarded 40 of these incomplete surveys. Thus, the researcher had obtained 245 surveys that the participants completed. The researcher used these 245 surveys for data analysis, making the response rate for this study 47%.

Participants had four weeks to complete the online survey. Thus, the study was cross-sectional since data from doctoral students in counselor education were observed during a single, fixed time point (Neuman, 2006). Data collection began in March 2008 and ran the entire month. After the second and third week, the researcher sent an email reminder to the participants that again invited them to complete the survey (see Appendix F).

Research Context

The researcher used an online survey as the research context for this study because of the many benefits. Some of those benefits included the time saved in data entry and collection, convenience, and cost-effectiveness in comparison to paper surveys (Couper & Rowe, 1996). Other advantages included reduced response time, flexibility of and control over format, recipient acceptance of the format and the ability to obtain additional response-set information (Granello & Wheaton, 2004). With regards to acceptance of format, Salgado and Moscoso (2003) found participants were more comfortable with internet-based tests than paper-and-pencil format because internet-
based tests were less fatiguing. In addition, there is evidence which suggests that the internet is becoming more acceptable as a method of data collecting for college educated individuals (Cartwright, Thompson, Poole, & Kester, 1999; Farnceschini, 2000). Given that doctoral students in counselor education are highly educated people, an online survey was thought to be an appropriate research context for the participants in this study.

While the benefits of online survey research methods support their use, the challenges of using these types of surveys provide some drawbacks. For instance, one of the challenges in using online surveys involve the participants' access, comfort, and familiarity with using computers to complete surveys (Couper & Rowe, 1996). Therefore, when considering this option of data collection and survey administration, the researcher needs to assess the appropriateness of this methodology with the participants in the study. Since most doctoral students are familiar with computers, have access to them, and have email accounts through the university, the researcher felt using an online survey with this population was suitable. Other challenges in using web-based and online surveys are technical difficulties (Granello & Wheaton, 2004). However, no technical difficulties occurred in the administration of this online survey.

Response Rate

Another major challenge in using web-based and online surveys is the response rate. Several studies reveal web-based and email surveys have significantly lower
response rates than traditional mail surveys (Bachmann, Elfrink, & Vazzana, 1996; Couper, Blair, & Triplett, 1997; Crawford, Couper, & Lamias, 2001; Nicholas & Sedivi, 1998). Cook, Heath, and Thompson (2002) established through meta-analysis of survey research methodologies that the average response rate for online survey methods was 40%. The response rate established in this study was 47%.

A way to increase the response rate for web-based and email surveys was to send e-mail follow-up reminders (Crawford et al., 2001; Solomon, 2001), which was employed in this study. Another way to increase response rates was to offer an incentive. An incentive prize of a $50 gift card to Target was offered to four randomly selected doctoral students who completed the survey. Participants were informed about the incentive prize in the informed consent letter (see Appendix E). Participation in the prize drawing was voluntary and participants needed to provide their names and email addresses only to receive the prize. The researcher put in a bowl all of the names and email addresses of participants who volunteered to participate in the drawing. The researcher had a colleague randomly draw four names from this bowl. The winners of the incentive prizes were 3 females and 1 male doctoral student from the following institutions: Texas A&M–Corpus Christie, University of North Carolina–Greensboro, Duquesne University, and Northern Illinois University. The researcher notified the winners via email (see Appendix G). The researcher also mailed gift cards to the winners once they confirmed their mailing address.
Risk and Protection of Participants

There were no known physical or emotional risks associated with participation in this study. However, as with all research there is the potential to have unforeseen risks. For instance, the researcher asked participants in this study about their research mentoring experiences with faculty. Some participants might perceive revealing negative information about their mentoring experiences with faculty as harmful to their academic career. To ensure participants safety from the possible risk of retribution or reprisal from faculty, the researcher did not ask for specific names identifying faculty members so that doctoral students feel free to report their perceptions of the mentoring experience without fear or a sense of threat. The researcher asked participants only if they had a research mentor.

Another unforeseen risk involved the perception that doctoral students might be reporting negative information regarding their institution and counselor education doctoral program specifically if they do not feel as confident about their research self-efficacy or ability to complete research related tasks and ascribe such lack of confidence to their doctoral preparation. To protect the participants from feeling as though they were revealing negative information about their counseling doctoral program or the institution in which they attend, the researcher did not ask participants to provide any information that identified their specific institution or counselor education doctoral
program. Rather, participants were asked the Carnegie classification of their institution as this information was specific to one of the research questions.

Confidentiality of the Data

The researcher took several steps to ensure the confidentiality of the data. The first step involved using survey software like surveymonkey.com where the data were not only collected but also stored in a secured, password protected website and web server. The researcher was the only person who had the password to gain access to the website. The second step involved securing the data once it was exported from the secured website. For instance, when the researcher exported the data from the surveymonkey.com website into a spreadsheet, she saved it onto a jump drive and uploaded it into SPSS. The jump drive was kept in a locked file cabinet. A third step the researcher took to ensure the confidentiality of the data involved keeping the names and email addresses of the participants who wished to be entered into the random drawing for the incentive prize separate from the data. To do this, the researcher collected the names and email addresses and placed such information in a separate file. This identifiable information was not aggregated with the other data and was used solely to contact recipients of the gift card.
Data Analysis

The information below is a restatement of the five research questions that were discussed in the first chapter followed by five hypotheses. After the hypotheses, there are descriptions of analyses that were used to interpret the data. The Statistical Package for Social Sciences (SPSS) Graduate Pack 15.0 was used to assist in analyzing the data.

Research Question 1

What is the level of research self-efficacy, research mentoring experiences, and occupational commitment of counselor education doctoral students? What relationship, if any, exists between research self-efficacy and research mentoring experiences?

Research Hypothesis. The researcher anticipated that doctoral student in counselor education would report high levels of research self-efficacy. This assumption was supported by previous research on the doctoral research training of counselor educators whereby Okech et al. (2006) found that counselor educators who reflected on their doctoral training perceived themselves as proficient in qualitative and quantitative research methods. Conversely, the researcher believes doctoral students would report low levels of research mentoring experiences as supported by Hollingsworth and Fassinger (2002), Kahn (2001), and Okech et al. (2006), who found that counselor educators and doctoral students in counseling psychology desired more research-
specific mentoring. The researcher believes there would be a relationship between research self-efficacy and research mentoring experiences since previous research revealed the two variables had a correlation (Hollingsworth & Fassinger, 2002).

Method of Analysis. Since the researcher wanted to determine the level of research self-efficacy, research mentoring experiences, and occupational commitment for counselor education doctoral students, data from the SERM short version, Occupational Commitment Scale, and RMES were entered into the SPSS database and analyzed. The researcher executed a report on the measures of central tendency (mean, mode, and median) and the measures of variability (range, variance, and standard deviation) for all scales. Such descriptive statistics allowed the researcher to determine if doctoral students in counselor education have high or low research self-efficacy and occupational commitment. It also allowed the researcher to examine the degree to which doctoral students believe they experienced career and psychosocial research mentoring from faculty.

The second part of the question explored the relationship between research self-efficacy and research mentoring experiences. In order to answer this question, the research used SPSS to run a Pearson product-moment correlation coefficient. Using this statistical analysis, the researcher determined the direction of the correlation and the strength or magnitude of the relationship. If the researcher found a correlation between
research self-efficacy and research mentoring experiences, then she also examined the statistical significance.

Research Question 2

What relationship, if any, exists among research self-efficacy, research mentoring experiences and occupational commitment?

Research Hypothesis. The researcher believes there would be a relationship among research self-efficacy, research mentoring experiences and occupational commitment since previous studies revealed a relationship between research interest, research self-efficacy and research mentoring experiences (Hollingsworth & Fassinger, 2002) and a relationship between research interest, research productivity, and science-related career goals (Kahn & Scott, 1997).

Method of Analysis. Using SPSS, the research ran another Pearson product-correlation coefficient test on the data from the SERM, RMES, and OCS scales. A test of correlation coefficient allowed the researcher to ascertain the direction and magnitude of the relationship among research self-efficacy, research mentoring experiences, and occupational commitment. As with question 1, if a correlation was found among research self-efficacy, research mentoring experiences, occupational commitment in doctoral students in counselor education, then the researcher observed the statistical significance of the correlation.
Research Question 3

Can research self-efficacy and research mentoring experiences predict occupational commitment?

Research Hypothesis. Although previous research has not investigated occupational commitment and its relationship to research self-efficacy and research mentoring experiences, previous studies showed a relationship between research interest, research self-efficacy and research mentoring experiences (Hollingsworth & Fassinger, 2002) and a relationship between research interest, research productivity, and science-related career goals (Kahn & Scott, 1997). Urban (2001) stated that the accuracy of a prediction will only be as good as a correlation and stronger correlations lead to greater predictions. Therefore, the researcher hypothesized that given the correlations between career goals, research self-efficacy, research interest, research productivity, and research mentoring experiences that research self-efficacy and research mentoring experiences could serve as predictors of occupational commitment.

Method of Analysis. The researcher wanted to determine if research self-efficacy and research mentoring experiences could predict occupational commitment. In providing an answer, the researcher used SPSS to run a linear regression model from data reported on the following scales: SERM, OCS, and RMES whereby research self-efficacy and research mentoring experiences were the independent variables and occupational commitment was the dependent variable. Occupational commitment was
also calculated using the commitment to faculty career (CFC) variable in which respondents were asked the likelihood of them pursuing a faculty career. The CFC was also considered a dependent variable. With two variables measuring occupational commitment or career intention, the researcher was able to examine if there were similarities or differences in the two forms of measuring the occupational commitment of counselor education doctoral students.

Using a general linear regression model, there were a number of things the researcher was able to assess about the relationship between the independent and dependent variables. For instance, regression statistical analyses allowed the researcher to determine whether the research self-efficacy and research mentoring experiences were predictive of occupational commitment in counselor education doctoral students. This form of statistical analysis also allowed the researcher to test whether research self-efficacy and research mentoring experiences were related to occupational commitment when controlling for the independent variables. Additionally, regression analysis helped the researcher to determine which of the two independent variables, research self-efficacy or research mentoring experiences was the stronger predictor of occupational commitment and if research self-efficacy was related to occupational commitment after controlling for research mentoring experiences.
Research Question 4

Are there sex and/or racial differences in research self-efficacy, research mentoring experiences and occupational commitment in counselor education doctoral students? Are there sex and/or racial difference in the subscales of research self-efficacy, research mentoring experiences and occupational commitment in counselor education doctoral students?

Research Hypothesis. While the null hypothesis indicated that the researcher would find no sex and racial differences in this study, the researcher expected to find significant sex differences in research self-efficacy. Previous research on the research self-efficacy of doctoral students in counseling psychology indicated that male students had higher research self-efficacy than female students (Kahn & Scott, 1997) and research self-efficacy had a greater influence on research productivity for male counseling psychology doctoral students than female. The researcher also expected to find no significant sex differences in research mentoring experiences. Previous research (Hollingsworth & Fassinger, 2002) helped to support this assertion. Also, the researcher expected to find no differences in the research self-efficacy between doctoral students from a majority culture and those who self-identified as being persons of color (Phillips & Russell, 1994); however, this assumption was based on findings from a study of doctoral students in counseling psychology. Additionally, there were virtually no studies which examined racial and sex differences in counselor education doctoral
students for the various subscales of occupational commitment, research self-efficacy, and research mentoring experiences. Therefore, the null hypothesis was assumed.

Method of Analysis. In question four, the researcher wanted to know if there were any sex and/or racial differences in research self-efficacy, research mentoring experiences, and occupational commitment. In determining the answer to this question, the researcher executed a multiple analysis of variances (MANOVAs) using SPSS. Race and sex were the independent variables and research self-efficacy, research mentoring experiences and occupational commitment were the three dependent variables. Using a factorial analysis of variance allowed the researcher to examine the main effects such that the researcher could determine if there were significant differences between race and sex (independent variables) on the research self-efficacy, research mentoring experiences, career commitment, and career withdrawal cognitions (dependent variables) while controlling for the effects of the other independent various on the dependent variable (Urban, 2001). The researcher could test for statistical interactions, which was another benefit to using a MANOVA. Thus, a MANOVA was used to analyze the subscales of the three instruments with sex and race.

Research Question 5

Are there differences in research self-efficacy and research mentoring experiences in counselor education doctoral students by year in doctoral program and institution type?
Research Hypothesis. For the last hypotheses in this study, the researcher believes year in the doctoral program would be directly related to research self-efficacy (Kahn & Scott, 1997) such that doctoral students in their first years of the program would report lower research self-efficacy than students who were further along in the doctoral program. The researcher was also speculating there would be no significant difference in research mentoring experiences and year in the program as demonstrated by other studies. Regarding differences in research self-efficacy and research mentoring experiences based upon institution type, the researcher assumed she would find that doctoral students from institutions with very high research activity would report higher levels of research self-efficacy since research demonstrated that research self-efficacy in counseling psychology doctoral students was related to research interest (Kahn & Scott, 1997) and research productivity (Phillips & Russell, 1994). Therefore, the researcher expected to find a significant difference between research self-efficacy and institution type. The researcher also expected to find counselor education doctoral students from institutions with very high research activity would report greater research mentoring experiences than those from doctoral research universities; thus a significant difference would be found between research mentoring experiences and institution type.

Method of Analysis. For question 5, the research examined the differences in research self-efficacy and research mentoring experiences in counselor education students by year in the program or class status and institution type. As in question 4,
the research ran a factorial analysis of variance (ANOVA) using SPSS. Year in doctoral program and institution type served as the independent variables and research self-efficacy and research mentoring experiencing were the dependent variables. The researcher also examined the main effects and determined if there were any significant statistical interactions.

Summary

The intent of this study was to examine the research self-efficacy and research mentoring experiences of doctoral students in counselor education and to determine the extent to which these two variables could predict occupational commitment. Because the focus of this study involved research self-efficacy, research mentoring experiences and occupational commitment, three instruments were used to measure these variables. In addition to the instruments, demographic information was gathered from participants. The data were collected using an online survey; it was analyzed using SPSS. The method of data analysis included both descriptive and predictive statistics.
CHAPTER IV

RESULTS

In the following chapter, the research questions presented in Chapter I are answered. Additionally, the demographic information gathered from the sample population is discussed. The statistical procedures used to analyze the research questions are also mentioned.

The organization of this chapter is as follows. First, demographic information is discussed, followed by a discussion on the analysis of the data, which includes the research questions, the research hypotheses, and the results of the data analysis. This chapter concludes with a summary of the results.

Demographic Information

The Statistical Package for Social Sciences 15.0 for Windows (SPSS) was used to run descriptive statistics or frequencies to analyze the demographic information of the participants who were counselor education doctoral student members of the Association for Counselor Education and Supervision (ACES). The demographic information that was gathered included sex, ethnic background, class status, age, marital status, commitment to pursue a faculty career, Carnegie research classification of their institutions, and the number of research courses completed.
There were a total of 245 participants in this study. A majority of the participants (76% or 188) were female doctoral students in counselor education (see Figure 1). The ethnic background of the participants was 12.7% (31) African/African-American/Black, 75.9% (186) Caucasian or European American, 2.4% (6) Asian, 3.7% (9) Latin American/Mexican, 3.3% (8) Multiracial, and 2% (5) International (see Figure 2). Over 50% of the participants were in their second or third year in the doctoral program.

Fourth-year doctoral students represented 18% of the participants. There were 28 first-year students, representing 11% of the participants. Students in their fifth year or more accounted for 12.7% or 31 students (see Figure 3). In terms of the age range of participants (see Figure 4), many (38.4%) were between the ages of 30–37 years old. Some of the counselor education doctoral students were between the ages of 22–29 (18.8%) and 38–45 years old (19.6%). Participants who were between the ages of 46–52 represented 11.4%, and those who were 52 years old or older represented 11.8%. Over half of the participants (51.4%) were married, while less than a third (30.2%) was single. Less than 10% (9.4%) of the counselor education doctoral students in this study were divorced, and some of the participants were separated (1.2%) or partnered (7.8%). In addition, the majority of counselor education doctoral students reported having a research mentor (61.3% or 160 students). However, a significant number of students reported not having a research mentor (37.8% or 101 students).
The participants were asked how likely they were to pursue a faculty career. Responses were reported on a 5-point Likert scale, in which 1 = very likely and 5 = not at all. Of the $N = 245$ participants, 139 (56.7%) indicated they were very likely to pursue a faculty career, followed by 24.9% (61) who specified they were likely to pursue a faculty career. Only 1.2% or 3 participants indicated they were not planning on pursuing a faculty career, whereas 2.9% or 7 counselor education doctoral students said they were less likely. Some participants (14.9% or 35 students) were uncertain about their plans to pursue a faculty career. In addition to reporting their intended commitment to pursue a faculty career, participants were asked about their
Figure 2. Percentage of Counselor ED Doctoral Students by Ethnic Background

Almost 37% indicated they were attending a very high research activity institution, while 32.7% and 30.6% reported they were attending a high research activity and doctoral/research university institution, respectively.

Many of the participants (34.7%) had five or more research courses. Nearly a quarter (24.1%) of the counselor education doctoral students in this study had four research courses, and 21.6% had only three research courses. Few students in this study
had taken only one research course (6.5%), whereas 13.1% had taken two research courses. Regarding participation in research-related activities, the majority of counselor education doctoral students or 90.4% (236 students) completed such tasks. Only 9.6% or 25 students had not participated in research-related activities. The top four research-related activities most counselor education doctoral students completed were (a) presenting at a state, regional, or national conference (82.8% or 216 students); (b) submitting an article for publication in a scholarly peer-reviewed journal (51.3% or 134 students); (c) working on a research team (48.7% or 127 students); and (d) writing a dissertation proposal (36.8% or 96 students). The four research-related activities that

Figure 3. Percentage of Counselor ED Doctoral Students by Year in Program
Figure 4. Percentage of Counselor ED Doctoral Students in Each Age Category

counselor education doctoral students completed less often included: (a) serving on a professional journal or editorial board (7.7% or 20 students); (b) participating in research activities (6.9% of the students); (c) writing a book review or book chapter for publication (4.6% or 12 students); and (d) writing a book (1.5% or 4 students). The other five research-related activities mentioned were: (a) writing or co-authoring a research grant (18.4% or 48 students), (b) publishing a research article (18% or 47 students), (c) writing a conceptual article (non-research) for publication (26.1% or 68 students), (d) publishing an article in a professional organization newsletter (23.8% or 62 students), and (e) co-authoring a book chapter (35 students or 13.4%). Many counselor education doctoral students indicated there were other research-related activities in which they
were involved, including serving as editorial assistant for a professor, writing a
dissertation proposal, co-writing an article for publication, collecting data, interviewing
research participants, conducting focus groups for research interviewing, submitting a
proposal for a book chapter, serving as a statistical consultant, and completing a thesis.

Data Analysis

In answering the research questions posed in Chapter I, the Statistical Package
for Social Sciences 15.0 for Windows (SPSS) was used. Below are the research questions,
research hypotheses, and the data analysis results.

Research Question 1

What is the level of research self-efficacy, research mentoring experiences, and
occupational commitment of doctoral students in counselor education? What
relationship, if any, exists between research self-efficacy and research mentoring
experiences in counselor education doctoral students?

Research Hypothesis. Counselor education doctoral students will report high
levels of research self-efficacy and occupational commitment, but they will report low
levels of research mentoring experiences. There is a relationship between research self-
efficacy and research mentoring experiences.
Results. The research hypothesis was confirmed as doctoral students in counselor education did report high levels of research self-efficacy. Responses to the items on the Self-Efficacy in Research Measure (SERM) were reported on a 5-point Likert scale with 1 = no confidence in their skill or ability to complete a research-related task, to 5 = total confidence. The mean scores ranged from 3.86 on research design skills for first-year students, to 4.10 for doctoral students who had completed five or more years in the program (see Table 1). In the area of computer skills research self-efficacy, mean scores ranged from 3.77 for doctoral students who completed five or more years in the doctoral program, to 4.03 for third-year doctoral students. Writing skills and practical writing skills, also measured on the SERM, were areas in which doctoral students also reported high levels of research self-efficacy. For writing skills, mean scores ranged from 3.83 for doctoral students who have five years or more, to 3.79 for first-year doctoral students. Similarly, mean scores for the practical writing skills were 3.03 for fifth-year or more doctoral students, and 2.89 for first-year students. In sum, many doctoral students in counselor education felt they had some confidence in their research skills and abilities. Also, higher scores of research self-efficacy in most cases were reported mainly by doctoral students who had been in the doctoral program five or more years, and lower scores (with the exception of the computer skills area) were reported by first-year students.

As predicted, doctoral students did report lower levels of research mentoring experiences. Research mentoring experiences were measured by the Research
Table 1

SERM, RME, and OCS Subscales Mean Scores by Year

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Mentoring Experiences Scale (RMES), whereby responses to the 29 items were reported using a 5-point Likert scale in which 1 = very little attention the faculty mentor paid to item in the measure, to 5 = a great deal of attention the faculty mentor paid to the item. Doctoral students reported higher mean scores on the career mentoring aspect of research mentoring than on the psychosocial aspect. Mean scores for career mentoring ranged from 2.34 to 2.83 with fifth-year or more doctoral students reporting greater levels of research mentoring than first-year students, which was a similar pattern reported for research self-efficacy. Given these mean scores, doctoral students reported that they felt their faculty mentors sometimes or not as often paid attention to items in the career mentoring subscale. Some of the items on the career mentoring subscale included: collaborating with students on joint research projects, introducing students to his or her professional colleagues who have similar research interests, encouraging students to express their ideas in research meetings, etc. Doctoral students reported
lower mean scores on the psychosocial mentoring subscale. Mean scores on this scale ranged from 1.69 for first-year students to 1.99 for fifth-year or more doctoral students. The lower mean scores on the psychosocial subscale could indicate that doctoral students perceived their faculty mentors paid very little attention or did not pay attention as often to some of the items on this scale. Some of the items on the psychosocial mentoring subscale included: providing advice about how to manage feelings of frustration with research, communicating respect regarding cultural differences in your relationship, and communicating interest in your ideas when you talk about research, etc.

Counselor education doctoral students reported high affective occupational commitment, which was described as their emotional attachment or affinity to their occupation. Mean scores for the affective occupational commitment subscale ranged from 5.41 for first-year students to 5.01 for third-year students. Given this, students who were newer to the doctoral program seemed to have greater attachment to the counselor education profession than older doctoral students in their second, third, fourth, or fifth year. For the normative occupational commitment, which describes one's obligatory commitment to one's profession, counselor education doctoral students seemed to have a moderate commitment, with mean scores ranging from 3.30 for fourth-year students to 3.67 for fifth-year or more students. The accumulated cost occupational scale, which measured the cost they perceived they would face should they leave the occupation, was also moderate for counselor education doctoral students.
in that the mean scores ranged from 3.43 for third-year students to 3.84 for first-year students. Given this, first-year students felt they would have more to lose if they left the doctoral program than third-year doctoral students felt. For the limited alternatives subscale, which measured the limited opportunities available if one left the occupation, many doctoral students were moderate in their perceptions about alternatives career options if they left counselor education. Mean scores ranged from 2.96 for second-year doctoral students to 3.17 for fourth-year students.

Using a Pearson correlation analysis, the second part of the research hypothesis was also confirmed. There was a small correlation between research self-efficacy and research mentoring experiences $r(2) = -.254, p < .01$. Not only was this correlation statistically significant, but also the direction and nature of the relationship in this study was negative or inverse. Therefore, as the counselor education doctoral students in this study reported high levels of research self-efficacy, they reported low levels of research mentoring experiences; and as they reported high levels of research mentoring experiences, they reported low levels of research self-efficacy. (Table 2 provides information on the correlations for research self-efficacy, research mentoring experiences, and occupational commitment.)
Table 2

Correlation Table for Research Self-Efficacy, Research Mentoring Experiences, and Occupational Commitment (Weighted and Unweighted)

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<th>RSES</th>
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*Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed).

Research Question 2

What relationship, if any, exists among the research self-efficacy, research mentoring experiences, and occupational commitment of counselor education doctoral students?

Research Hypothesis. There is a relationship among research self-efficacy, research mentoring experiences, and occupational commitment.
Results. The research hypothesis was also confirmed as a relationship among research self-efficacy, research mentoring experiences, and occupational commitment was found, using correlation to research mentoring experiences $r(2) = -.254, p < .01$. The direction of that relationship was negative or inverse; as respondents reported high levels of research self-efficacy, they reported low levels of research mentoring experiences. Similarly, as respondents reported low levels of research self-efficacy, they reported high levels of research mentoring experiences. Both research self-efficacy and research mentoring experiences had a small correlation to occupational commitment. Research self-efficacy had a lower correlation than research mentoring experiences to occupational commitment (.086 unweighted and .066 weighted). Research mentoring experiences had a small but significant correlation to occupational commitment, which was computed as weighted and unweighted, respectively, $r(2) = -.148, p < .05$; $r(2) = -.156, p < .05$. The direction of the relationship was negative or inverse; as respondents reported high levels of research mentoring experiences, they reported low levels of occupational commitment. Conversely, as the respondents reported high levels of occupational commitment, they reported low levels of research mentoring experiences.

In analyzing the correlations among the subscales of research self-efficacy, research mentoring experiences, and occupational commitment (see Table 3), it was determined that the career mentoring experiences subscale had a small, but significant correlation to the research design, $r(2) = -.211, p < .01$; computer skills, $r(2) = -.236$, 


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<th>RSES3</th>
<th>RSES4</th>
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*Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed).
Research Question 3

Can research self-efficacy and research mentoring experiences predict occupational commitment in counselor education doctoral students?
Research Hypothesis. Both research self-efficacy and research mentoring experiences can predict occupational commitment in counselor education doctoral students.

Results. The hypothesis was only partially confirmed. Using a general linear regression model, it was found that research self-efficacy was not a significant predictor of occupational commitment calculated as weighted or unweighted, even though the research design, computer skills, writing skills, and practical writing skills areas of research self-efficacy did have a small positive correlation with the limited alternative subscale of the occupational commitment. Conversely, research mentoring experiences was a significant predictor of unweighted occupational commitment, $F(2, 242) = 3.310, p < .05$ ($t = -2.19, p < .05$); $R^2$ was .019. Table 4 shows the unstandardized regression coefficients (B), interceptions, and standardized regression coefficient ($\beta$) for research self-efficacy, research mentoring experiences, and occupational commitment (unweighted).

Table 5 shows unstandardized regression coefficients (B), interceptions, and standardized regression coefficient ($\beta$) for research self-efficacy, research mentoring experiences, and occupational commitment (weighted). The research mentoring experiences within this regression model also was a significant predictor of weighted occupational commitment, $F(2, 242) = 2.826, p < .05$ ($t = -2.137, p < .05$); $R^2$ was .023.
Table 4

Linear Regression Analysis Results: Research Self-Efficacy, Research Mentoring Experiences, and Occupational Commitment (Unweighted)

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<tr>
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<th>Sum of Squares</th>
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<th>Mean Square</th>
<th>F</th>
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*aDependent Variable: Unweighted Average OC. bPredictors: (Constant), RSES, RMES.

Since there are virtually no research articles that explored research self-efficacy and research mentoring experiences as predictors of occupational commitment, doctoral students were asked to report their response to the question “How likely are you to pursue a faculty career?” This was computed as the commitment to faculty career (CFC) variable. In using a general linear regression model with CFC as the dependent variable and research self-efficacy and research mentoring experiences as the independent variables, it was determined that research mentoring experiences was still a significant predictor of the commitment to pursue a faculty career, $F(2, 242) = 3.553, p < .05$ ($t = 2.337, p < .05$); $R^2$ was .020. Moreover, research self-efficacy was also
Table 5

*Linear Regression Analysis Results: Research Self-Efficacy, Research Mentoring Experiences, and Occupational Commitment (Weighted)*

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<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td>B</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.287</td>
<td></td>
<td>13.816</td>
</tr>
<tr>
<td></td>
<td>RMES</td>
<td>-.093</td>
<td>.043</td>
<td>-.140</td>
</tr>
<tr>
<td></td>
<td>RSES</td>
<td>.030</td>
<td>.065</td>
<td>.030</td>
</tr>
</tbody>
</table>

*Dependent Variable: Weighted Average OC. *Predictors: (Constant), RSES, RMES.

not a strong predictor of commitment to pursue a faculty career as similar to occupational commitment. In addition, there was only a slight difference in the significance of occupational commitment computed as weighted and unweighted and commitment to faculty career variable when analyzed with research self-efficacy and research mentoring experiences in the regression model. Table 6 shows the results from examining these variables with occupational commitment measured as commitment to pursue a faculty career.
Table 6

Linear Regression Analysis Results: Research Self-Efficacy, Research Mentoring Experiences, and Occupational Commitment (CFC)

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>5.769</td>
<td>2</td>
<td>2.884</td>
<td>3.553</td>
<td>.030</td>
</tr>
<tr>
<td>Residual</td>
<td>196.451</td>
<td>242</td>
<td>.812</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>202.220</td>
<td>244</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>B (Unstandardized)</th>
<th>Std. Error</th>
<th>Beta (Standardized)</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>1.570</td>
<td>.423</td>
<td>.153</td>
<td>3.711</td>
<td>.000</td>
</tr>
<tr>
<td>RMES</td>
<td>.150</td>
<td>.064</td>
<td>.153</td>
<td>2.337</td>
<td>.020</td>
</tr>
<tr>
<td>RSES</td>
<td>-.061</td>
<td>.095</td>
<td>-.042</td>
<td>-.645</td>
<td>.520</td>
</tr>
</tbody>
</table>

aDependent Variable: Unweighted Average OC. bPredictors: (Constant), RSES, RMES.

Research Question 4

Are there sex and racial differences in the research self-efficacy, research mentoring experiences, and occupational commitment of counselor education doctoral students? Are there racial and sex differences across the four occupational commitment subscales for counselor education doctoral students?

Research Hypothesis. There will be sex differences in the research self-efficacy of counselor education doctoral students. However, no racial or sex differences will be found between research mentoring experiences and occupational commitment across the four subscales.
Results. Using a multivariate analysis of variance (MANOVA), it was determined that there were no significant racial differences in research self-efficacy, research mentoring experiences, and occupational commitment among counselor education doctoral students. Therefore, the research hypothesis was only partially supported. The researcher expected to find sex differences in the research self-efficacy of counselor education doctoral student, yet no statistical differences were found (see Table 7). However, there were significant differences in sex for the research mentoring experiences of doctoral students in counselor education. To examine significance of the differences in sex, an independent samples \( t \) test was used. Tables 8 and 9 provide results of the \( t \) test. It was determined that male students (\( M = 1.98, SD = .828 \)) in this study reported significantly lower levels of research mentoring experiences than female students (\( M = 2.29, SD = .951 \)), \( t(243) = -2.218, p < .05 \). Moreover, there were no noticeable or significant interactions between sex and race in the research self-efficacy, research mentoring experiences, and occupational commitment for counselor education doctoral students. Additionally, there was no significant sex or racial differences found among the four subscales of occupational commitment (see Tables 10 and 11).
Table 7

Results from MANOVA analyzing Sex, Ethnic Background, SERM, RMES, and Occupational Commitment

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
<th>Pillai's Trace</th>
<th>Wilks' Lambda</th>
<th>Hotelling's Trace</th>
<th>Roy's Largest Root</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>.925</td>
<td>713.523&lt;sup&gt;o&lt;/sup&gt;</td>
<td>.075</td>
<td>12.409</td>
<td>12.409</td>
<td>4.000</td>
<td>230.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pillai's Trace</td>
<td>Wilks' Lambda</td>
<td>Hotelling's Trace</td>
<td>Roy's Largest Root</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>.002</td>
<td>.998</td>
<td>.002</td>
<td>.002</td>
<td>4.000</td>
<td>230.000</td>
<td>.970</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>.095</td>
<td>.908</td>
<td>.998</td>
<td>.046</td>
<td>1.128</td>
<td>20.000</td>
<td>.314</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pillai's Trace</td>
<td>Wilks' Lambda</td>
<td>Hotelling's Trace</td>
<td>Roy's Largest Root</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>.095</td>
<td>.908</td>
<td>.998</td>
<td>.046</td>
<td>1.128</td>
<td>20.000</td>
<td>.314</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EB</td>
<td></td>
<td>.055</td>
<td>.946</td>
<td>.946</td>
<td>.032</td>
<td>.642</td>
<td>20.000</td>
<td>.877</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pillai's Trace</td>
<td>Wilks' Lambda</td>
<td>Hotelling's Trace</td>
<td>Roy's Largest Root</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>.055</td>
<td>.946</td>
<td>.946</td>
<td>.032</td>
<td>.642</td>
<td>20.000</td>
<td>.877</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex * EB</td>
<td></td>
<td>.055</td>
<td>.946</td>
<td>.946</td>
<td>.032</td>
<td>.642</td>
<td>20.000</td>
<td>.877</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pillai's Trace</td>
<td>Wilks' Lambda</td>
<td>Hotelling's Trace</td>
<td>Roy's Largest Root</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>.055</td>
<td>.946</td>
<td>.946</td>
<td>.032</td>
<td>.642</td>
<td>20.000</td>
<td>.877</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Design: Intercept+Sex+EB+Sex * EB. <sup>b</sup>Exact statistic. <sup>c</sup>The statistic is an upper bound on F that yields a lower bound on the significance level.
Table 8

*Group Statistics for Male and Female Counselor ED Doctoral Students and Research Mentoring Experiences*

<table>
<thead>
<tr>
<th>Sex</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>male</td>
<td>57</td>
<td>1.9794</td>
<td>.82753</td>
<td>.10961</td>
</tr>
<tr>
<td>female</td>
<td>188</td>
<td>2.2894</td>
<td>.95121</td>
<td>.06937</td>
</tr>
</tbody>
</table>

Table 9

*Test of Independent Samples for Male and Female Counselor ED Doctoral Students' Research Mentoring Experiences*

<table>
<thead>
<tr>
<th></th>
<th>Levene's Test for Equality of Variances</th>
<th>t test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>RMES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>2.812</td>
<td>.095</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>-2.390</td>
<td>104.815</td>
</tr>
</tbody>
</table>

Research Question 5

Are there differences in the research self-efficacy and research mentoring experiences of counselor education doctoral students by their year in the doctoral program and their institution type?

Research Hypothesis. There will be differences in the research self-efficacy of counselor education doctoral students by year, but no differences will be found for
Table 10

Results From the MANOVA Analyzing Ethnic Background, Sex, and Subscale of Occupational Commitment Scale

<table>
<thead>
<tr>
<th>Source</th>
<th>Dependent Variable</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>AOCS</td>
<td>10.144&lt;sup&gt;a&lt;/sup&gt;</td>
<td>11</td>
<td>.922</td>
<td>1.180</td>
<td>.302</td>
</tr>
<tr>
<td></td>
<td>NOCS</td>
<td>17.635&lt;sup&gt;b&lt;/sup&gt;</td>
<td>11</td>
<td>1.603</td>
<td>1.227</td>
<td>.270</td>
</tr>
<tr>
<td></td>
<td>ACOCS</td>
<td>10.081&lt;sup&gt;c&lt;/sup&gt;</td>
<td>11</td>
<td>.916</td>
<td>.644</td>
<td>.790</td>
</tr>
<tr>
<td></td>
<td>LAOCS</td>
<td>4.798&lt;sup&gt;d&lt;/sup&gt;</td>
<td>11</td>
<td>.436</td>
<td>.994</td>
<td>.452</td>
</tr>
<tr>
<td>Intercept</td>
<td>AOCS</td>
<td>1043.987</td>
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<td>1043.987</td>
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<tr>
<td></td>
<td>NOCS</td>
<td>545.023</td>
<td>1</td>
<td>545.023</td>
<td>417.261</td>
<td>.000</td>
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<tr>
<td></td>
<td>ACOCS</td>
<td>506.864</td>
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<td>506.864</td>
<td>356.010</td>
<td>.000</td>
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<tr>
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<td>LAOCS</td>
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<td>375.067</td>
<td>854.803</td>
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<tr>
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<td>1</td>
<td>.049</td>
<td>.063</td>
<td>.802</td>
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<tr>
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<td>.019</td>
<td>.014</td>
<td>.905</td>
</tr>
<tr>
<td></td>
<td>ACOCS</td>
<td>.179</td>
<td>1</td>
<td>.179</td>
<td>.126</td>
<td>.723</td>
</tr>
<tr>
<td></td>
<td>LAOCS</td>
<td>.061</td>
<td>1</td>
<td>.061</td>
<td>.140</td>
<td>.709</td>
</tr>
<tr>
<td>EB</td>
<td>AOCS</td>
<td>3.800</td>
<td>5</td>
<td>.760</td>
<td>.972</td>
<td>.435</td>
</tr>
<tr>
<td></td>
<td>NOCS</td>
<td>5.331</td>
<td>5</td>
<td>1.066</td>
<td>.816</td>
<td>.539</td>
</tr>
<tr>
<td></td>
<td>ACOCS</td>
<td>8.812</td>
<td>5</td>
<td>1.762</td>
<td>1.238</td>
<td>.292</td>
</tr>
<tr>
<td></td>
<td>LAOCS</td>
<td>.979</td>
<td>5</td>
<td>.196</td>
<td>.446</td>
<td>.816</td>
</tr>
<tr>
<td>Sex * EB</td>
<td>AOCS</td>
<td>2.793</td>
<td>5</td>
<td>.559</td>
<td>.715</td>
<td>.613</td>
</tr>
<tr>
<td></td>
<td>NOCS</td>
<td>4.982</td>
<td>5</td>
<td>.996</td>
<td>.763</td>
<td>.577</td>
</tr>
<tr>
<td></td>
<td>ACOCS</td>
<td>1.827</td>
<td>5</td>
<td>.365</td>
<td>.257</td>
<td>.936</td>
</tr>
<tr>
<td></td>
<td>LAOCS</td>
<td>2.087</td>
<td>5</td>
<td>.417</td>
<td>.951</td>
<td>.448</td>
</tr>
<tr>
<td>Error</td>
<td>AOCS</td>
<td>182.103</td>
<td>233</td>
<td>.782</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>NOCS</td>
<td>304.343</td>
<td>233</td>
<td>1.306</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACOCS</td>
<td>331.730</td>
<td>233</td>
<td>1.424</td>
<td></td>
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<tr>
<td></td>
<td>LAOCS</td>
<td>102.235</td>
<td>233</td>
<td>.439</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>AOCS</td>
<td>6723.778</td>
<td>245</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NOCS</td>
<td>3186.000</td>
<td>245</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACOCS</td>
<td>3491.861</td>
<td>245</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>LAOCS</td>
<td>2368.389</td>
<td>245</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>AOCS</td>
<td>192.247</td>
<td>244</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NOCS</td>
<td>321.978</td>
<td>244</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>ACOCS</td>
<td>341.811</td>
<td>244</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>LAOCS</td>
<td>107.033</td>
<td>244</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>R Squared = .053 (Adjusted R Squared = .008). <sup>b</sup>R Squared = .055 (Adjusted R Squared = .010).
<sup>c</sup>R Squared = .029 (Adjusted R Squared = -.016). <sup>d</sup>R Squared = .045 (Adjusted R Squared = .000).
Table 11

Results From Comparison of Ethnic Background and Subscales of the SERM, RMES, and Occupational Commitment Scale

<table>
<thead>
<tr>
<th>EB</th>
<th>RSES1 Mean</th>
<th>RSES2 Mean</th>
<th>RSES3 Mean</th>
<th>RSES4 Mean</th>
<th>CRMES Mean</th>
<th>PSYRMES Mean</th>
<th>AOCS Mean</th>
<th>NOCS Mean</th>
<th>ACOCS Mean</th>
<th>LAOCS Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American/Black/African</td>
<td>3.87</td>
<td>3.80</td>
<td>3.77</td>
<td>3.08</td>
<td>2.81</td>
<td>2.02</td>
<td>4.87</td>
<td>3.11</td>
<td>3.53</td>
<td>3.17</td>
</tr>
<tr>
<td>Caucasian or European American</td>
<td>4.05</td>
<td>3.95</td>
<td>3.88</td>
<td>3.32</td>
<td>2.51</td>
<td>1.76</td>
<td>5.23</td>
<td>3.42</td>
<td>3.63</td>
<td>3.02</td>
</tr>
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<td>Asian</td>
<td>3.78</td>
<td>3.56</td>
<td>3.94</td>
<td>3.33</td>
<td>2.66</td>
<td>1.85</td>
<td>5.61</td>
<td>3.36</td>
<td>3.78</td>
<td>2.56</td>
</tr>
<tr>
<td>Latin American/Mexican American</td>
<td>4.22</td>
<td>4.00</td>
<td>3.78</td>
<td>2.96</td>
<td>2.18</td>
<td>1.57</td>
<td>5.09</td>
<td>3.72</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiracial</td>
<td>4.04</td>
<td>3.83</td>
<td>3.92</td>
<td>3.58</td>
<td>3.05</td>
<td>2.37</td>
<td>5.00</td>
<td>3.88</td>
<td>3.33</td>
<td>3.19</td>
</tr>
<tr>
<td>International</td>
<td>3.87</td>
<td>3.87</td>
<td>4.07</td>
<td>3.73</td>
<td>2.06</td>
<td>1.78</td>
<td>4.47</td>
<td>4.07</td>
<td>3.93</td>
<td>3.33</td>
</tr>
</tbody>
</table>

Research mentoring experiences. There will be differences in research self-efficacy and research mentoring experiences in doctoral students according to their institution type.

Results. For the last hypothesis in this study, the researcher believed year in the doctoral program would be directly related to research self-efficacy as was found in a study by Kahn and Scott (1997). The researcher also speculated there would be no significant differences in research mentoring experiences and year in the program, as demonstrated by other studies. Regarding differences in research self-efficacy and research mentoring experiences based upon institution type, the researcher assumed she would find no significant differences based upon the institution type or the
Carnegie research classification (CRC), which represented the null hypothesis (see Tables 12, 13, and 14 for results).

Table 12

*Mean Scores for Research Self-Efficacy and Research Mentoring Experiences by Year in the Doctoral Program and Carnegie Research Classification*

<table>
<thead>
<tr>
<th>Year</th>
<th>very high research activity</th>
<th>high research activity</th>
<th>doctoral/research university</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RMES Mean</td>
<td>RSES Mean</td>
<td>RMES Mean</td>
</tr>
<tr>
<td>first year</td>
<td>2.12</td>
<td>3.56</td>
<td>1.91</td>
</tr>
<tr>
<td>second year</td>
<td>2.09</td>
<td>3.68</td>
<td>2.22</td>
</tr>
<tr>
<td>third year</td>
<td>2.18</td>
<td>3.94</td>
<td>2.19</td>
</tr>
<tr>
<td>fourth year</td>
<td>2.12</td>
<td>3.86</td>
<td>2.56</td>
</tr>
<tr>
<td>fifth or more year</td>
<td>2.33</td>
<td>3.68</td>
<td>2.89</td>
</tr>
</tbody>
</table>

Summary

The counselor education doctoral students in this study reported high levels of research self-efficacy and affective occupational commitment. In reference to other areas of occupational commitment, they reported moderate levels of normative, accumulated cost, and limited alternative occupational commitment. Regarding the accumulated cost occupational commitment, beginning counselor education doctoral students reported higher levels of accumulated costs than advance students. This indicated that beginning doctoral students felt they had more to lose if they were to
Table 13

Results of MANOVA Analyzing Year, Commitment to Faculty Career, Research Self-Efficacy and Research Mentoring Experiences in Counselor ED Doctoral Students

<table>
<thead>
<tr>
<th>Source</th>
<th>Dependent Variable</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
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</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>RMES</td>
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<td>.609</td>
<td>.690</td>
<td>.784</td>
</tr>
<tr>
<td></td>
<td>RSES</td>
<td>4.201b</td>
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<td>.300</td>
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<td>Intercept</td>
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<tr>
<td></td>
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</tr>
<tr>
<td>YR</td>
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<td>4</td>
<td>.799</td>
<td>.905</td>
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</tr>
<tr>
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<td>RSES</td>
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<tr>
<td>CRC</td>
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<tr>
<td></td>
<td>RSES</td>
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</tr>
<tr>
<td>YR * CRC</td>
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<td>.705</td>
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<tr>
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<tr>
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<tr>
<td>Total</td>
<td>RMES</td>
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<tr>
<td></td>
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<td>Corrected Total</td>
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<td></td>
<td>RSES</td>
<td>95.631</td>
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</table>

\(^a\)R Squared = .040 (Adjusted R Squared = -.018). ^b\)R Squared = .044 (Adjusted R Squared = -.014).

leave the profession they are currently training for, like a faculty career, to pursue another occupation such as private practice work. Furthermore, the counselor education doctoral students in this study reported low levels of career and psychosocial mentoring, two aspects of the research mentoring experiences. Of the two, the counselor education doctoral students reported psychosocial mentoring as an area to
Table 14

Multivariate Test Analyzing Research Self-Efficacy, Research Mentoring Experiences, and Occupational Commitment by Year and Commitment to Pursue a Faculty Career

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
<th>$F$</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>Sig.</th>
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<td>229.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>.023</td>
<td>4937.075$^b$</td>
<td>2.000</td>
<td>229.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>43.119</td>
<td>4937.075$^b$</td>
<td>2.000</td>
<td>229.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>43.119</td>
<td>4937.075$^b$</td>
<td>2.000</td>
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<tr>
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</tr>
<tr>
<td></td>
<td>.955</td>
<td>1.336$^a$</td>
<td>8.000</td>
<td>458.000</td>
<td>.223</td>
</tr>
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<td></td>
<td>.047</td>
<td>1.332</td>
<td>8.000</td>
<td>456.000</td>
<td>.225</td>
</tr>
<tr>
<td></td>
<td>.031</td>
<td>1.793$^c$</td>
<td>4.000</td>
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<td>.131</td>
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</tr>
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<td>1.915$^c$</td>
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<td>.150</td>
</tr>
<tr>
<td>YR * CRC</td>
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<td>.574</td>
<td>16.000</td>
<td>460.000</td>
<td>.904</td>
</tr>
<tr>
<td></td>
<td>.961</td>
<td>.572$^b$</td>
<td>16.000</td>
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<td>.570</td>
<td>16.000</td>
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<td>.907</td>
</tr>
<tr>
<td></td>
<td>.025</td>
<td>.729$^c$</td>
<td>8.000</td>
<td>230.000</td>
<td>.666</td>
</tr>
</tbody>
</table>

$^a$Design: Intercept+YR+CRC+YR * CRC. $^b$Exact statistic. $^c$The statistic is an upper bound on F that yields a lower bound on the significance level.
which their faculty mentor paid very little attention or none at all. Additionally, a large
number of students (almost 40%) indicated they did not have a research mentor.

A statistically significant correlation was established between research self-
efficacy and research mentoring experiences. While it was hypothesized that both
research self-efficacy and research mentoring experiences could predict the
occupational commitment of doctoral students in counselor education, this study
demonstrated research mentoring experiences was the stronger predictor of
occupational commitment when analyzing it with these two variables. Research
mentoring experiences and research self-efficacy as independent variables were
analyzed using three versions of occupational commitment, the dependent variable.
The researcher used a weighted and unweighted average of the mean scores for the
four subscales. Additionally, the researcher asked participants how likely they were to
pursue a faculty career, which was computed as the commitment to a faculty career
(CFC) variable.

The researcher found significant sex differences in the research mentoring
experiences of doctoral students in counselor education. Additional data analysis using
a t test of independent means revealed male counselor education doctoral students
reported significantly lower research mentoring experiences than female doctoral
students. No significant racial differences were found in the research self-efficacy or
occupational commitment of the counselor education doctoral students in this study.
Moreover, there was no sex or racial differences found in the subscales of the research self-efficacy and occupational commitment.

Even though it was hypothesized that year in the doctoral program and institution type would account for differences in counselor education doctoral students' research self-efficacy, research mentoring experiences, and occupational commitment, no significant differences were found in the research self-efficacy, research mentoring experiences, or occupational commitment of counselor education doctoral students based up their year or class status or their institution's Carnegie research classification.
CHAPTER V

DISCUSSION

In this chapter, a summary of the study and the conclusions drawn from the data analysis discussed in Chapter IV are presented. Also included in this chapter is a discussion on the implications this study has for counselor education and the training of counselor education doctoral students. Additionally, recommendations for future areas of research are mentioned.

Summary of the Study

Over the past two decades, several scholars conducted many studies to explore the shortage of counselor education doctoral graduates available to train and prepare future counselors (Altekruse, 1991a; Maples, 1989, 1990). Many of these studies revealed doctoral graduates less frequently chose careers as counselor educators because of the demands of conducting research (Maples et al., 1993; Swickert, 1997). This was a significant finding since research productivity and the motivation to publish are vital to survive and prosper in a faculty career (Thomas & McKenzie, 1986; Walton, 1979). In addition, scholarship is one of the most important criteria for promotion and tenure (Brewer et al., 2004; Renegar, 1993; Smaby & Crews, 1998).
Even though the demands of research was identified as one reason doctoral graduates prefer to be practitioners rather than counselor educators (Maple et al., 1993; Swickert, 1997), research is an important aspect of doctoral training in counselor education. The Council for Accreditation of Counseling and Related Educational Programs (CACREP), the accrediting body for the 52 counselor education and supervision doctoral programs across the country, asserted that the primary function of doctoral programs in counselor education and supervision was to encourage and train students to extend the knowledge base of professional counseling through research (CACREP, 2001).

Overview of the Problem

While doctoral training programs should provide a research training environment that facilitates the research self-efficacy or belief in one’s ability to conduct research (Betz, 1986), it is unclear how confident doctoral students in counselor education feel about their ability to complete research-related tasks. Competency in completing research-related tasks is particularly relevant to doctoral students in counselor education, since their training provides preparation for faculty careers. Moreover, dissemination of knowledge through research is one aspect of a faculty career.

Another problem related to research and doctoral students in counselor education is faculty mentoring. Although faculty mentorship and collaborative
relationships is an important aspect of doctoral training (Baird, 1991; Faan, 1992, Gaffney, 1995; Hirt & Muffo, 1998; Nelson & Jackson, 2000), mentorship in general receives very little attention in counselor education literature (Black et al., 2004) and even less is known about the research mentoring experiences of doctoral students in counselor education. Research mentoring refers to a more experienced person joining with someone less experienced to promote awareness, skill, and productivity in research and scholarly endeavors (Dohm & Cummings, 2002). In addition, research mentorship remains underexamined (Dohm & Cummings, 2002; Melicher, 2000), despite the many benefits of mentoring and its significance in preparing doctoral students as researchers, counselor educators, and future leaders in the counseling profession. The limited research available on the research self-efficacy and research mentoring experiences of counselor education doctoral students is significant, since both influence future research involvement and research productivity (Cronan-Hillix et al., 1986; Galassi et al., 1987; Hollingsworth & Fassinger, 2002; Krebs et al., 1991; Phillips & Russell, 1994), which are important to a faculty career.

Given there has been a historical shortage of doctoral graduates in counselor education who are available to train future counselors, few studies have examined the intent and/or interest of counselor education doctoral students to pursue a faculty career. Since occupational commitment has been defined as the psychological link between an individual and his or her occupation (Lee et al., 2000), or one’s motivation
to work in a chosen vocation (Carson & Bedeian, 1994), this concept was used to
examine the career intentions of counselor education doctoral students.

Purpose Statement and Research Questions

Given the limited knowledge available in counselor education on research self-
efficacy, research mentoring experiences, and occupational commitment of doctoral
students in counselor education, the purpose of this study was to examine the
relationship between research self-efficacy and research mentoring experiences in order
to determine the extent to which these variables could predict occupational
commitment in counselor education doctoral students. With this in mind, several
research questions were presented in this study:

1. What is the level of research self-efficacy, research mentoring experiences,
   and occupational commitment for doctoral students in counselor education?
   What relationship exists, if any, between research self-efficacy and research
   mentoring experiences?

2. What relationship, if any, exists among research self-efficacy, research
   mentoring experiences, and occupational commitment?

3. Can research self-efficacy and research mentoring experiences predict
   occupational commitment?

4. Are there sex and/or racial differences in research self-efficacy, research
   mentoring experiences, and occupational commitment in counselor
education doctoral students? Are there sex and/or racial differences of counselor education doctoral students in the measurement subscales of research self-efficacy, research mentoring experiences, and occupational commitment instruments?

5. Are there differences in research self-efficacy and research mentoring experiences in counselor education doctoral students by year in doctoral program and institution type?

Review of the Methodology

The study was quantitative, in nature, using a correlational research design. Doctoral students (577) who were members of the Association of Counselor Education and Supervision served as the sample upon which participants were gathered. However, there were a number of students (52) who were ineligible to participate in the study because of the following reasons: (1) they were master’s level students in counselor education, (2) they were doctoral students in counseling psychology, or (3) they did not have valid email addresses to receive the online survey. Therefore, 90% of the sample (525) took part in the study. Of the 525 participants, several of them (285) submitted the online survey. However, the participants did not complete 40 of the online surveys. Thus, the researcher used 245 completed surveys to analyze the data.

Doctoral students completed the online survey, which contained demographic questions and questions from the following three instruments: Self-Efficacy in Research
Measure (SERM) short version, Research Mentoring Experiences Scale (RMES), and the Occupational Commitment Scale (OCS). Data collection was cross-sectional and occurred during the month of March 2008. Each week, the researcher sent reminder emails to potential participants to encourage them to complete the survey. In addition to email reminders, the researcher offered an incentive prize of $50 to 4 randomly selected participants who completed the survey. The reminder emails and incentive prize helped the researcher establish a 47% response rate, whereby 245 surveys were usable out of the 285 surveys collected. Once the researcher collected the online surveys, she began data analysis. The researcher used the following statistical procedures to analyze the data: analysis of variance (ANOVA), multivariate analysis of the variance (MANOVA), regression analysis, descriptive statistics, and correlation.

**Major Findings**

Counselor education doctoral students in this study reported high levels of research self-efficacy and affective occupational commitment, but moderate levels of normative and limited alternative occupational commitment. Advanced counselor education doctoral students had lower levels of accumulated costs (or continuance) occupational commitment than beginning students. In addition, over 75% of counselor education doctoral students in this study reported they were very likely to pursue a faculty career in counselor education.
In regards to research mentoring experiences, the doctoral students reported low levels of career and psychosocial mentoring experiences. Of the two, the counselor education doctoral students in this study reported lower psychosocial than career mentoring experiences with faculty mentors. Psychosocial mentoring refers to the relational aspects of research mentoring. Furthermore, nearly 40% of the counselor education doctoral students reported not having a research mentor.

The researcher found a statistically significant correlation between research mentoring experiences and research self-efficacy. In addition, research mentoring experiences was determined to be a stronger predictor of occupational commitment than research self-efficacy. Additionally, the researcher found a statistically significant but inverse relationship between research mentoring experiences and occupational commitment.

Another finding in this study included sex differences in the research mentoring experiences of doctoral students, with male students reporting significantly lower levels of research mentoring experiences than female students. The researcher did not find any significant racial differences in the research self-efficacy or occupational commitment of counselor education doctoral students. Moreover, the researcher did not find any sex or racial differences in the subscales of research self-efficacy and occupational commitment. The year in doctoral program or class status of the students and their institution's Carnegie research classification did not provide any significant
differences in the research self-efficacy, research mentoring experiences, or occupational commitment of the counselor education doctoral students in this study.

Findings Related to the Literature

The findings in this research study were consistent with the results found in several other studies. For instance, the counselor education doctoral students in this study reported high levels of research self-efficacy. This was consistent with the findings of high levels of research self-efficacy reported by psychology and rehabilitation doctoral students (Bishop & Bieschke, 1998; Kahn & Scott, 1997; Phillips & Russell, 1994). Additionally, Okech et al. (2006) surveyed counselor educators regarding their doctoral research training and discovered these counselor educators felt proficient in their ability to conduct qualitative and quantitative research.

Counselor education doctoral students also reported high levels of affective occupational commitment, which was similar to results discovered in other studies involving career commitment and students (Lam et al., 1995; Rascati, 1989; Ulku-Steiner et al., 2000). High levels of occupational commitment indicated that many counselor education doctoral students had a strong psychological attachment or high motivation to work as faculty in counselor education. Additionally, beginning counselor education doctoral students in this study reported higher levels of accumulated cost occupational commitment than advanced doctoral students, indicating that students newer to their doctoral studies felt they had more to lose if they left the doctoral program than
advanced students. This finding was also consistent with other studies involving other workers from different occupations (Blau, 2003).

Another area of this research that was similar to the findings in previous research studies included the low reports of research mentoring experiences. Hollingsworth and Fassinger (2002), Kahn (2001), and Okech et al. (2006) found in their studies that counselor educators and doctoral students in counseling psychology desired more research-specific mentoring and viewed research mentoring as an area that was deficient in their doctoral training. Also consistent with previous research, the researcher found a relationship between research self-efficacy and research mentoring experiences in this study. Hollingsworth and Fassinger (2002) also found a strong correlation between research mentoring experiences and research self-efficacy. Lastly, this study revealed no significant differences in race or sex in the research self-efficacy of counselor education doctoral students. Similar findings were reported by Bishop and Bieschke (1998), Kahn and Scott (1997), Phillips and Russell (1994).

Although some of the results in this research study were consistent with the findings in previous studies, some results were unexpected and differed from prior research. For instance, in this study, the year in the doctoral program or class status of the doctoral student had no effect on their research self-efficacy. Thus, there was little difference in the perceived level of research self-efficacy between the first-year and fifth-year counselor education doctoral student. This finding was certainly unexpected, since Kahn and Scott (1997) found that year or class status of psychology doctoral
students related to research self-efficacy. Moreover, they found that advanced doctoral students reported higher levels of research self-efficacy than beginning doctoral students.

Another unexpected finding in this study was that the institution type or the Carnegie research classification (CRC) had no statistically significant correlation to the research self-efficacy of the counselor education doctoral student. Therefore, in this study there were no differences in the self-reported research self-efficacy of doctoral students attending very high research universities than those attending doctoral research-intensive universities. This finding was unanticipated, since it indicated that, regardless of the type of institution, presuming that faculty and doctoral student at very high research universities engage in more research activities than at doctoral research-intensive universities, doctoral students reported high levels of research self-efficacy.

The research mentoring experiences of male counselor education doctoral students revealed another unpredicted finding. In this study, male counselor education doctoral students reported significantly lower levels of research mentoring experiences with a faculty mentor than did their female colleagues. This finding was surprising, because many studies assert the mentoring needs of women rather than men in counselor education (Bruce, 1995; Casto et al., 2005; Welch, 1996). Because many studies have asserted the disparity in mentoring experiences for female students in counselor education rather than male students, it was surprising that male students reported higher dissatisfaction with their research mentoring experiences in this study. Few
studies have highlighted the research mentoring experiences of male students as significantly lower than female students as was discovered in this study. This finding was also unforeseen because males made up less than 24% of the participants in this study, yet the researcher found a statistically significant difference in their research mentoring experiences in comparison to women.

Discussion

Several of the research findings warrant greater attention and further discussion. For instance, one significant finding of this research involved a negative correlation between research self-efficacy and research mentoring experiences. This finding suggests that as the doctoral students reported high research self-efficacy, their research mentoring experience was low. Similarly, as they reported low levels of research self-efficacy, they had higher research mentoring experiences. This inverse relationship might highlight why doctoral students who had higher perceived confidence and competence in their research related skills might have been less satisfied with their research mentoring experiences with faculty mentors. Additionally, doctoral students might have felt their research mentors paid less attention to their research mentoring needs. As students reported lower levels of research self-efficacy and experienced greater challenges with their research-related skills, they found their research mentors to be more attentive to their research mentoring needs.
Another significant finding that warrants further discussion was the connection that research self-efficacy has with occupational commitment. In the study, research self-efficacy had only a small correlation with occupational commitment. Thus, research self-efficacy was a factor that provided a psychological attachment or motivation to work in a faculty career for doctoral students in counselor education. In other words, counselor education doctoral students might consider pursuing a faculty career because they feel confident in their research skills and abilities. However, conducting research was not a statistically significant reason why doctoral students sought a faculty career since research mentoring experiences was a significant predictor of doctoral students' intent to pursue a faculty career.

Although research mentoring experiences was a strong predictor of occupational commitment in this study, there was an unusual observation attached to this finding. Research mentoring experiences had an inverse relationship to occupational commitment, in that, as doctoral students reported high levels of satisfaction with their research mentoring experiences, they also reported low levels of occupational commitment and research self-efficacy. Similarly, as they reported low levels of satisfaction with their faculty mentor's attentiveness to their research mentoring needs, they were more inclined to have higher levels of occupational commitment and research self-efficacy. This finding could suggest several things. First, research self-efficacy may be more important to occupational commitment because of research mentoring experiences. For example, the results reveal that, as doctoral
students who had high research self-efficacy perceived the research mentoring experience as less engaging, their motivation to become faculty increased. Likewise, as doctoral students who had low research self-efficacy and perceived the research mentoring experiences as meaningful (i.e., faculty mentors were attentive to their research mentoring needs), their motivation to become faculty decreased. Second, while research mentoring experiences was a stronger predictor of occupational commitment, it also served as a mediating factor between research self-efficacy and occupational commitment, given the inverse relationship. Thus, the key to better understanding occupational commitment in counselor education doctoral students is research mentoring experiences and its inverse relationship to research self-efficacy (i.e., the confidence doctoral students feel about their ability to complete research-related tasks).

In this study, doctoral students reported low levels of research mentoring experiences. The research mentoring experiences consisted of two areas: psychosocial and career mentoring. Of the two, doctoral students reported lower psychosocial than the career mentoring experiences. Given this, doctoral students in this study pointed to difficulties and challenges in their research mentoring relationships with faculty, since psychosocial research mentoring involved the relational aspects. While these experiences might not be on the extreme ends of the continuum for negative mentoring experiences (i.e., dysfunctional or ineffective), some evidence might suggest that these research mentoring relationships were marginal. Scandura (1998) defined marginal mentoring relationships as those where the problems within the relationship minimize
the potential of the relationship to meet important needs. Moreover, no malice was involved in these mentoring relationships, and such relationships were likely to stay intact (Scandura, 1998). In this study, many examples suggested doctoral students felt their research mentoring relationships were marginal. For instance, many doctoral students wanted their research mentors to express more enthusiasm for their own research and model more competence in research-related skills. Additionally, doctoral students reported needing more communication from mentors about their mentor’s research ideas. Doctoral students in this study felt their research mentors did not give them enough feedback or constructive criticism about their research work or ideas.

Other examples of the marginal effectiveness of the research mentoring relationships included aspects of the career research mentoring area. Doctoral students also rated this area of mentoring as low. Moreover, they reported needing more encouragement from mentors to attend professional conferences. They also indicated they needed help developing their research ideas and discussing their research-related skills with mentors.

In all of these examples, doctoral students expressed some mentoring requests that needed the attention of their research mentors in these areas. They also indicated that these requests or needs were areas where their mentors spent the least amount of attention and time in their research mentoring experiences. Even though these were cues that the research mentoring relationships with faculty were marginally effective, it was unclear as to the exact cause for the difficulties in these mentoring relationships.
Since both the mentor and protégé share responsibility in the effectiveness or ineffectiveness of the research mentoring relationship (Eby et al., 2000; Scandura, 1998), this study did not explore elicited feedback from mentors regarding the mentoring experiences. In this study, only the perspective of the mentee was gathered regarding the research mentoring relationship.

Conclusions

Delimitations

The scope of this study involved an investigation of the research self-efficacy, research mentoring experiences, and occupational commitment of counselor education doctoral students. In addition, the participants in this study were counselor education doctoral students who were members of the Association of Counselor Education and Supervision (ACES). Another delimitation of the study included the way research mentoring experiences with faculty were reported. The counselor education doctoral students in this study could consider only one faculty mentor when answering questions on the Research Mentoring Experiences Scale (RMES).

Limitations

One limitation of this study was the scarcity of information gathered about the research mentor. The researcher elicited information only on whether or not doctoral students had a research mentor. The researcher did not gather information on the type
(i.e., formal or informal) or the phase (initiation, cultivation, autonomy, or separation) of the mentoring relationships. Such information would be significant to understand doctoral students' dissatisfaction with career and psychosocial mentoring experiences given that the mentoring literature indicated mentors and mentees evaluated informal mentoring relationships as more meaningful and effective than formal ones (Ragins & Cotton, 1999). Another aspect of the mentoring literature explored the protégés' satisfaction with informal mentoring relationships rather than formal ones such that protégés reported experiencing greater levels of the career and psychosocial mentoring functions within informal mentoring relationships. Therefore, without having the above-mentioned information on the nature and phase of the mentoring relationship, the researcher was unable to determine the extent to which these areas played a role in doctoral students' low reports of satisfaction with their research mentoring relationships.

The use of the Self-Efficacy Research Measure (SERM) short version was also a limitation of this study. While the instrument helped to establish the level of perceived research self-efficacy in counselor education doctoral students, the shorter instrument had only 12 items in comparison to the original version, which had 33 items (Phillips & Russell, 1994). The shorter instrument might have simplified the various research-related skills; consequently, doctoral students might not have the opportunity to extensively explore and assess their research-related skills.
A final limitation of the study was the possible confusion with the institutional Carnegie research classification. Because Carnegie recently changed the names of the various research classifications for institutions, the researcher used the new wording of the research classifications in the survey. The researcher also provided the old phrases and classification categories next to the new categories to help doctoral students recognize the new labels for the classifications. While the researcher made efforts to clarify the change in classification and wording, it was unclear whether graduate students were aware of their institution’s classification or whether they might have misinterpreted the classifications because of the change in the categories.

Implications for Counselor Education and Doctoral Training

One of the problems presented in this study was the lack of information on how counselor education doctoral students felt about their competencies to complete research-related tasks or research self-efficacy. The researcher established that counselor education doctoral students have high self-reported research self-efficacy. High research self-efficacy among doctoral students was correlated with future research productivity and research interest. Given this and the high affective occupational commitment reported by counselor education doctoral students in this study, it appears that counselor education doctoral students are motivated and have the research self-efficacy to pursue faculty careers. However, doctoral students may still find the demand of research as a challenge upon entering the professorate, since new counselor
educators felt unprepared to engage in scholarly endeavors (Magnuson et al., 2003). Therefore, the problem with the demand of research may not be the lack of confidence that counselor education doctoral students have in their ability to conduct research-related tasks. Additionally, such problems with the demand of research may not be from the research training in qualitative and quantitative research methods that counselor education doctoral students receive. As such, CACREP has responded to the perceived deficiencies in research training among counselor education doctoral students by changing the research training curriculum. Rather, the problem may be the lack of socialization into developing a research identity. Moreover, research mentors play a huge role in the socialization of a research identity. Given that this research study revealed problematic psychosocial research mentoring relationship dynamics, the researcher recommends more information be gathered within counselor education departments about the perceptions that both mentors or faculty advisors and doctoral students have about their research mentoring relationships and/or experiences. A different structure for assigning doctoral students to faculty advisors within training programs may also be helpful, as informal mentoring relationships seemed to be evaluated and rated as more satisfying than formal ones.

Another area in which this study has specific implications for doctoral training in counselor education is research mentors. For example, in this study, 40% of the counselor education doctoral students did not have a faculty research mentor. Given all of the benefits that research mentorship provides for the student in terms of the
psychosocial and career mentoring functions and the benefits it provides for the mentor, it was very surprising that a significant number of the doctoral students in this study were not under the tutelage of a research mentor. The lack of a research mentor has several implications. First, the lack of a research mentor may affect counselor education doctoral students' future research interests and research productivity, since there was a correlation between research mentorship and research self-efficacy in this and other studies. Moreover, other research studies established that research self-efficacy influences research interest and future research productivity. Second, the lack of a research mentor while in a doctoral training program may not provide doctoral students with the necessary research and publication experience needed to be competitive in the faculty job market. Therefore, it is very important that counselor education doctoral students have a research mentor to obtain the career research mentoring (i.e., training and publication experience) that will assist them in preparing for today's job market. Third, the lack of a faculty mentor may have implications for counselor education doctoral graduates in their first few years as new counselor educators. Several studies on the experiences of new counselor education faculty suggest that new counselor education faculty members who had research mentors experienced less occupational stress and their research productivity was higher (Magnuson, 2002; Magnuson, Black, & Lahman, 2006). Therefore, the lack of a research mentor for counselor education doctoral students has several implications, not only for
their experiences and for success as counselor education doctoral graduates interested in faculty positions, but also their ability to compete in the faculty job market.

Research mentoring has other implications for counselor education doctoral students. In this study, male counselor education doctoral students reported lower research mentoring experiences than did female students. This finding was certainly a surprise, since most of the research literature suggests that women in counselor education have the greatest need for mentorship. However, given that counselor education is a female-dominated profession and most counselor education graduate students are female, as was the case in this study, greater attention should be given to the research mentoring needs of male students, since they are underrepresented in counselor education doctoral programs and reported higher levels of research mentoring needs, as demonstrated in this study.

Although the mentoring needs of male counseling students is important, the research mentoring experiences of all students should be an area of importance, since counselor education doctoral students in this study reported lower levels of psychosocial mentoring experiences than career mentoring. Psychosocial mentoring includes the relational aspects of mentoring. It involves the faculty member demonstrating emotional support, communicating respect, showing personal regard, and modeling positive attitudes toward research (Hollingsworth & Fassinger, 2002). Lyons and Scroggins (1990) stated that psychosocial mentoring involved bolstering the protégés' confidence through nurturing and praise. It also includes counseling,
listening, supporting the mentee, and friendship. Casto et al. (2005) stated that psychosocial domain also included the mentor offering support, understanding, and protecting the protégé. From this study, counselor education doctoral students felt that their faculty research mentors were not paying attention to the relational aspects of their research mentoring needs. One important outcome the researcher learned from this study is the need to disseminate information within the counselor education field to create a greater awareness of the importance of research mentoring relationships to doctoral students and its relationship to their intention to become counselor educators. Additionally, the researcher hopes counselor education faculty mentors within doctoral training programs examine the relational aspects of advising and research mentoring of their doctoral students. While relationships between faculty and students cannot be mandated, enforced, or regulated, since many variables exist within interpersonal relationships, it is important that counselor education doctoral programs and their faculty start to examine and better understand the relationship between doctoral students and faculty, since research mentoring experiences was shown to be a predictor of occupational commitment. In addition, since the researcher discovered that there was an inverse relationship between occupational commitment and research mentoring experiences in this study, counselor education departments should place greater attention on understanding the relationship dynamics between faculty research mentors and students.
Occupational commitment was a new concept introduced in this study because of the historic shortage of counselor educators, which was a reason the researcher conducted this study. To date, few studies have examined the extent to which counselor education graduates have intent and are motivated to pursue a faculty career. As established in this study, occupational commitment definitely has implications for both doctoral training and the field of counselor education. For instance, over 75% of the counselor education doctoral students in the study indicated they were very likely or likely to pursue a faculty career in counselor education. Additionally, counselor education doctoral students reported high levels of occupational commitment, which suggests that most of these students had high intentions to pursue a faculty career or were motivated to work as faculty in counselor education. High occupational commitment in counselor education students also suggests that these students were in training programs after which they planned to pursue their intended occupational path. However, the counselor education doctoral students also reported moderate levels of limited alternative and accumulated cost occupational commitment. Since accumulated cost occupational commitment involved the negative consequences or perceived loss one anticipated should he or she leave the occupation, this study highlights how some counselor education doctoral students would perceive less negative consequences if they left the profession. More specifically, the beginning counselor education doctoral students in this study had higher accumulated cost occupational commitment than advanced students. This means the longer the counselor education doctoral students in
this study were in their academic programs, the less negative consequences or perceived cost they would face if they left their doctoral programs to pursue another occupation. In other words, advanced doctoral students may be more likely to leave the counselor education program or their intended occupation as faculty since they perceive less negative consequences (i.e., loss of the investment of time or money, etc.) than beginning students.

Another important aspect of occupational commitment discovered in this study was its relationship to research mentoring experiences. The researcher discovered that research mentoring experiences was a statistically significant predictor of occupational commitment. Thus, the research mentoring experiences of doctoral students was more important than research self-efficacy in determining their psychological attachment to the profession or occupational commitment. However, its inverse relationship to research self-efficacy made it significant to doctoral students’ motivation to become faculty.

Recommendations for Future Research

Given the research findings from this study, several areas can be identified for future research. For example, prior to this research, little was known in the counselor education literature about the research mentoring experiences of counselor education doctoral students. Moreover, research mentorship was underexamined in counselor education. Although this study determined the predictive nature of research mentoring
experiences in the occupational commitment of counselor education doctoral students, additional investigation in the area of research mentoring is needed. This study and a dissertation completed by Briggs (2006) are just the beginning in terms of two things: (1) exploring research mentorship in counselor education; and (b) helping the profession understand the importance of research mentoring, not only to doctoral students but also to the future of the profession. More specifically, some of the limitations of this study might also serve as a guide to direct future areas of research. For example, since this study did not determine the type of the mentoring relationships (i.e., informal or formal) and impact the relationship type has on the perceptions doctoral students have of the mentoring relationships, more information is needed in this area. Additionally, more research is needed regarding the perceptions that mentors and mentees have of each other and their roles within the mentoring relationship. Classifying mentoring relationships (i.e., dysfunctional, marginal, or ineffective) within counselor education would be another area of research in which the profession could benefit.

Another area of future study for research mentoring experiences involves research mentors and counselor education doctoral students. As this study uncovered, a significant number of counselor education students did not have research mentors. Additionally, there were low reports on the psychosocial or relational aspect of mentoring. Given this finding, an area for future research might include a qualitative study that explores some of the reasons why counselor education doctoral student do not have a research mentor and some of the qualities counselor education students are
looking for in a mentor. Additionally, it might be helpful to survey counselor educators to determine what they look for in a research mentee and the amount of research mentoring they have done, more specifically, a study on the perceptions counselor educators have regarding the mentoring process. Since this research study examined the role of research mentoring in predicting career intention, it may also be helpful to explore the role research mentoring has with counselor education doctoral students and their success in completing doctoral programs.

Although the research mentoring experiences of doctoral students provides a wealth of research opportunities, research self-efficacy and occupational commitment are other areas for future study. For instance, several studies, including the current one, have determined that there are no significant racial or sex differences in the research self-efficacy of doctoral students. Since many of these studies were quantitative in nature, a qualitative study that explores the research experiences of people of color and women doctoral students might be useful in further exploring this topic, since current research demonstrate their different experiences with research within the academy (Bradley & Holcomb-McCoy, 2004; Hill, 2004; Hill, Leinbaugh, Bradley, & Hazler, 2005). may better serve this topic and the examination of their experiences with research and research mentors. Additionally, occupational commitment could be examined with professional identity in either new counselor educators or counselor education doctoral students to determine if there is a relationship between these two variables. Also, research on professional identity and occupational commitment would not only extend
the knowledge base on professional identity within counselor education, but also it would be another topic to explore with occupation commitment, as this concept has been determined to be an useful variable in understanding career intentions within counselor education.
REFERENCES


LaPidus, J. B. (1998). If we want things to stay as they are, things will have to change. New Direction for Higher Education, 101, 95-102.


Appendix A

Human Subjects Institutional Review Board
Letter of Approval
Date: February 25, 2008

To: Stephen Craig, Principal Investigator
Glinda Rawls, Student Investigator

From: Amy Naugle, Ph.D. Chair

Re: HSIRB Project Number: 08-02-26

This letter will serve as confirmation that your research project entitled "Research Self-Efficacy and Research Mentoring Experiences as Predictors of Occupational Commitment in Counselor Education Doctoral Students" has been approved under the exempt category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you may only conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: February 25, 2009
Appendix B

Letters Requesting Permission to Use Instruments
December 12, 2007

Western Michigan University
University Counseling & Testing Center
2513 Faunce Student Services Building
1903 W. Michigan Avenue
Kalamazoo, Michigan 49008-5323

Dr. Gary Blau, Professor and Chair
Human Resource Management Department
Temple University
1810 N. 13th Street
Philadelphia, PA 19122

Dear Dr. Blau,

I am a doctoral student in Counselor Education and Supervision at Western Michigan University. I will formally present my dissertation proposal to the committee in early January. Pending their approval, my dissertation is tentatively entitled "Research Self-Efficacy and Research Mentoring Experiences as Predictors of Career Commitment or Career Withdrawal Cognitions in Counselor Education Doctoral Students." The focus of this dissertation will be to examine the research self-efficacy and research mentoring experiences of doctoral students in counselor education and to determine if these two aspects of research can predict career commitment (the motivation to pursue a career as a counselor educator) or career withdrawal (the desire or intent to quit or leave the counselor education for another field, like private practice work). Graduate students who self-identify as student members of the Association of Counselor Education and Supervision, a division of the American Counseling Association, will serve as participants. Additionally, the study will utilize an online survey method. My goal is to conduct the study during the 2008 spring academic term.

The purpose of this correspondence is to gain your written permission to use the Career Commitment Scale and the Career Withdrawal Cognitions Scale as two of four instruments in this study. Since the study involves graduate students in counselor education, I am also asking for permission to modify some of the wording of the items in the scales so that they are applicable to this specific population. Should you grant me permission to use the scales for my dissertation research, I will gladly share my findings with you.

In closing, I look forward to receiving your written response to my request. If you have any questions or need additional information from me, I can be contacted using the information listed above. I can also be reached by email at glinda.rawls@wmich.edu or phone at (269) 978-8979. Thank you for your consideration.

Sincerely,

Glinda Rawls

cc: Dr. Stephen Craig, Dissertation Chair
December 12, 2007

Western Michigan University
University Counseling & Testing Center
2513 Faunce Student Services Building
Kalamazoo, Michigan 49008-5323

Dr. Marris Hollingsworth
Center for Counseling and Student Development
261 Perkins Student Center
University of Delaware
Newark, Delaware 19716

Dear Dr. Hollingsworth:

I am a doctoral student in Counselor Education and Supervision at Western Michigan University. I will formally present my dissertation proposal to the committee in early January. Pending their approval, my dissertation is tentatively entitled "Research Self-Efficacy and Research Mentoring Experiences as Predictors of Career Commitment or Career Withdrawal Cognitions in Counselor Education Doctoral Students." The focus of this dissertation will be to examine the research self-efficacy and research mentoring experiences of doctoral students in counselor education and to determine if these two aspects of research can predict career commitment (the motivation to pursue a career as a counselor educator) or career withdrawal (the desire or intent to quit or leave the counselor education for another field, like private practice work). Graduate students who self-identify as student members of the Association of Counselor Education and Supervision, a division of the American Counseling American will serve as participants. Additionally, the study will utilize an online survey method. My goal is to conduct the study during the 2008 spring academic term.

The purpose of this correspondence is to gain your written permission to use the Research Mentoring Experiences Scale (RMES) as one of four instruments in this study. Since the RMES was used with graduate students, I do not anticipate having to make any changes to the scale. However, the participants in this dissertation are in the counselor education discipline. Therefore, I may need to make some changes to the wording of the items in the scale to make it applicable to this specific population. I am asking for permission to make changes to the wording of the items if necessary. Should you grant me permission to use the scale for my dissertation research, I will gladly share my findings with you.

In closing, I will need the exact questions used in the RMES as they were not printed in the article by Hollingsworth & Fassinger (2002). I look forward to receiving your written response to my request. If you have any questions or need additional information from me, I can be contacted using the information listed above. I can also be reached by email at glinda.rawls@wmich.edu or phone at (269) 978-8979. Thank you for your consideration.

Sincerely,

Glinda Rawls

cc: Dr. Stephen Craig, Dissertation Chair
December 30, 2007

Western Michigan University
University Counseling & Testing Center
2513 Faunce Student Services Building
Kalamazoo, Michigan 49008-5323

Dr. Jeffrey Kahn
Department of Psychology
Campus Box 4620
Illinois State University
Normal, IL 61790-4620

Dear Dr. Kahn,

I am a doctoral student in Counselor Education and Supervision at Western Michigan University. I will formally present my dissertation proposal to the committee in early January. Pending their approval, my dissertation is tentatively entitled "Research Self-Efficacy and Research Mentoring Experiences as Predictors of Career Commitment or Career Withdrawal in Counselor Education Doctoral Students." The focus of this dissertation will be to examine the research self-efficacy and research mentoring experiences of doctoral students in counselor education and to determine if these two aspects of research can predict career commitment (the motivation to pursue a career as a counselor educator) or career withdrawal (the desire or intent to quit or leave the counselor education for another field, like private practice work). Graduate students who self-identify as student members of the Association of Counselor Education and Supervision, a division of the American Counseling American will serve as participants. Additionally, the study will utilize an online survey method. My goal is to conduct the study during the 2008 spring academic term.

The purpose of this correspondence is to gain your written permission to use the Research Self-Efficacy Scale (RSES) as one of four instruments in this study. Since the RSES was used with graduate students, I do not anticipate having to make any changes to the scale. However, the participants in this dissertation are in the counselor education discipline. Therefore, I may need to make some changes to the wording of some of the items in the scale in order to make it applicable to this specific population. I am asking for permission to make changes to the wording of some items in the scale if necessary. Should you grant me permission to use the scale for my dissertation research; I will gladly share my findings with you.

In closing, I will need the exact questions used in the RSES as they were not printed in the article by Kahn & Scott (1997). I look forward to receiving your written response to my request. If you have any questions or need additional information from me, I can be contacted using the information listed above. I can also be reached by email at glinda.rawls@wmich.edu or phone at (269) 978-8979. Thank you for your consideration.

Sincerely,

Glinda Rawls

cc: Dr. Stephen Craig, Dissertation Chair
Appendix C

Emails Granting Permission to Use Instruments
Hi Glinda - you have my OK to use whatever measures best help you, but attached is more recent work I & others have done. I now refer to this measure as "occupational commitment", not career commitment, and occupational withdrawal cognitions, good luck with your dissertation, :) 

gary b.
Dear Ms. Rawls,

I'm very pleased that you plan to use the Research Mentoring Experiences Scale (RMES) in your dissertation and give you permission to do so. You also have my permission to alter the wording of items as needed to fit with the population you are assessing. If you need this permission via hard copy on letterhead, please let me know, and I'll be glad to provide it in that form as well.

In the meantime, I've attached an electronic version of the instrument with the thought that this may be easier for your use than a hard copy. Please let me know if you have any questions or if I can provide any further assistance.

Best wishes in your study; it sounds quite interesting. I'm actually quite familiar with ACA and ACES since I completed a MA in Counselor Education prior to my doctoral work. Good luck!

Merris

Merris Hollingsworth, Ph.D., ABPP
Psychologist II
Assistant Director
Coordinator, Predoctoral Internship

Center for Counseling and Student Development
261 Perkins Student Center
University of Delaware
Newark, DE 19716
Dear Glinda,

I received your letter about using the Research Self-Efficacy Scale (RSES) in your research. I have no problem with you using it and give you my full support. The RSES items from the Kahn and Scott article are listed below. Please let me know if you need any other assistance.

Good luck with your dissertation.

Jef Kahn

Jeffrey H. Kahn, Ph.D.
Department of Psychology
Illinois State University
Campus Box 4620
Normal, Illinois, USA 61790-4620
jhkahn@ilstu.edu
phone: (309) 438-7939
fax: (309) 438-5789
www.ilstu.edu/~jhkahn
Appendix D

Online Survey
Western Michigan University
Department of Counselor Education and Counseling Psychology
Principal Investigator: Dr. Stephen Craig, Associate Professor and Dissertation Chair
Student Investigator: Glinda Rawls, Doctoral Candidate in Counselor Education and Supervision
Title: Research Self-Efficacy and Research Mentoring Experiences as Predictors of Occupational Commitment in Counselor Education Doctoral Students

The purpose of this study is to examine the research self-efficacy and research mentoring experiences of doctoral students in counselor education. Should you decide to take part in this study, you must be a doctoral student in a counselor education program. Additionally, you will be asked to answer 20 survey questions (75 total items) which should take approximately 25 minutes or less to complete. All responses to the questions will remain confidential. Additionally, responses will be collected and stored in a secured, password protected website.

Your participation in this study is voluntary. If you choose not to complete the survey, you may drop out of the program at any time prior to hitting the "submit" and your answers will not be recorded. The results from this study will be reported in the researcher’s dissertation, a follow up article for publication and a presentation at a national conference. Since all responses will be confidential, no identifying information will be disseminated.

A $50 gift card to Target will be offered to 4 randomly selected participants who complete the survey. To receive the gift card, participants will need to give their name and email address. Providing this information is strictly voluntary and the information will be used only to contact the winner of the random drawing.

There are no known risks associated with this study, however; a benefit for taking part in this research may be the knowledge you will be providing may assist the counselor education profession in better understanding the impact research self-efficacy and research mentoring experiences has on doctoral students' future occupational goals.

You may contact the Chair, Human Subjects Institutional Review Board at (269) 387-5293 or the Vice President for Research (269) 387-5296 if questions or problems arise during the course of the study. You may also contact Glinda Rawls by email at glinda.rawls@wmich.edu or by phone at (269) 387-1850 or Dr. Stephen Craig, Dissertation Chair at stephen.craig@wmich.edu (269) 387-9100. This consent document has been approved for use for one year by the Human Subjects Institutional Review Board (HSIRB) as indicated by the stamped date and signature of the board chair in the upper right corner (Project Number 08-26-02). Do not participate in this study if the stamped date is older than February 29, 2008.

* 1. Your consent is needed to fully participate in this study. By clicking the "I agree to participate" circle you are acknowledging that you are aware of the nature and purpose of the study and wish to proceed onto the survey questions. By clicking the "I do not agree to participate" circle you are indicating you do not wish to participate in this study.

- [ ] I agree to participate in this study.
- [ ] I do not agree to participate in this study.
2. Do Not Wish To Participate

You have elected not to participate in this research study. Please click the "Exit Survey" icon to the right or click the "Done" button.
### 3. Demographic Information

**2. Which best describes your year in the counselor education doctoral program?**
- First year
- Second year
- Third year
- Fourth year
- Fifth or more

**3. How many research specific courses have you completed?** (Examples of research courses include research design or methods, research data analysis, statistics, evaluation, measurement methods, qualitative research methods, linear models, quantitative research methods, etc.)
- One
- Two
- Three
- Four
- Five or more

**4. Which best describes your institution’s Carnegie research classification?**
- Very High Research Activity (formerly known as Research 1)
- High Research Activity (formerly known as Research 2)
- Doctoral/Research University (formerly known as Doctoral/Research-Extensive and Intensive)

**5. What is your ethnic background and/or nationality?**
- African or Caribbean (Black) or African American
- European American or Caucasian
- Asian
- Latin American/Mexican American
- Native American
- Multiracial
- International (not born in US & doesn’t have citizenship)
- Other (please specify)

**6. What is your sex?**
- Male
- Female
7. What is your age?
- 22-29 years old
- 30-37 years old
- 38-45 years old
- 46-52 years old
- 52 years old and older

8. What is your marital status?
- Single
- Married
- Divorced
- Partnered
- Separated

9. How committed are you to pursuing a faculty career in counselor education?
- Very Likely
- Likely
- Uncertain
- Less Likely
- Not At All

10. Do you have a research mentor?
- Yes
- No

11. Have you participated in research related activities?
- Yes
- No
12. Indicate the type of research activities you have completed from the list below. (Check all that apply)

- Presented at a state, regional or national conference
- Submitted an article for publication in a scholarly, peer-reviewed journal
- Wrote or co-authored a research grant
- Published a research article
- Co-authored a book chapter
- Wrote a book chapter
- Wrote a dissertation proposal
- Wrote a book review for publication
- Published an article in a professional organization newsletter
- Wrote a conceptual article (non-research) for publication
- Wrote a book
- Worked on a research team
- Served on a professional journal editorial committee or board
- Have not participated in research activities

Other (please specify)
4. Research Experiences

The following items are tasks related to research.

* 13. Please indicate your degree of confidence in your ability to successfully accomplish the following tasks using a scale of 1 to 5, where 1=No Confidence and 5=Total Confidence.

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<tr>
<th>Task</th>
<th>1 No Confidence</th>
<th>2</th>
<th>3 Uncertain</th>
<th>4</th>
<th>5 Total Confidence</th>
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<tbody>
<tr>
<td>Keeping records during a research project</td>
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<td>Designing an experiment using traditional methods</td>
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<td>Writing the introduction and literature review for a dissertation</td>
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<tr>
<td>Writing the Introduction and discussion section for a research paper</td>
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<td>Formulating hypotheses</td>
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<td>Writing the method and results sections of a thesis or dissertation</td>
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<td>Utilizing resources for needed help</td>
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<td>Understanding computer printouts</td>
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<td>Defending a thesis or dissertation</td>
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<td>Using multivariate statistics (e.g., multiple regression, factor analysis, etc.)</td>
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<td>Using statistical packages (e.g., SPSS-X, SAS, etc.)</td>
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<tr>
<td>Operationalizing variables of interest</td>
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</table>
5. Faculty Research Mentoring

Faculty often play an important role in student's research training and research experiences. Some students receive their most significant research experiences with their formally assigned advisor, while others receive their most important research mentoring through more informally faculty relationships. If you do not have anyone that you consider as a faculty mentor, please consider the faculty relationship that has been most important in your research training while in your current doctoral program and use the following items to describe your perceptions of this relationship. It is important that you consider your relationship with only one faculty member in completing this survey.

*14. In your research relationship with a specific faculty member, to what extent does he or she pay attention to the following:

<table>
<thead>
<tr>
<th>Item</th>
<th>5 A Great Deal</th>
<th>4</th>
<th>3 Some</th>
<th>2</th>
<th>1 Very Little</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussing your research-related goals</td>
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<td>Helping you develop research ideas</td>
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<td>Involving you in one or more specific research projects</td>
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<td>Exposing you to different research methods</td>
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<td>Reminding you that times in research projects are inevitable</td>
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<td>Suggesting additional resources, such as people or literature, you can consult to improve your research</td>
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<td>Helping you organize a review of the literature</td>
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<td>Helping you to identify weaknesses in a research project</td>
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<td>Helping you develop a realistic timetable for research projects</td>
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<td>Encouraging you to apply for research-related projects</td>
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<tr>
<td>Encouraging you to attend important professional conferences</td>
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</tr>
<tr>
<td>Introducing you to her/his professional colleagues who have similar research interests</td>
<td></td>
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</tr>
<tr>
<td>Encouraging you with presentations at professional conferences</td>
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<tr>
<td>Collaborating with you on joint research projects</td>
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<tr>
<td>Encouraging you to express your ideas in research meetings</td>
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<tr>
<td>Using her/his power to motivate you to complete research tasks</td>
<td></td>
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</tr>
</tbody>
</table>
15. In your research relationship with a specific faculty member, to what extent does he or she pay attention to the following:

<table>
<thead>
<tr>
<th>Item</th>
<th>5 A Great Deal</th>
<th>4</th>
<th>3 Some</th>
<th>2</th>
<th>1 Very Little</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offering positive feedback about your research work</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constructively criticizing your research work</td>
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</tr>
<tr>
<td>Encouraging you to talk openly about anxieties or fears that interfere with research</td>
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<tr>
<td>Providing advice about how to manage feelings of frustration with research</td>
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</tr>
<tr>
<td>Communicating interest in your ideas when you talk about research</td>
<td></td>
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<tr>
<td>Communicating respect regarding cultural differences in your relationship</td>
<td></td>
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<tr>
<td>Expressing appreciation for your contribution to research</td>
<td></td>
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<tr>
<td>Modeling competence in research-related skills</td>
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<tr>
<td>Observing connections between research and practice</td>
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<tr>
<td>Describing research as rewarding</td>
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</tr>
<tr>
<td>Discussing his/her research dilemmas with you</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expressing enthusiasm for research</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
6. Intended Commitment to Counselor Education

The following statements relate to ones intended commitment to counselor education. Respond to the statements below using a 6 point scale, where 1=Strongly Disagree, 2=Disagree, 3=Slightly Disagree, 4=Slightly Agree, 5=Agree and 6=Strongly Agree.

**16. Indicate your responses to the following statements.**

<table>
<thead>
<tr>
<th>Statement</th>
<th>1=StrONGLY Disagree</th>
<th>2=Disagree</th>
<th>3=Slightly Disagree</th>
<th>4=Slightly Agree</th>
<th>5=Agree</th>
<th>6=STRONGLY Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counselor education is important to my self-image.</td>
<td></td>
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<tr>
<td>I am happy to be entering the counselor education profession.</td>
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<tr>
<td>I will be proud to be in the field of counselor education.</td>
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<tr>
<td>I would like to be a counselor educator.</td>
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<tr>
<td>I strongly identify with the counselor education profession.</td>
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<tr>
<td>I am enthusiastic about counselor education.</td>
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</tr>
</tbody>
</table>

**17. Indicate your responses to the following statements.**

<table>
<thead>
<tr>
<th>Statement</th>
<th>1=StrONGLY Disagree</th>
<th>2=Disagree</th>
<th>3=Slightly Disagree</th>
<th>4=Slightly Agree</th>
<th>5=Agree</th>
<th>6=STRONGLY Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I believe that people who have been trained in counselor education have a responsibility to stay in that profession.</td>
<td></td>
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<tr>
<td>I feel an obligation to remain in counselor education.</td>
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<tr>
<td>I feel a responsibility to continue in counselor education.</td>
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<tr>
<td>Even if it were to my advantage, I do not feel that it would be right to leave counselor education right now.</td>
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<tr>
<td>I would feel guilty if I left counselor education.</td>
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<tr>
<td>I am in counselor education partly because of a sense of loyalty to the profession.</td>
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</tbody>
</table>

**18. Indicate your responses to the following statements.**

<table>
<thead>
<tr>
<th>Statement</th>
<th>1=StrONGLY Disagree</th>
<th>2=Disagree</th>
<th>3=Slightly Disagree</th>
<th>4=Slightly Agree</th>
<th>5=Agree</th>
<th>6=STRONGLY Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have too much time invested in counselor education to change occupations.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>It would be very costly for me, income-wise, to switch my profession.</td>
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<td></td>
</tr>
<tr>
<td>I have too much invested (e.g., education, personal effort) in counselor education to change occupations at this time.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>For me to enter another profession would require giving up a substantial investment in training.</td>
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</tr>
<tr>
<td>There would be a great emotional price involved (e.g., disrupted interpersonal relationships) in changing occupations.</td>
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<td></td>
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</tr>
<tr>
<td>It would be hard emotionally for me to change from counselor education because of the difficulties it would impose on my family.</td>
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</tr>
</tbody>
</table>
*19. Indicate your responses to the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1=Strongly Disagree</th>
<th>2=Disagree</th>
<th>3=Slightly Disagree</th>
<th>4=Slightly Agree</th>
<th>5=Agree</th>
<th>6=Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Given my background and experience, there are other attractive alternatives available to me in other professions.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I would have many options if I decided to change professions.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I am pleased that I have alternatives available for changing professions.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>If I left counselor education, I feel I would have desirable options to pursue.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
20. If you would like to be included in the random drawing for a $50 gift card to Target, provide your name and email address below. Four gift cards will be given away.

<table>
<thead>
<tr>
<th>Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email Address:</td>
</tr>
</tbody>
</table>

Appendix E

Consent Letter
The purpose of this study is to examine the research self-efficacy and research mentoring experiences of doctoral students in counselor education. Should you decide to take part in this study, you must be a doctoral student in a counselor education program. Additionally, you will be asked to answer 64 survey questions plus 11 demographic questions which should take approximately 25 minutes to complete. All responses to the questions will remain confidential. Additionally, responses will be collected and stored in a secured, password protected website.

Your participation in this study is voluntary. If you choose not to complete the survey, you may close out of the program at any time prior to hitting the “submit” and your answers will not be recorded. The results from this study will be reported in the researcher’s dissertation, a follow up article for publication and a presentation at a national conference. Since all responses will be confidential, no identifying information will be disseminated.

A $50 gift card to Target will be offered to 4 randomly selected participants who complete the survey. To receive the gift card, participants will need to give their name and email address. Providing this information is strictly voluntary and the information will be used only to contact the winner of the random drawing.

There are no known risks associated with this study, however; a benefit for taking part in this research may be the knowledge you will be providing may assist the counselor education profession in better understanding the impact research self-efficacy and research mentoring experiences has on doctoral students' future occupational goals.

You may contact the Chair, Human Subjects Institutional Review Board at (269) 387-8293 or the Vice President for Research (269) 387-8298 if questions or problems arise during the course of the study. You may also contact Glinda Rawls by email at glinda.rawls@wmich.edu or by phone at (269) 387-1850 or Dr. Stephen Craig, Dissertation Chair at stephen.craig@wmich.edu (269) 387-5100. This consent document has been approved for use for one year by the Human Subjects Institutional Review Board (HSIRB) as indicated by the stamped date and signature of the board chair in the upper right corner. Do not participate in this study if the stamped date is older than one year.

Your consent is needed to fully participate in this study. By clicking the “I agree to participate” circle you are acknowledging that you are aware of the nature and purpose of the study and wish to proceed onto the survey questions. By clicking the “I do not agree to participate” circle you are indicating you do not wish to participate in this study.

O I agree to participate  O I do not agree to participate
Appendix F

Email Invitations to Participants
Email to Participants

You are invited to participate in a dissertation research study. The aim of the study is to examine the research self-efficacy and research mentoring experiences of doctoral students in counselor education.

Your participation in this study is voluntary; however, in order to take part in this study, you must be a doctoral student in counselor education and supervision. Should you decide to participate, you will be asked to answer 75 survey questions which will take approximately 25 minutes to complete. Four randomly selected participants who complete the survey will receive a $50 gift card to Target. In order to receive the gift card, you will need to provide your name and email address. Providing this information is strictly voluntary and the information will be used for the sole purpose of contacting the winner of the gift card. All information collected from you in this study will be confidential.

Thanks for your assistance. If you have any questions or concerns, please feel free to contact me by email at glinda.rawls@wmich.edu or by phone at (269) 387-1850. You may also contact my dissertation chair at Western Michigan University, Dr. Stephen Craig by email at stephen.craig@wmich.edu or by phone (269) 387-5100.

To begin, please click on the survey link:

Sincerely,

Glinda Rawls, Doctoral Candidate
Counselor Education & Supervision
Western Michigan University
Second Reminder Email to Participants

This message is a reminder and a second invitation to participate in a dissertation research study which involves examining the research self-efficacy and research mentoring experiences of doctoral students in counselor education.

Your participation in this study is voluntary. Should you decide to participate, you will be asked to answer 75 survey questions which will take approximately 25 minutes to complete. Four randomly selected participants who complete the survey will receive a $50 gift card to Target.

While participation in this study is voluntary, participants who take part in this research may benefit from knowing they will be providing information that may assist the counselor education profession in better understanding the impact of research self-efficacy and research mentoring experiences on doctoral students' future occupational goals. All responses collected in this study will be confidential.

Thanks for your assistance. If you have any questions or concerns, please feel free to contact me by email at glinda.rawls@wmich.edu or by phone at (269) 387-1850. You may also contact my dissertation chair at Western Michigan University, Dr. Stephen Craig by email at stephen.craig@wmich.edu or by phone (269) 387-5100.

To begin, please click on the survey link:

Sincerely,

Glinda Rawls, Doctoral Candidate
Counselor Education & Supervision
Western Michigan University
Third Reminder Email to Participants

This message is a reminder and another invitation to participate in a dissertation research study which involves examining the research self-efficacy and research mentoring experiences of doctoral students in counselor education.

Your participation in this study is voluntary. Should you decide to participate, you will be asked to answer 75 survey questions which will take approximately 25 minutes to complete. Four randomly selected participants who complete the survey will receive a $50 gift card to Target.

While participation in this study is voluntary, participants who take part in this research may benefit from knowing they will be providing information that may assist the counselor education profession in better understanding the impact of research self-efficacy and research mentoring experiences on doctoral students’ future occupational goals. All responses collected in this study will be confidential.

Thanks for your assistance. If you have any questions or concerns, please feel free to contact me by email at glinda.rawls@wmich.edu or by phone at (269) 387-1850. You may also contact my dissertation chair at Western Michigan University, Dr. Stephen Craig by email at stephen.craig@wmich.edu or by phone (269) 387-5100.

To begin, please click on the survey link:

Sincerely,

Glinda Rawls, Doctoral Candidate
Counselor Education & Supervision
Western Michigan University
Final Reminder Email to Participants

This message is a reminder and a final invitation to participate in a dissertation research study which involves examining the research self-efficacy and research mentoring experiences of doctoral students in counselor education.

Your participation in this study is voluntary. Should you decide to participate, you will be asked to answer 75 survey questions which will take approximately 25 minutes to complete. Four randomly selected participants who complete the survey will receive a $50 gift card to Target.

While participation in this study is voluntary, participants who take part in this research may benefit from knowing they will be providing information that may assist the counselor education profession in better understanding the impact of research self-efficacy and research mentoring experiences on doctoral students’ future occupational goals. All responses collected in this study will be confidential.

Thanks for your assistance. If you have any questions or concerns, please feel free to contact me by email at glinda.rawls@wmich.edu or by phone at (269) 387-1850. You may also contact my dissertation chair at Western Michigan University, Dr. Stephen Craig by email at stephen.craig@wmich.edu or by phone (269) 387-5100.

To begin, please click on the survey link:

Sincerely,

Glinda Rawls, Doctoral Candidate
Counselor Education & Supervision
Western Michigan University
Appendix G

Gift Card Notification Letter
May 1, 2008

Dear Participant,

You were invited back in March to participate in a dissertation research project which involved research self-efficacy and research mentoring experiences among counselor education doctoral students. As an incentive to increase participant involvement in the research project, I offered 4 Target gift cards to randomly selected participants.

I am pleased to inform you that you were one of the randomly selected participants! Please provide me with an address of where you would like me to send the Target gift card. Also, I would like to email all participants who took part in the study letting them know that you are the Target gift card recipient.

Let me know if you are okay with me announcing your name. Again, thanks for being a part of this dissertation research project. I hope you enjoy the $50 gift card!

Glinda Rawls, MA, NCC, LPC
Doctoral Candidate
Counselor Education and Supervision
Western Michigan University
glinda.rawls@wmich.edu