

Spring 4-27-2019

A Phenomenological Study: The Lived Experiences of Females Enrolled in Nontraditional Programs in Career and Technical Education

Shawna Beth Little

Concordia University - Portland

Follow this and additional works at: <https://commons.cu-portland.edu/edudissertations>



Part of the [Education Commons](#)

CU Commons Citation

Little, Shawna Beth, "A Phenomenological Study: The Lived Experiences of Females Enrolled in Nontraditional Programs in Career and Technical Education" (2019). *Ed.D. Dissertations*. 274.

<https://commons.cu-portland.edu/edudissertations/274>

This Open Access Dissertation is brought to you for free and open access by the Graduate Theses & Dissertations at CU Commons. It has been accepted for inclusion in Ed.D. Dissertations by an authorized administrator of CU Commons. For more information, please contact libraryadmin@cu-portland.edu.

Concordia University–Portland

College of Education

Doctorate of Education Program

WE, THE UNDERSIGNED MEMBERS OF THE DISSERTATION COMMITTEE CERTIFY
THAT WE HAVE READ AND APPROVE THE DISSERTATION OF

Shawna Beth Little

CANDIDATE FOR THE DEGREE OF DOCTOR OF EDUCATION

Brianna Parsons, Ed.D., Faculty Chair Dissertation Committee

William Boozang, Ed.D., Content Specialist

Audrey Rabas, Ph.D., Content Reader

A Phenomenological Study: The Lived Experiences of Females Enrolled
in Nontraditional Programs in Career and Technical Education

Shawna Beth Little

Concordia University–Portland

College of Education

Dissertation submitted to the Faculty of the College of Education
in partial fulfillment of the requirements for the degree of
Doctor of Education in
Professional Inquiry, Leadership, and Transformation

Brianna Parsons, Ed.D., Faculty Chair Dissertation Committee

William Boozang, Ed.D., Content Specialist

Audrey Rabas, Ph.D., Content Reader

Concordia University–Portland

2019

Abstract

The purpose of this phenomenological study was to explore the lived experiences of female graduates of nontraditional programs of study in career and technical education to better understand how their experiences influenced their career choices. A total of 11 female graduates from the same career and technical center located in rural Pennsylvania were selected to represent the population for this study. Lent, Brown, and Hackett's (1994) social cognitive career theory (SCCT) was applied to examine how personal, behavioral, and environmental factors work together to influence an individual's career choices. Data collection for this study featured semistructured interviews with all participants, participants' personal artifacts, and the researcher's field notes. The four factors that were examined through data collection included the availability and presence of female role models, familial influence, gender roles and stereotypes, and self-efficacy. Following data collection, the participants' responses were coded and organized into six themes: increased self-efficacy, bullied by male peers, need to prove oneself, lack of female role models in nontraditional occupations, familial influence, and not being challenged by their instructors. The emerging themes provided a foundation for how to better support female students enrolled in nontraditional programs of study in career and technical education. The findings from this study could be shared with career and technical education administrators as they strive to increase nontraditional participation and completion rates in qualifying programs of study.

Keywords: career and technical education, females, nontraditional occupations, nontraditional enrollment, gender equity, gender stereotypes

Dedication

This dissertation is dedicated to the memory of my nephew, Parker Blaine Means. Because I knew you, I have been changed for good.

Acknowledgments

The completion of this dissertation would not have been possible without the support of so many people in my life. While it is impossible to thank everyone who has supported me over the last four years, I want to publicly acknowledge the following:

Dr. Parsons: My rationale for initially selecting you as my advisor, your love of beagles, turned out to be one of the best decisions I have ever made. Your guidance, support, and encouragement over the last two years was exactly what I needed. I could not have done this without you, and I am forever grateful. You are such an inspiring person, and getting to know you and your story was such an incredible experience. I look forward to staying in touch and continuing to discuss our shared love of beagles.

Dr. Rabas and Dr. Boozang: Thank you both for your insight, feedback, and support throughout the dissertation process. I was very fortunate to have such a fantastic committee that pushed me to be the best writer I could be.

Joyce: While we may have never met, you were my rock throughout this process. Having you to bounce ideas off of, commiserate with, and celebrate with was the highlight of this entire experience. It is amazing how close you can get to someone because of a shared experience, and that is exactly what happened with us. Thank you for always being a text, email, or phone call away. My hope is that this is the beginning of a life-long friendship.

Aunt Linda: Thank you for suggesting Concordia's doctoral program that night at Bud Murphy's. You gave me the motivation I needed to take the plunge and apply. Your support and encouragement as I progressed through the program was much-appreciated, and I am glad you will be there when I graduate.

Kelsey: Thank you for always having my back and for making me an aunt. It is my favorite title to date.

To my grandparents: I was fortunate to have known all of you for many years, and while only one of you is here to celebrate with me, I know the rest of you are smiling down on me with pride. Thank you for giving me such a fantastic childhood filled with memories I will cherish forever. Your unwavering love and support gave me the confidence I have today.

To my parents: Thank you for all the sacrifices you made over the years to give me the opportunities that shaped me as a person. I will never be able to thank you both for all that you have done for me, but please know that I never took anything for granted. I know how lucky I am to have parents who have always believed in me and supported my dreams. Mom, you will always be my biggest fan and the enabler of my crazy, superstitious behavior. Your pep talks helped get me through the last four years. Dad, you have always pushed me to be the best version of myself, and while we may have butted heads at times, it is only because we are so much alike. I take it as a compliment when people say I remind them of you. I love you both and am proud to be your daughter.

Deuce, Sidney, and Scout: Thank you for keeping me company while I was writing! I could not have done it without the companionship of my “office cats!”

Rachel: Last, but certainly not least, I must thank the most important person in my life. Thank you for being my confidant, my champion, and my best friend. You are the calm to my crazy, and I could not have survived the last four years without you by my side. I cannot wait to see what the future holds for us.

Table of Contents

Abstract.....	ii
Dedication.....	iii
Acknowledgements.....	iv
List of Tables.....	xiii
List of Figures.....	xiv
Chapter 1: Introduction.....	1
Background, Context, and History of the Problem.....	3
Conceptual Framework for the Problem.....	4
Statement of the Problem.....	5
Purpose of the Study.....	5
Research Questions.....	6
Rationale, Relevance, and Significance of the Study.....	6
Definition of Terms.....	7
Delimitations, Limitations, and Assumptions.....	9
Summary.....	10
Chapter 2: Literature Review.....	12
The Study Topic.....	13
The Context.....	13
The Significance.....	14
The Problem Statement.....	15
The Organization.....	16
Conceptual Framework.....	16

Personal Narrative.....	17
Topical Research.....	18
Female role models.....	19
Familial influence.....	20
Gender roles and stereotypes.....	20
Self-efficacy.....	21
Theoretical Framework.....	21
Review of the Research Literature and Methodological Literature.....	22
Financial Stability for Females.....	23
Workforce Development.....	23
Public Education.....	24
Factors Influencing Females’ Nontraditional Career Choices.....	25
Female Role Models.....	25
Gender Roles and Stereotypes.....	26
Familial Influence.....	27
Self-efficacy.....	28
Review of Methodological Issues.....	29
The Researcher.....	30
Mixed Methods Research.....	30
Quantitative Research.....	31
Qualitative Research.....	32
Summary.....	34
Synthesis of Research Findings.....	35

Gender Roles and Stereotypes.....	36
Female Role Models.....	36
Familial Influence.....	37
Self-efficacy.....	37
Critique of Previous Research.....	38
Qualitative Studies.....	38
Quantitative Studies.....	40
Summary.....	41
Chapter 3: Methodology.....	43
Research Questions.....	44
Purpose and Design of the Study.....	45
Research Population and Sampling Method.....	46
Instrumentation.....	48
Pilot study.....	49
Data Collection.....	50
Semistructured interviews.....	50
Artifacts.....	52
Field notes.....	53
Member checking.....	53
Identification of Attributes.....	53
Data Analysis Procedures.....	54
Limitations of the Research Design.....	55
Validation.....	56

Credibility.....	56
Dependability.....	57
Pilot study.....	58
Expected Findings.....	58
Ethical Issues.....	59
Conflict of interest assessment.....	59
Researcher’s position.....	60
Ethical issues in the study.....	60
Summary.....	61
Chapter 4: Data Analysis and Results.....	62
Description of the Sample.....	66
Pilot Study.....	68
Pilot study participant 1.....	69
Pilot study participant 2.....	69
Description of Sample (or Participants).....	69
Participant 1.....	69
Participant 2.....	70
Participant 3.....	70
Participant 4.....	70
Participant 5.....	70
Participant 6.....	70
Participant 7.....	71
Participant 8.....	71

Participant 9.....	71
Participant 10.....	71
Participant 11.....	72
Research Methodology and Analysis.....	72
Phenomenology.....	73
Saturation of data.....	73
Problems that occurred during data analysis.....	74
Four stages of data analysis.....	75
Data gathering.....	75
Interview transcription process.....	78
Analyzing and coding the data.....	78
Theme development.....	79
Summary of the Findings.....	81
Theme 1: self-efficacy.....	82
Subthemes: a sense of accomplishment and overcoming barriers to success.....	83
Theme 2: bullying by male peers.....	84
Subthemes: made to feel inferior based on gender and collective bullying.....	84
Theme 3: need to prove oneself.....	85
Subthemes: motivated to succeed in a man’s world and work harder to prove their worth.....	85
Theme 4: lack of female role models in nontraditional occupations.....	86
Subthemes: male instructors, exposure to female role models, and alumnae network.....	87

Theme 5: familial influence.....	88
Subthemes: working mothers and blue-collar fathers.....	89
Theme 6: not being challenged by their instructors.....	90
Subthemes: gender stereotypes and unequal learning environment.....	90
Presentation of Data and Results.....	91
Chapter 4 Summary.....	93
Chapter 5: Discussion and Conclusion.....	94
Summary of the Results.....	95
Research question one.....	95
Research question two.....	97
Discussion of the Results.....	98
What do the results mean.....	99
Discussion of the Results in Relation to the Literature.....	100
Limitations.....	104
Implication of the Results for Practice, Policy, and Theory.....	106
Implications of the results for practice.....	107
Implications for females.....	107
Implications for the workforce.....	108
Implications for public education policy.....	109
Implications of the results for theory.....	110
Recommendations for Further Research.....	113
Recommendations from methodology.....	114
Recommendations from the data.....	115

Recommendations from delimitations.....	115
Conclusion.....	116
References.....	119
Appendix A: 2016–2017 Performance Levels.....	128
Appendix B: 2017–2018 Performance Levels.....	129
Appendix C: Consent Form.....	130
Appendix D: Semistructured Interview Protocol.....	132
Appendix E: Statement of Original Work.....	135

List of Tables

Table 1 <i>Career and Technical Center Enrollment Information</i>	47
Table 2 <i>A Brief Overview of the Participants</i>	72
Table 3 <i>The Artifacts Participants Brought to Their Interview</i>	77
Table 4 <i>Themes and Subthemes</i>	80

List of Figures

Figure 1 <i>The elements of the conceptual framework</i>	17
--	----

Chapter 1: Introduction

In the United States, a significant wage gap exists between men and women as women who work a full-time, year-round job earn only 78% of men's annual earnings, and this wage gap persists because traditionally female occupations have a lower earning potential compared to traditionally male occupations (Inanc, Needels, & Berk, 2017). The disparity between men's and women's earnings is an important consideration because research indicates that "women are now the primary or co-breadwinner in half of all families with children younger than 18 years" (Hegewisch & Williams-Baron, 2017, p. 6). The tendency for females to pursue occupations traditional for their gender has left them underrepresented in the skilled trades. While jobs in the skilled trades are considered nontraditional occupations for females, they possess a higher earning potential for females than jobs considered traditional for their gender (Inanc et al., 2017). In addition to a higher earning potential for women, having more females employed in the skilled trades has advantages for employers as well including overcoming skills shortages in "middle skills" occupations and improving safety at worksites (Inanc et al., 2017). While it is clear that pursuing nontraditional occupations would financially benefit females and positively impact the workforce, certain barriers exist that contribute to the underrepresentation of females in nontraditional occupations.

In public education at the secondary level, career and technical centers are in place to provide hands-on, vocational training, offer educational pathways and teach students technical skills in preparation for a successful transition to post-secondary education opportunities and the workforce. Career and technical centers offer programs of study in various trades, and the curriculum includes both traditional and nontraditional programs of study. However, research indicates that females benefit less from their career and technical education experience than male

students (Camera, 2016). This is significant because gender equity and nontraditional career growth in career and technical education are prioritized in the Carl D. Perkins Career and Technical Education Improvement Act of 2006, and both nontraditional participation and nontraditional completion are two of the six required core indicators of performance at the secondary level. Even though gender equity is a priority in career and technical education, many career and technical centers are failing to meet the required nontraditional participation and nontraditional completion performance indicators established by the Perkins Act of 2006 (Pennsylvania, 2018).

Previous studies have identified several factors that influence females' nontraditional career choices including exposure to female role models (Cutshall, 2002; Milgram, 2011), familial influence (Jacobs, Chhin, & Bleeker, 2006; Wagner, 2013), gender roles and stereotypes present in society (Farrington, 2012; Hall, 2016; Patterson, 2012), and an individual's self-efficacy (Bullock-Yowell et al., 2012; Ericksen & Schultheiss, 2009). However, a gap in the literature exists because previous research failed to explore career and technical education and nontraditional enrollment in programs of study. Previous studies offered no suggestions for improving the recruitment and retention of females in career and technical education and failed to examine the reasons behind females' lack of nontraditional enrollment and completion in career and technical education. Rather, a majority of the research focused on best practices in the recruitment of females to careers in STEM (Costello, 2012; Doerschuk et al., 2016; Milgram, 2011; Togliola, 2013). As a result, there is a need to expand on previous research of females' experiences in STEM and inquire about females' experiences in nontraditional programs of study in career and technical education to better understand how their educational experience is impacting their nontraditional career choices.

This phenomenological study explored the lived experiences of female graduates of nontraditional programs of study from a rural Pennsylvania career and technical center to understand why females choose to pursue female-dominated occupations. The career and technical center that served as the setting for this study was chosen because it failed to meet secondary performance levels for nontraditional completion as established by Perkins in both 2016–2017 and 2017–2018 (see Appendix A for 2016–2017 performance levels and Appendix B for 2017–2018 performance levels). Additionally, the principal investigator was employed at this career and technical center at the time of data collection.

In Chapter 1, the numerous components that comprised this phenomenological research study are presented including the background, context, and history of the study, along with the conceptual framework, a statement of the problem, and the study's purpose. Also, an introduction of the research questions that guided the study is provided, as well as a discussion of the rationale, relevance, and significance of the study. Lastly, important terms associated with the study are defined, and an overview of the delimitations and limitations of the study are provided.

Background, Context, and History of the Problem

In 2006, the Carl D. Perkins Career and Technical Education Improvement Act, also known as the Perkins Act of 2006, was passed with the intent to endorse a positive change in career and technical education by expanding access to all students, regardless of their gender (Meeder, 2008). One of the priorities of the Perkins Act of 2006 was gender equity in nontraditional gender career growth, which mandated that career and technical centers increase female enrollment in nontraditional programs of study. To meet this mandate, career and technical centers are required to provide equal opportunities for all students, regardless of

gender. As a result of this federal legislation, career and technical centers are held accountable for the academic achievement of their students through established performance indicators, two of which are based on nontraditional enrollment and completion of Programs of study. This mandate has created a new set of circumstances for career and technical centers as they are forced to adapt to the rapidly changing environment of career and technical education by improving their numbers in both nontraditional enrollment and completion (Meeder, 2008).

Conceptual Framework for the Problem

In a qualitative study, the conceptual framework includes the researcher's personal narrative, topical research previously published on the subject, and an explanation of the theoretical frameworks applied to the research (Berman, 2013). As a workforce development coordinator at a career and technical center in Pennsylvania, I believed it was worth investigating why females are underrepresented in nontraditional careers because, throughout my career, I have observed how females tend to favor careers in the helping professions, which are low-paying fields. Additionally, previous research indicates that the underrepresentation of women in nontraditional careers is a meaningful topic to explore because women employed in nontraditional careers make 20% more than women in traditional careers (Clark, 2000).

In addition to the researcher's personal narrative and previous topical research, the theoretical framework is the final component in the conceptual framework. In this study, the theoretical framework that was applied was SCCT, which examines how personal, behavioral, and environmental factors work together to influence an individual's career choices (Sickinger, 2013). SCCT features three distinct components: self-efficacy beliefs, outcome expectations, and personal goals (Bullock-Yowell, Katz, Reardon, & Peterson, 2012). Since the primary goal of this study was to identify and examine the factors influencing females' nontraditional career

choices, SCCT supports and justifies the importance of this research as it seeks to uncover the many factors influencing females' nontraditional career choices.

Statement of the Problem

Females choose to work in female-dominated occupations that have less earning potential, even though nontraditional occupations provide more opportunities for upward social mobility, higher earning potential, and economic security (Hegewisch & Williams-Baron, 2017). To understand why females continue to enter careers that are traditional for their gender, this phenomenological study examined the factors influencing females' understanding and experience with nontraditional career choices based on their personal experiences as nontraditional students in career and technical education.

Purpose of the Study

The purpose of this study was to examine females' lived experiences with nontraditional programs of study in career and technical education and understand how their experiences impacted their nontraditional career choices. This study used the results to make recommendations for change and establish best practices in recruitment and retention of females in nontraditional programs of study in career and technical education. Additionally, the results of this phenomenological study provided career and technical administrators with insight into the lived experiences of females' enrolled in nontraditional programs of study, which could be used to improve the quality of career and technical education, increase female participation in and completion of nontraditional programs of study, and improve the institution's overall score in Perkins performance indicators.

Research Questions

This study was designed to answer the following research questions:

- RQ₁. How do female, career and technical education graduates perceive and describe their experience with nontraditional programs of study?
- RQ₂. How do female, career and technical education graduates' experiences in nontraditional programs of study influence their career choice?

Rationale, Relevance, and Significance of the Study

Its potential value determined this study's significance for the following groups: females, the workforce, and public education. The absence of females from traditionally male programs of study in career and technical education is significant and warrants attention because research indicates that females enrolled in traditionally male programs of study earn higher wages over their lifetime compared to those enrolled in traditionally female programs of study (Grayson, 2017). The results of this study provided females with insight into the factors influencing their nontraditional career choices and educated them in the pay differential between traditional and nontraditional careers, which may assist them in making more informed decisions about their occupational goals at a younger age (Inanc et al., 2017).

In addition to its value for females, this study positively impacted the workforce by identifying ways in which companies, businesses, and labor unions can increase the number of females in nontraditional occupations. Currently, the Department of Labor and Industry offers many federally funded programs including Registered Apprenticeships and Trade Adjustment Assistance that provide employment services and training opportunities, but women are underrepresented in these programs (Inanc et al., 2017). The results of this study positively impacted the workforce by increasing females' interest, awareness, and participation in

nontraditional occupations, which addresses the middle-skills gap through increased participation in the programs offered by the Department of Labor and Industry.

Lastly, the final group this study benefited was public education, specifically career and technical centers. Career and technical centers specialize in preparing students for skilled trades, and as a public education entity, these institutions are bound by the Perkins Act of 2006 to establish an equitable learning environment for all students, regardless of gender (Meeder, 2008). However, many career and technical centers struggle to comply with nontraditional enrollment and completion numbers and risk sanctions from the Department of Education (Perkins, 2006). The results of this study provided career and technical administrators interested in implementing a nontraditional recruitment and retention initiative at their institution with specific strategies to improve the institution's overall score in Perkins performance indicators tied to nontraditional enrollment and completion.

Definition of Terms

The following is a list of definitions of the key terms used throughout the study:

Career and Technical Center (CTC): A specialized, public secondary school that offers a minimum of three programs of study available to all students to teach technical skills and prepare students for high-skill, high-wage, occupations upon graduation (Hamilton, Malin, & Hackmann, 2015).

Career and Technical Education (CTE): Educational programs, formerly known as vocational education, at the secondary level that specialize in the skilled trades, applied sciences, modern technologies, and career preparation and provide students with both the academic and technical skills training necessary to succeed in the workforce (Grayson, 2017).

The Carl D. Perkins Career and Technical Education Improvement Act of 2006: This legislation was signed into law by President George W. Bush on August 12, 2006, with the purpose of developing the academic and technical skills of both secondary and post-secondary students enrolled in career and technical education programs across the country and established a mandate for gender equity in career and technical education (Meeder, 2008).

Nontraditional career: A nontraditional career is defined as one where individuals from one gender comprise less than 25% of the individuals employed in each occupation or field of work (Hall, 2016).

Phenomenology: A qualitative approach to inquiry that describes the meaning for several individuals of their lived experiences of a concept of a phenomenon by examining what they experienced and how they experienced it (Moustakas, 1994).

“Pink Collar” programs: “Pink Collar” programs are defined as areas of work traditional for females, such as cosmetology, healthcare, and other helping professions that are lower-paying (Sullivan, 2002).

Programs of study (POS): A coordinated, continuous, nonduplicative sequence of rigorous course work over a three-year period that integrates technical skills with academic content that is aligned with state standards, prepares students for the workforce and postsecondary education, and culminates in the attainment of a recognized industry credential (Grayson, 2017).

Self-efficacy: Self-efficacy is defined as the belief one holds regarding their ability to complete specific tasks and behaviors (Bullock-Yowell et al., 2012).

Social mobility: Social mobility is defined as the opportunity of moving on in one’s life through work (Taylor, Servage, & Hamm, 2014).

Delimitations, Limitations, and Assumptions

A phenomenological research design is never completely free of interference, and as a result, specific delimitations, limitations, and assumptions were present in this study (Creswell, 2013). This study was delimited by gender because the participants were all female, and no males were included in the study. A second delimitation was that all the participants were graduates of the same career and technical center, which limited the scope of the study. Lastly, the study was conducted in rural Pennsylvania, and the socioeconomic status of this region may not be generalizable to other parts of the state or country.

In addition to delimitations, one important limitation impacted this study. Since this was a phenomenological study utilizing semistructured interviews as the primary data collection method, I served as the primary instrument. As a result, my individual biases had the potential to influence the data collection process. While it can be a challenge to bracket personal experiences due to the presence of such biases, they were controlled through the use of reflexivity, which is when the researcher actively anticipated how the research could be compromised (Galletta, 2013).

When conducting a qualitative study, the researcher agrees to certain underlying philosophical assumptions (Creswell, 2013). It is then up to the researcher to bring their own perspective to shape the direction of the study. For this phenomenological study, a semistructured interview protocol that featured open-ended questions was used for the participants to describe their lived experiences as females enrolled in nontraditional programs of study in career and technical education. It was assumed that all participants answered the interview questions as honestly as possible. To encourage openness and honesty in participant responses, confidentiality was preserved through the use of numbers rather than names in the

results. Even with the presence of the delimitations, limitations, and assumptions presented above, the results of this study have value for career and technical education administrators and educators as they aim to increase female participation in and completion of nontraditional programs of study and improve their institution's overall score in Perkins performance indicators.

Summary

Career and technical centers serve an important purpose as it exposes females to nontraditional career opportunities at the secondary level. However, females enrolled in nontraditional programs of study in career and technical education may experience unique challenges throughout their educational experience, and their experiences can impact their career choices as adults. Additionally, the disparity that exists between men's and women's earnings is a result of females' propensity to pursue occupations traditional for their gender, and this tendency has left them underrepresented in the skilled trades. The purpose of this phenomenological study was to examine females' lived experiences with nontraditional programs of study in career and technical education and understand how their experiences impacted their nontraditional career choices. This study was relevant and significant for females, the workforce, and public education as it aimed to increase females' interest, awareness, and participation in nontraditional occupations.

This chapter began with an overview of the study through the background, context, and history of the problem followed by a brief discussion of the conceptual framework, problem statement, and the purpose of the study. The definitions section consisted of the key terms in the study to provide readers with a more thorough understanding of the study topic. The

delimitations and limitations section discussed the challenges present in the study and how I addressed them.

In Chapter 2, an overview of the topical literature is provided along with a detailed description of the conceptual framework through a discussion of its three components: the researcher's personal narrative, topical research previously published on the subject, and an explanation of the theoretical frameworks applied to the research. Additionally, the factors that influence females' nontraditional career choices identified in previous research are presented including female role models, familial influence, gender roles and stereotypes present in society, and an individual's self-efficacy. Lastly, a critique of previous research and methodologies are provided, which serves as a justification for the selection of a phenomenological research design for this study.

Chapter 2: Literature Review

Career and technical education is plagued by gender segregation and stereotyping as traditionally male programs of study persist and perpetuate gender inequity at the secondary level (Scott et al., 2003). While career and technical education is responsible for connecting employers with the skilled employees they need, females benefit less from their educational experience than their male counterparts (Camera, 2016). According to the National Alliance for Partnerships in Equity (2014), in 2012, 47% of students enrolled in career and technical education centers in the United States were females. However, females tend to be overwhelmingly clustered into low-wage, low-skill, programs of study. According to the National Women's Law Center (2014), women outnumber men in low-wage jobs, making up 57 percent of workers paid under \$15 an hour, which is not a livable wage.

As educational institutions, career and technical centers are bound by the Perkins Act of 2006 to create an equitable learning environment for all students and are held accountable for students' academic achievement through established performance indicators (Meeder, 2008). Equity in career and technical education is prioritized in the Perkins Act of 2006 as one of the six required core indicators of performance at the secondary level is student participation in, and completion of, programs that lead to nontraditional fields (Dortch, 2012). However, many career and technical centers fail to meet the required nontraditional participation and nontraditional completion performance indicators outlined in the Perkins Act of 2006.

Numerous studies have attempted to identify best practices in the recruitment of females to careers in science, technology, engineering, and math (Costello, 2012; Doerschuk et al., 2016; Milgram, 2011; Toglia, 2013). However, missing from this research is how to recruit females to programs considered nontraditional for females. The aim of this phenomenological study was to

identify the factors influencing females' nontraditional career choices by examining the lived experiences of female graduates from nontraditional programs of study from a rural Pennsylvania career and technical center.

The Study Topic

This study sought to understand how career and technical centers can successfully increase nontraditional participation and completion in qualifying programs of study. The focus of this study was on the factors that influence females' understanding and experience with nontraditional career choices and how career and technical centers can use this information to recruit females to nontraditional programs of study. For this study, it was necessary to define the term nontraditional career. It is defined as any occupation or career where women or men comprise 25% or less of the total employment (Grayson, 2017). The key idea present in this study is that of gender equity, and how it is supported by the research because of the positive impact it has on females, the workforce, and public education. The goal of this study was to understand the factors that influence females' understanding of and experience with nontraditional career choices for career and technical centers to be better equipped with strategies to recruit females to nontraditional programs of study.

The Context

Research has shown that gender influences students' occupational choices (Hamilton et al., 2015). For example, females are nearly twice as likely to pursue a career in the service fields while males are 20 times more likely to pursue a career in the construction trades (Hamilton et al., 2015). Based on the lack of gender equity that exists in certain career and technical education programs of study, the Carl D. Perkins Career and Technical Education Improvement Act of 2006, also known as the Perkins Act of 2006, was passed with the intent to enact positive

change in career and technical education by expanding access to all students (Meeder, 2008). In 2017, a bipartisan bill was introduced in the U.S. House of Representatives that recommended updates to the Perkins Act of 2006, with the specific goal of filling high-priority occupations (Fain, 2017). In 2018, the Trump administration openly criticized the Perkins Act of 2006 and expressed their intention to amend it to improve student outcomes by aligning with local workforce needs (Hyslop, 2018).

One of the focal points of the Perkins Act of 2006 was nontraditional gender career growth, which mandated that career and technical centers increase female enrollment in nontraditional programs of study. To meet this mandate, career and technical educators must provide equal opportunities for all students, regardless of gender. As a result of the federal legislation, career and technical centers are held accountable for the academic achievement of their students through established performance indicators. Two of the performance indicators are nontraditional participation and nontraditional completion, which are measured using enrollment data for each nontraditional program of study. The pressure of meeting performance indicators has created a new set of circumstances for career and technical centers as they are forced to adapt to the rapidly changing environment of career and technical education (Meeder, 2008).

The Significance

Female students tend to gravitate toward “pink collar” programs, which are defined as areas of work traditional for females, such as cosmetology or healthcare, but they are underrepresented in traditionally male programs of study (Sullivan, 2002). According to the National Coalition for Women and Girls in Education (as cited in Toglia, 2013), “Female students make up 98% of the students enrolled in cosmetology, 87% of childcare students, and

86% of those in health-related courses in career and technical centers in the United States” (p. 14). The absence of females from traditionally male programs of study is significant and warrants attention because the country’s current labor market needs workers in the skilled trades (Kochan, Finegold, & Osterman, 2012).

Additionally, this study was significant because it acknowledged the gender disparities that exist in social mobility. Social mobility is defined as the opportunity of moving on in one’s life through work, and education and occupation play central roles in determining an individual’s social mobility (Taylor et al., 2014). Therefore, this study sought to examine the factors that influence females’ nontraditional career choices, which included their educational experiences at career and technical centers. This study was significant for females because it demonstrated how females’ tendency to favor “pink collar” positions in the workforce limits their social mobility in comparison to their male counterparts. However, this study positively impacted females’ social mobility by providing career and technical centers with information that encourages them to pursue nontraditional occupations.

The Problem Statement

The underlying problem addressed in the study is why females shy away from careers that are nontraditional for their gender, even though these careers provide opportunities for upward social mobility. To understand why females prefer lower-paying, traditional occupations for their gender, this study examined the factors influencing females’ understanding and experience with nontraditional career choices. By understanding the factors that influence females’ nontraditional career choices, career and technical centers are better equipped to recruit and retain females in programs that are considered nontraditional for females. Additionally, career and technical centers in Pennsylvania are mandated by law to provide an equitable

learning environment for male and female students. They are required to meet performance indicators for nontraditional participation and nontraditional completion established by the Perkins Act of 2006. Therefore, the following research questions were addressed in this study: How do female, career and technical education graduates perceive and describe their experience with nontraditional programs of study, and how do female, career and technical education graduates experiences in nontraditional programs of study influence their career choice?

The Organization

This chapter is organized to review previous literature on the factors influencing females' nontraditional career choices. First, this chapter describes the theoretical framework, Social cognitive career theory (SCCT), which forms the foundation of my research. Next, this chapter discusses the research literature and methodological literature associated with this study, specifically examining the significance of the research and its impact on females, workforce development, and public education. Keyword searches included "gender equity," "career and technical education," "nontraditional occupations," "nontraditional enrollment," and "the Perkins Act of 2006." Online educational databases provided by Concordia University Library were used including ProQuest, the Wiley Online Library, ERIC, and Taylor & Francis Online; Google Scholar was used to research relevant literature as well.

Conceptual Framework

A conceptual framework is a key component in research design as it supports and informs the research (Berman, 2013). The conceptual framework is a collection of what previous literature revealed about the topic and how the researcher plans to organize and justify the research being conducted. In a study, the conceptual framework includes the researcher's professional educational context, or personal narrative, topical research that has been previously

published on the subject, and an explanation of the theoretical frameworks applied to the research (Berman, 2013). For this study, the theoretical framework applied to the study was social cognitive career theory (SCCT), which examines how personal, behavioral, and environmental factors work together to influence an individual's career choices (Sickinger, 2013). The goal of the research was to identify the factors influencing females' nontraditional career choices, and my conceptual framework contained the three necessary components to support and inform my research (see Figure 1).

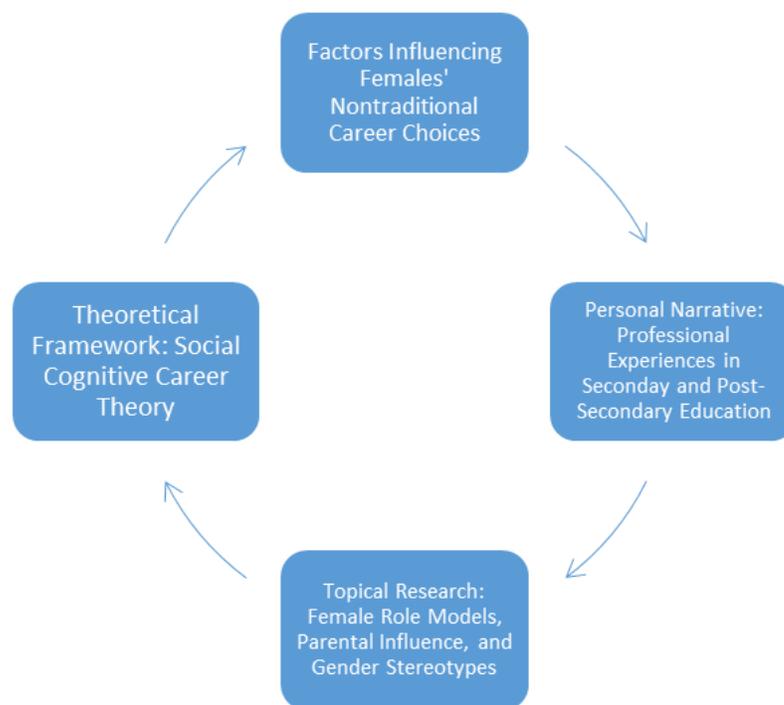


Figure 1. The elements of the conceptual framework.

Personal Narrative

As an educator for over 12 years, I have experience working in both secondary and post-secondary education as an academic advisor, admissions counselor, and currently, a workforce development coordinator at a career and technical center. During this time, I have attended several conferences and professional development opportunities to learn about increasing gender

equity in education. I have also assisted Career and Technical Education (CTE) teachers with nontraditional student recruitment efforts at the elementary and middle school level. Through my professional experiences, I have observed that women and girls tend to favor “pink collar” positions in human services and cosmetology, which are low-paying fields (Sullivan, 2002). As a workforce development coordinator at a career and technical center in Pennsylvania, I believed it was worth investigating why females are underrepresented in nontraditional careers by examining the factors influencing females’ career choices.

Topical Research

A nontraditional career is defined as any career where one gender comprises 25% or less of the total employment in that field (Grayson, 2017). For this study, the focus was on the underrepresentation of women in nontraditional careers and the factors that influence females’ nontraditional career choices. While the number of women in professional occupations, such as law and medicine, has increased over the last 30 years, the percentage of women employed in nontraditional occupations has remained fairly consistent (Ericksen & Schultheiss, 2009).

According to Ericksen and Schultheiss (2009):

The percentage of women who typically hold these positions includes construction and maintenance painters 6.9%, construction laborers 2.7%, sheet metal workers 3.7%, carpenters 1.9%, electricians 1.7%, pipe layers, plumbers, and pipefitters 1.5%, and operating engineers and other construction equipment operators 2.7%. (p. 69)

The lack of growth in the number of females employed in nontraditional fields such as those presented above warranted a closer look at the factors influencing females’ nontraditional career choices.

One reason for the consistency is that females still tend to select careers that are service-oriented and involve personal relationships, and they shy away from careers requiring mathematical ability and analytical reasoning skills, which are characteristics typically associated with male careers (Clark, 2000). These “pink collar” positions are areas of work traditional for females, such as cosmetology or health care, which are low-paying (Sullivan, 2002). As a result, females comprise more than 80% of students enrolled in programs that prepare them for positions in childcare and cosmetology, which pay less than traditionally male positions in construction, welding, and machining (Grayson, 2017). The underrepresentation of women in nontraditional careers is alarming because women employed in nontraditional careers make 20% more than women in traditional careers (Clark, 2000). As a result of the disparity in the number of females employed in nontraditional occupations, it was essential to identify and examine the factors influencing females’ nontraditional career choices.

Female role models. One factor influencing females’ nontraditional career choices is the availability and presence of female role models. Research indicates that young girls must be exposed to female role models in nontraditional occupations because the idea that females can find success in nontraditional careers must repeatedly be reinforced (Milgram, 2011). To encourage females to pursue nontraditional careers, it is important to send the message that females can be employed in nontraditional occupations and find success professionally while still having a family (Milgram, 2011). This type of exposure to female role models in nontraditional careers must start in early in girls’ educational experiences (Cutshall, 2002). Therefore, it is important for educators to make a concerted effort to invite females working in nontraditional careers to speak to students at the elementary, middle, and high school level about the opportunities available to them.

Additionally, industries are recognizing the importance of promoting females in nontraditional careers, and companies are creating career exploration camps to expose girls to nontraditional career fields and establish mentoring relationships between women and girls employed in nontraditional careers (Cutshall, 2002). One example was BE&K, a construction and engineering company in Alabama, that partnered with a local high school and offered female students hands-on training in construction. After students completed the two-year, dual enrollment program, they were hired by the company in an entry-level position. BE&K successfully established a recruitment pipeline from their local high school using career awareness initiatives geared towards females in nontraditional careers.

Familial influence. In addition to exposure to female role models, another factor influencing females' nontraditional career choices is their family. Research indicates that the family unit is one of the strongest influences on a child's occupational choice (Wagner, 2013). Regarding nontraditional careers, studies have shown that the gender stereotypes held by parents significantly impact whether their children choose to pursue traditional or nontraditional careers as adults (Jacobs et al., 2006). Additionally, when looking specifically at females, studies have shown that mothers who are employed are more likely to raise daughters with greater career aspirations (Wagner, 2013).

Gender roles and stereotypes. A third factor influencing females' nontraditional career choices is the presence of gender roles and stereotypes in society. Research indicates that the perpetuation of gender stereotypes is why females do not consider nontraditional careers, even with the promise of financial security (Hall, 2016). This has resulted in an "I don't belong here" phenomenon amongst females, and it is often used as an excuse for why females avoid occupations that are nontraditional (Farrington, 2012). Additionally, an individual's gender self-

image can influence the type of career and occupation they select, and this type of self-realization occurs as early as elementary school (Patterson, 2012).

Self-efficacy. The final factor influencing females' nontraditional career choices is their self-efficacy. Self-efficacy, which is a component featured in SCCT, is classified as the belief one holds regarding their ability to complete specific tasks and behaviors (Bullock-Yowell et al., 2012). For example, a person with high self-efficacy believes strongly in their ability to perform a task while a person with low self-efficacy lacks confidence in their ability to perform the task at hand. Since individuals' self-efficacy is strengthened through learning experiences, females' self-efficacy only increases if they are provided with opportunities to enhance their skills in nontraditional careers (Ericksen & Schultheiss, 2009).

Theoretical Framework

According to Eisenhart, (as cited in Grant & Osanloo, 2014) a theoretical framework is defined as “a structure that guides research by relying on a formal theory constructed by using an established, coherent explanation of certain phenomena and relationships” (p. 13). The theoretical framework serves as the basis for the literature review, and it can be compared to the blueprint of a house because of the way it influences every decision a researcher makes throughout the research process (Grant & Osanloo, 2014). For this study, the theoretical framework applied was SCCT, which is an existing theory that examines how personal, behavioral, and environmental factors work together to influence an individual's career choices (Sickinger, 2013).

In SCCT, the focus is on three distinct components: self-efficacy beliefs, outcome expectations, and personal goals (Bullock-Yowell et al., 2012). The first component, self-efficacy, is classified as the belief one holds regarding their ability to complete specific tasks and

behaviors (Bullock-Yowell et al., 2012). For example, if a female CTE student believes she is a good welder, she is likely to enroll in the welding program compared to a female with low self-efficacy in this task. Self-efficacy is strengthened through individuals' learning experiences, which include exposure to positive role models (Ericksen, & Schultheiss, 2009). The second component, outcome expectations, are defined as the imagined results an individual attaches to a behavior (Sickinger, 2013). Lastly, goals determine what an individual seeks to achieve with a specific outcome in mind (Sickinger, 2013).

Since the primary goal of this research was to identify and examine the factors influencing females' nontraditional career choices, SCCT naturally applied to this research. Using SCCT as the theoretical framework supported and justified the importance of this research as its goal was to uncover the many factors influencing females' nontraditional career choices. This study intended to provide career and technical educators with information that could be used to formulate recruitment and retention strategies to increase the number of female students enrolled in nontraditional programs of study.

Review of the Research Literature and Methodological Literature

The Carl D. Perkins Career and Technical Education Improvement Act of 2006, also known as Perkins IV, was passed with the intent to enact positive change in career and technical education by expanding access to all students (Perkins, 2006). One of the focuses of Perkins IV is nontraditional gender career growth, which places responsibility on career and technical centers to provide equal learning opportunities for all students (Perkins, 2006). In career and technical education, nontraditional fields are defined as an occupation where individuals from one gender comprise less than 25% of the individuals employed in that field (Perkins, 2006). This study focused on understanding how career and technical centers in Pennsylvania can

successfully increase nontraditional enrollment in and completion of qualifying programs of study. A review of the literature revealed support for gender equity in programs of study because of the positive impact it has on females, the workforce, and public education (Grayson, 2017; Meeder, 2008; Webb, 2010).

Financial Stability for Females

In the United States, a wage gap currently exists between males and females in the workforce (Fluhr, Choi, Herd, Woo, & Alagaraja, 2017). Reducing the wage gap starts by increasing gender equity in career and technical education. Education reform efforts, such as the Perkins Act of 2006, emphasized the importance of improving all students' readiness for highly skilled careers, regardless of gender (Grayson, 2017). Research shows that females tend to work in lower-paying, lower-mobility occupations in comparison to their male counterparts (Ericksen & Schultheiss, 2009). However, research also indicates that females enrolled in traditionally male programs earn higher wages compared to those enrolled in traditionally female programs (Grayson, 2017). Therefore, it is important for females to move away from "pink collar" positions, which are areas of work traditional for women, but are lower-paying, and explore nontraditional career opportunities that offer them greater financial stability in their lifetime (Sullivan, 2002).

Workforce Development

Historically, females' participation in the workforce has been correlated with the rise and fall of the nation's economy (Webb, 2010). One of the most notable examples was during World War II when women filled the factory jobs left vacant by men. During World War II, 6.5 million women were forced to fill the jobs left vacant by men, and as a result of the surge of women entering the workforce, the character of "Rosie the Riveter" was born (Webb, 2010). However,

once men returned home from war, women were forced to resume their role as homemakers as they were not perceived as the breadwinners of the family. That mentality has contributed to females' pursuing stereotypical occupations in lower-paying fields even though the economy needs workers in skilled trades.

Between 2010 and 2020, labor market experts predicted that 25 million jobs, which are roughly 47% of all new job openings during that time, are to be considered a skilled trade (Kochan et al., 2012). For example, Pennsylvania needs roughly 34,000 new workers each year for the next decade to maintain its region's workforce (Allegheny Conference, 2016). Females' participation in the workforce is a necessity if these positions are to be filled. Career and technical education is designed to help meet workforce demands by preparing secondary students with the skills and knowledge to fill the middle-skills gap. While the Perkins Act of 2006 gives females the opportunity to help fill the skills gap in the workforce, the issue for career and technical centers is recruiting and retaining females in career and technical programs considered nontraditional for females.

Public Education

In career and technical education, the Perkins Act of 2006 established indicators to measure the performance of individual career and technical centers. Nontraditional completion and nontraditional enrollment are two of the performance indicators measured by the Perkins Act of 2006. If a career and technical center fails to meet at least 90% of any of the established performance indicators, they are required to implement an improvement/action plan to the Pennsylvania Department of Education. If a career and technical center fails to submit an improvement/action plan, the state has the right to withhold all or a portion of the career and technical center's Perkins funding (Meeder, 2008).

To comply with the Perkins Act of 2006, career and technical centers must aim for gender equity in all programs of study. However, the reality is that many career and technical centers are out of compliance each year because of their failure to achieve the required nontraditional participation and nontraditional completion performance levels outlined in the Perkins Act of 2006. Failure to meet the necessary performance levels has negative consequences for both the career and technical center and their students. One consequence is the career and technical center is flagged by the Pennsylvania Department of Education and is required to attend a Perkins nontraditional indicators regional workshop. A second, more severe consequence of failed compliance with Perkins' performance indicators is a loss of Perkins funding for the institution in question (Perkins, 2006). To prevent the loss of funding, career and technical centers must make a concerted effort to increase nontraditional enrollment in qualifying programs of study.

Factors Influencing Females' Nontraditional Career Choices

A review of the literature revealed females choose their career based on the norms that are present in their society (Hall, 2016). Society places norms on females by accepting or rejecting certain behaviors, which lead to the acceptance or rejection of certain careers (Hall, 2016). Then, females use the established norms of society to make career-related decisions (Hall, 2016). Some factors contributing to females' career-related decisions include the presence of female role models in nontraditional careers, gender roles and stereotypes that exist in society, familial influence, and self-efficacy.

Female Role Models

One factor influencing females' nontraditional career choices is the availability and presence of female role models. Research indicates that young girls must be exposed to female

role models in nontraditional occupations because the idea that females can find success in nontraditional careers must repeatedly be reinforced (Milgram, 2011). To encourage females to pursue nontraditional careers, it must be clear through role modeling behavior that women can find success both personally and professionally working in nontraditional careers (Milgram, 2011). This type of exposure to female role models in nontraditional careers must start in early in girls' educational experiences (Cutshall, 2002). Therefore, it is important for educators to make a concerted effort to invite females working in nontraditional careers to speak to students about the opportunities available to them.

In addition to education, industries recognize the importance of promoting females in nontraditional careers as many have established career exploration camps to expose girls to nontraditional career fields, encourage mentoring relationships between girls and females employed in nontraditional careers, and provide hands-on learning opportunities (Cutshall, 2002). One example of this role-modeling strategy was BE&K, a construction and engineering company in Alabama that offered a daylong, career shadowing program for girls to learn about career opportunities in nontraditional fields that were available at their company (Cutshall, 2002). Twenty-five female, high school students attended the program, and as a result of the success of the daylong initiative, BE&K offered a week-long, summer day camp at their School of Industrial Construction. This program was the first of its kind, and it served as a blueprint for providing a platform for female role models employed in nontraditional careers.

Gender Roles and Stereotypes

Another factor influencing females' nontraditional career choices is the existence of gender roles and stereotypes in society. The beliefs that individuals hold about the proper roles for men and women based on their gender is known as gender role orientation (Judge &

Livingston, 2008). Research indicates that the perpetuation of gender stereotypes is one reason why females do not consider nontraditional careers, even with the promise of financial security (Hall, 2016). To diminish the negative effect that gender roles and stereotypes have on females' understanding and experience with nontraditional career choices, exposure to female role models in nontraditional career fields is necessary (Farrington, 2012).

In addition to gender roles and stereotypes, an individual's gender self-image can influence the type of career and occupation they select (Patterson, 2012). The degree to which someone believes themselves to be similar to or different from others of their same gender is known as gender self-image (Patterson, 2012). Research has shown that if a child believes they are gender-typical, they tend to favor careers that are stereotypical for their gender compared to those children who identify as less gender-typical (Patterson, 2012). For example, if a female regards herself as less gender-typical, she is more likely to pursue a nontraditional career because she feels more masculine than feminine. On the other hand, a female that perceives herself as more gender-typical is more likely to pursue a traditional career because she feels more feminine than masculine. Gender self-image is one aspect of gender stereotypes impacting females' understanding and experience with nontraditional career choices.

Familial Influence

A third factor influencing females' nontraditional career choices is their family unit. Research indicates that the family unit is one of the strongest influences on a child's occupational choice (Wagner, 2013). Regarding nontraditional careers, studies have shown that the gender stereotypes held by parents significantly impact whether their children choose to pursue traditional or nontraditional careers as adults (Jacobs et al., 2006). Additionally, when

looking specifically at females, studies have shown that mothers who are employed are more likely to raise daughters with greater career aspirations (Wagner, 2013).

The impact familial influence has on females' understanding, and experience with nontraditional career choices vary based on a family's culture. Regarding culture, variables such as attachment, race, and others stemming from their family of origin influence an individual's career plans, both directly and indirectly (Blustein, 2004). Research indicates that the definition of work holds varying meanings in different cultures (Fouad & Byars-Winston, 2005). Culture also impacts individuals' career choices based on their perceptions of the opportunities and barriers available to them in their culture (Fouad & Byars-Winston, 2005). Fear of acceptance in the workforce is an example of a cultural barrier that impacts individuals' career choices (Fouad & Byars-Winston, 2005). Therefore, culture is an important consideration when examining the factors that influence females' understanding and experience with nontraditional career choices.

Self-efficacy

The final factor influencing females' nontraditional career choices is their self-efficacy. Self-efficacy is classified as the belief one holds regarding their ability to complete specific tasks and behaviors (Bullock-Yowell et al., 2012). For example, a person with high self-efficacy believes strongly in their ability to perform a task while a person with low self-efficacy lacks confidence in their ability to perform the task at hand. Since individuals' self-efficacy is strengthened through learning experiences, females' self-efficacy only increases if they are provided with opportunities to enhance their skills in nontraditional careers (Ericksen & Schultheiss, 2009).

Previous research identified factors that have been shown to contribute to females' career-related decisions. However, a gap in the literature remains due to the lack of attention

paid to the educational sector of career and technical education. Previous studies failed to explore nontraditional enrollment in career and technical education and chose to focus primarily on women in STEM. This study examined females' lived experiences with nontraditional programs of study in career and technical education to understand how their experiences impacted their nontraditional career choices. There is a need for best practices in recruitment and retention of females in nontraditional programs of study in career and technical education, and the results of this study provided recommendations for positive change.

Review of Methodological Issues

As a doctoral researcher, it is essential to understand the methodological issues associated with various research approaches in the researcher's field of study (Boote & Beile, 2005). Several factors impact a researcher's decision to pursue a specific research approach including the research problem itself, the researchers' own experiences, and the intended audience for the study (Creswell, 2014). Regarding the literature reviewed about females' nontraditional career choices, a majority of the studies were predominantly qualitative and featured interviews with females employed in nontraditional occupations (Hall, 2016; Lucci, 2007; Patterson, 2012; Sullivan, 2002). However, some of the studies utilized a mixed methods approach (Fuller, Beck, & Unwin, 2005; Radcliffe, 2016; Simon & Clarke, 2016).

The extensive research used to locate relevant and supportive literature about females' nontraditional career choices focused on studying the essence of the experience of females employed in nontraditional occupations and those enrolled in nontraditional programs of study at both the secondary and post-secondary level. The review of the literature suggested that females were motivated to choose a nontraditional major when they faced specific triggers in their life, such as a divorce or separation from employment. Additionally, the literature identified many

challenges for females entering nontraditional occupations including a lack of career exploration at schools, classroom barriers, and lack of female role models. Before conducting research, it is essential to understand the strengths and weaknesses associated with each methodological approach. Therefore, the characteristics that categorized the methodology of each study were identified and analyzed to justify the methodological approach to my research.

The Researcher

When selecting a topic for their study, it is common for researchers to choose a topic they are personally and professionally interested in studying. While being passionate about the subject matter is a necessary part of the research process, the personal attachment can result in researcher bias (Machi & McEvoy, 2012). Research bias occurs when researchers jump to premature conclusions rather than drawing conclusions based on the use of valid methodology (Machi & McEvoy, 2012). It is important to acknowledge that while researcher bias can never be eradicated, researchers can do their part to control for bias. Since maintaining objectivity is an essential aspect of competent research, researchers can confront and manage their own bias by engaging in introspection (Creswell, 2014; Machi & McEvoy, 2012). Keeping an open mind allows researchers to examine the previous literature on the topic without bias and select the appropriate methodology for their study.

Mixed Methods Research

Within the body of research examining females' nontraditional career choices, mixed methods studies were not as prevalent as strictly qualitative research studies. Mixed methods research combines the strengths of both quantitative and qualitative research methods while minimizing the weaknesses of both research methods (Johnson & Onwuegbuzie, 2004). When conducting mixed methods research, the researcher's purpose is to answer a question that

involves displaying a bigger picture by not “restricting or constraining researchers’ choices” (Johnson & Onwuegbuzie, 2004, p. 17). However, to successfully conduct mixed methods research, the researcher must use rigorous qualitative and quantitative methods.

A study conducted by Fuller, Beck, and Unwin (2005) utilized focus groups, interviews, and questionnaires measuring the students’ knowledge of apprenticeships and their suitability for males and females. In another mixed methods study, Radcliffe (2016) identified the factors that were responsible for encouraging and discouraging student enrollment in programs of study as well as the recruitment methods considered most beneficial. The study utilized interviews and a follow-up questionnaire designed to measure students’ perceptions of the most effective strategies to increase enrollment at the career and technical centers. Simon and Clarke’s (2016) study utilized a mixed methods approach to examine current career exploration programs in schools. 217 career exploration stakeholders were recruited to participate in an online survey that was followed by semistructured interviews. The previous literature that utilized a mixed methods approach to examine females’ nontraditional career choices revealed several strengths and weaknesses of this research design.

Quantitative Research

When examining research pertaining to females’ nontraditional career choices, quantitative studies were the least commonly used research method. Quantitative research includes experiments and surveys as forms of inquiry that generate data for collection (Creswell, 2014). In a study conducted by Fluhr et al. (2017), the relationship between high school students’ gender, their enrollment in nontraditional courses, and their future wage earnings was examined. The quantitative study used descriptive statistics to compare data using the following variables: nontraditional career and technical education course taking, program area, wage

earnings, and gender. The results of the study showed that gender has a significant impact on nontraditional course enrollment, and males are more likely to take courses that are nontraditional for their gender than females.

In a similar quantitative study, Grayson (2017) utilized a causal-comparative research design and randomly selected 658 students from the Florida Department of Education Data Warehouse database. The quantitative study found that career and technical education nontraditional programs of study produced higher wages for males than for females (Grayson, 2017). Overall, the studies by Fluhr et al. (2017) and Grayson (2017) utilized a quantitative approach to examine females' nontraditional career choices and revealed the strengths and weaknesses of this research design. As a result of the weaknesses with both a mixed methods and quantitative approach in terms of understanding the lived experience of the participants, a qualitative approach was identified as the most appropriate research method for this study.

Qualitative Research

Previous research examining females' nontraditional career choices includes mixed methods, quantitative, and qualitative studies. However, qualitative research is most useful when a specific problem or issue needs to be examined (Creswell, 2013). Specifically, a phenomenological approach is utilized to attempt to understand the shared experiences of individuals who are experiencing the same phenomenon (Creswell, 2013). The majority of the qualitative research conducted examining females' nontraditional career choices utilized a phenomenological approach to attempt to understand why females selected a nontraditional career and explored the barriers they faced.

Hall (2016) used a phenomenological approach to understand the factors that influenced women currently employed in nontraditional careers to choose that career path, and the data

source was three women within the age range of 35-47. While the strength of this study was the detailed account of the women's shared experiences in nontraditional careers, the weakness was the small sample size of three. When conducting phenomenological research, the recommended number of interviewees is 5 to 25 (Creswell, 2013). In another qualitative study, Lucci (2007) utilized a phenomenological approach to study the low percentage of females employed as automotive technicians and men employed as nurses. The study featured two interviews with nontraditional students in each field, which is below the recommended number of interviews. The lack of appropriate sample size was a weakness in methodology that could result in questioning the validity and credibility of the study.

In a study conducted by Patterson (2012) that examined how elementary age students' perceptions of their gender typicality influenced their career choices, the sample size was a strength rather than a weakness. Trained interviewers interviewed 100 elementary-aged students from the Midwestern United States. The results indicated that children who felt they were gender-typical tended to favor careers that were stereotypical for their gender compared to those children who identified as less gender-typical (Patterson, 2012). In another qualitative study, Sullivan (2002) interviewed 11 adult women enrolled in nontraditional majors at the Pennsylvania College of Technology. The study found that what led the women to choose a nontraditional major were transitions and triggers in their life, such as a divorce or separation from employment.

While it is the researcher's job to adequately describe the individuals' common or shared experiences of the phenomenon, to do so, data collection in the form of interviews must include 5 to 25 individuals (Creswell, 2013). When a phenomenological approach contains a substantial sample size, the researcher has the opportunity to provide readers with a vicarious experience by

sharing the details of the lived experiences of a group of individuals. While the previous literature was primarily qualitative and utilized a phenomenological approach to examine females' nontraditional career choices, it failed to capture the lived experiences of females in career and technical education. As a result, this study pulled from the strengths of a phenomenological research design used in previous research to describe the essence of the lived experiences of female graduates of nontraditional programs of study in career and technical education. The ability of a phenomenological research design to provide an in-depth description of the shared experiences of those experiencing the phenomenon in question justified the selection of this methodology for my study.

Summary

The selection of the most appropriate research method is critical to the success of a study, and researchers examine both the strengths and weaknesses of previous research designs to make informed choices about their methodology. In addition to reviewing past research designs, researchers must acknowledge the presence of researcher bias and do their part to control for bias in their study. Regarding research focused on females' nontraditional career choices, qualitative and mixed methods approaches were utilized. Both the strengths and weaknesses of these methodologies were identified, and it was concluded that a qualitative, phenomenological approach would be the most beneficial in examining females' nontraditional career choices. First, utilizing a phenomenological approach provided a means of research that has been underused in studying this topic. Additionally, phenomenological research provided readers with a detailed account of the experiences of females working in nontraditional careers and those enrolled in nontraditional programs of study at career and technical centers. When a researcher utilizes descriptive interviews through the use of a phenomenological approach, the results

provide a better understanding of the problem through the experiences of those individuals who have experienced the phenomenon first-hand.

Synthesis of Research Findings

In a literature review, it is necessary to synthesize previous research to identify common themes, theories, and characteristics present in the literature (Cooper, Hedges, & Valentine, 2009). Additionally, there is a need for a literature review synthesis to identify issues that exist within the topic that may be answered through future research. This is done by examining previous studies that utilize different methodological choices. Regarding this qualitative study, it examined the lived experiences of females enrolled in nontraditional programs of study at a career and technical center in Pennsylvania. The need to develop a more thorough understanding of the experiences of female students enrolled in nontraditional programs of study guided the research that explored female students' experiences and perceptions.

Throughout the literature review, a majority of the studies were predominantly qualitative and featured interviews with females employed in nontraditional occupations (Hall, 2016; Lucci, 2007; Patterson, 2012; Sullivan, 2002). Additionally, numerous studies attempted to identify best practices in the recruitment of females to STEM careers (Costello, 2012; Doerschuk et al., 2016; Milgram, 2011; Toglia, 2013). The majority of the qualitative research examining females' nontraditional career choices utilized a phenomenological approach to understand why females selected a nontraditional career and the challenges they faced along the way. The research concluded there were several factors responsible for influencing females' nontraditional career choices, such as female role models, gender roles and stereotypes, familial influence, and self-efficacy.

Gender Roles and Stereotypes

One major theme found in the literature revealed the existence of gender roles and stereotypes in society and their impact on females' nontraditional career choices. Judge and Livingston (2008) discussed gender role orientation, which is the idea that people hold about the appropriate roles for both men and women based only on their gender. The researchers argued that the experiences often form attitudes that one has throughout one's life, and these experiences can vary based on one's age, gender, marital status, or race or ethnicity (Judge & Livingston, 2008). In further support of the impact that gender roles and stereotypes have on females' nontraditional career choices, Hall (2016) discussed how the perpetuation of gender stereotypes is one reason why females do not consider nontraditional careers, even with the promise of financial security. Research also indicates that school districts that promote traditional gender role orientations may be perpetuating the existence of gender inequity (Judge & Livingston, 2008). To diminish the negative effect that gender roles and stereotypes have on females' understanding and experience with nontraditional career choices, girls must be exposed to female role models in nontraditional career fields throughout their education (Farrington, 2012).

Female Role Models

Another factor influencing females' nontraditional career choices is the availability and presence of female role models. Milgram (2011) maintains that girls must have strong female role models to promote the idea that females can find success in nontraditional careers. This view is similar to that expressed by Cutshall (2002) who found that recruiting women into nontraditional occupations does not start during the hiring process. Rather, exposure to female role models in nontraditional careers must start early in girls' educational experiences (Cutshall, 2002). Providing students with the opportunity to interact with female role models could give

students the motivation they need to pursue a nontraditional program of study at a career and technical center.

Familial Influence

In addition to female role models and gender roles and stereotypes, a third factor influencing females' nontraditional career choices is their family unit. Wagner (2013) indicated that the family unit is one of the strongest influences on a child's occupational choice (Wagner, 2013). Additionally, when looking specifically at females, Wagner (2013) found that mothers who are employed are more likely to raise daughters with greater career aspirations. Regarding nontraditional careers, studies have shown that the gender stereotypes held by parents significantly impact whether their children choose to pursue traditional or nontraditional careers as adults (Jacobs et al., 2006).

Self-efficacy

Bullock-Yowell, Katz, Reardon, and Peterson (2012) identified the need for research into the factors influencing females' nontraditional career choices to include self-efficacy. Self-efficacy is classified as the belief one holds regarding their ability to complete specific tasks and behaviors (Bullock-Yowell et al., 2012). The researchers discussed how self-efficacy influences individuals' behavior and performance related to specific tasks, so the intended goal is achieved. Through their research, they found that negative career thinking resulted in problematic self-efficacy for the participants. To combat negative career thinking before it has the opportunity to affect one's self-efficacy, they suggested early interventions by guidance and career counselors in educational settings. Furthermore, Erickson and Schultheiss (2009) argued that self-efficacy is strengthened through learning experiences. As a result, females' self-efficacy only increases if

they are provided with educational opportunities to enhance their skills in nontraditional careers (Ericksen & Schultheiss, 2009).

Overall, the literature suggests there are several factors responsible for influencing females' nontraditional career choices, such as female role models, gender roles and stereotypes, familial influence, and self-efficacy. The studies provided a solid background to guide career and technical centers to enact change in their approach to recruiting females into nontraditional programs of study. Each of the recommendations in the literature provided insights into the factors responsible for influencing females' nontraditional career choices including the need for female role models in nontraditional occupations, the impact of gender roles and stereotypes, the effect of familial influence, and the way self-efficacy impacts career decisions. However, the literature lacked specific information on female students enrolled in nontraditional programs of study at career and technical centers.

Critique of Previous Research

While significant information can be obtained about the factors that influence females' nontraditional career choices, a gap in the literature existed in understanding why female students currently enrolled in nontraditional programs of study at career and technical centers selected that specific educational path. Additionally, the literature did not include suggestions for improving the recruitment of females into such programs. Lastly, the literature discussed in this chapter failed to acknowledge nontraditional programs of study at career and technical centers.

Qualitative Studies

In the study by Hall (2016), the use of interviews was implemented to understand the factors that influenced women who were currently employed in nontraditional careers to choose that career path. The study consisted of interviews with three women, all within the age range of

35–47. All three of the participants resided in Ohio, were currently working or had worked in a nontraditional occupation, and had to overcome challenges to achieve professional success (Hall, 2016). The three participants met with the interviewer on three different times to participate in the interview process. The study found that the women faced different challenges when entering into nontraditional career fields compared to their male counterparts, and the study also exposed the multitude of challenges women encountered compared to their male colleagues.

Sullivan (2002) examined the motivation behind females' choice of nontraditional, vocational-technical majors at the Pennsylvania College of Technology. Eleven adult women enrolled in nontraditional majors at the Pennsylvania College of Technology were interviewed, and the study found that women selected a nontraditional major as a result of transitions and triggers in their life, such as a divorce or separation from employment (Sullivan, 2002). In a similar study, Lucci (2007) found that educators and employers influence both the recruitment and retention of nontraditional students. The study focused on the low percentage of women employed as automotive technicians and men employed as nurses. The study featured two interviews with nontraditional students in each field. Additionally, while the strength of these phenomenological studies were the detailed accounts of the women's shared experiences in nontraditional careers, the weakness was the small sample size. Due to the small sample size, the findings were not representative of all women employed in nontraditional career fields. Overall, the studies conducted by Hall (2016), Lucci (2007), and Sullivan (2002) supported the need to examine the lived experiences of females working in nontraditional career fields. However, future research in this area must utilize a more substantial sample size.

In a qualitative study conducted by Patterson (2012), elementary age students' perceptions of their gender typicality and the resulting influence on their career choices were

examined. In this particular study, the sample size was a strength rather than a weakness because the sample size consisted of 100 elementary-aged students that were enrolled at two elementary schools in a suburban area in the Midwestern United States (Patterson, 2012). The study found that children who believed they were gender-typical tended to favor careers that were stereotypical for their gender compared to those children who identified as less gender-typical (Patterson, 2012). While the study had a large sample size, one limitation was that it focused only on elementary-aged students.

Quantitative Studies

Fluhr et al. (2017) examined the relationship between high school students' gender, their enrollment in nontraditional courses, and their future wage earnings. The study was quantitative and used descriptive statistics to compare the data using the following variables: nontraditional career and technical education course taking, program area, wage earnings, and gender. The results of the study showed that gender has a significant impact on nontraditional course enrollment, and males are more likely to take courses that are nontraditional for their gender than females.

In a similar study, Grayson (2017) utilized a causal-comparative research design and randomly selected 658 students from the Florida Department of Education Data Warehouse database. The study found that career and technical education nontraditional programs of study produced higher wages for males than for females (Grayson, 2017). Overall, the quantitative studies by Fluhr et al. (2017) and Grayson (2017) proved that gender is a predictor of enrollment in nontraditional programs and also impacts earning potential in nontraditional occupations.

While several qualitative and quantitative studies examined the factors that influence females' nontraditional career choices, there was a need to examine the lived experiences of

female students currently enrolled in nontraditional programs of study at career and technical centers to better understand how these experiences influenced their occupational choices. A gap in the literature existed when considering the experiences of females at career and technical centers, why they chose that educational path, and their future occupational goals. A majority of the literature focused on women currently employed in nontraditional occupations and the factors influencing females' nontraditional career choices (Blustein, 2004; Bullock-Yowell et al., 2012; Cutshall, 2002; Ericksen & Schultheiss, 2009; Farrington, 2012; Fouad & Byars-Winston, 2005; Hall, 2016; Jacobs et al., 2006; Judge & Livingston, 2008; Lucci, 2007; Milgram, 2011; Patterson, 2012; Sullivan, 2002; Wagner, 2013). However, there was little research focusing specifically on the experience of females enrolled in nontraditional programs of study at career and technical centers. Gaining a better understanding of the motivation behind female students' decisions to enroll in nontraditional programs of study provided career and technical centers with insight into how to successfully recruit female students into their nontraditional programs of study.

Summary

In previous studies, researchers utilized qualitative, quantitative, and mixed methods research to examine the factors that influence females' nontraditional career choices. Centered on the documented challenges career and technical centers are experiencing in meeting the performance indicators established by the Perkins Act of 2006, more research addressing the underrepresentation of females in nontraditional programs of study was warranted. Based on this literature review, which developed a unique conceptual framework using social cognitive career theory to understand the factors influencing females' nontraditional career choices, there was sufficient rationale to support an investigation examining the impact of female role models,

gender roles and stereotypes, familial influence, and self-efficacy on females' nontraditional career choices because it produced significant findings for social science research.

As a result, the literature review provided strong support for pursuing a phenomenological research study that answered the following research questions: How do female, career and technical education graduates perceive and describe their experience with nontraditional programs of study, and how do their experiences in nontraditional programs of study influence their career choice? The results of this study provided career and technical administrators with recruitment strategies to increase female enrollment in nontraditional programs of study, which helps to improve the institution's overall score in Perkins performance indicators.

Chapter 3: Methodology

In 2006, the Perkins Act mandated that educational institutions, career and technical centers establish an equitable learning environment for all students, regardless of gender. Additionally, individual career and technical centers are held accountable for students' academic achievement through established performance indicators (Meeder, 2008). Two of the eight performance indicators for secondary institutions are student participation and completion of programs of study that lead to nontraditional fields (Dortch, 2012). According to the Pennsylvania School Performance Profile (2018), several career and technical centers are meeting state expectations for nontraditional participation, but are failing in nontraditional completion (see Appendix A for 2016–2017 performance levels and Appendix B for 2017–2018 performance levels).

As a result of the alarming statistics in terms of nontraditional completion of programs of study, the purpose of this phenomenological study was to identify the issues influencing females' nontraditional career choices by examining the lived experiences of female students who were enrolled in a nontraditional program of study and graduated from a career and technical center in rural Pennsylvania. This study made an important contribution to career and technical education because it gave a voice to females, an underrepresented population in this area of education, by allowing them to share their lived experiences (Pennsylvania, 2018). Through the rich and thick descriptions of their lived experiences, the participants provided insight into why females are not completing nontraditional programs of study and also offered solutions for career and technical centers to rectify the problem.

This chapter discusses the methodology for a phenomenological study that examined the lived experiences of female graduates of nontraditional programs of study from a rural

Pennsylvania career and technical center. For this study, I recruited and interviewed females who graduated from a career and technical center in Pennsylvania so that they could describe their lived experiences as females enrolled in nontraditional programs of study. Additionally, participants were encouraged to bring an artifact to the interview that they felt represented their experience as a female enrolled in a nontraditional program of study at a career and technical center.

This study employed Moustakas' (1994) model for transcendental, phenomenological research to gather data to answer both research questions. This chapter provides an overview of the study including: research design, participants' demographics, instrumentation, data collection methodology, and analysis procedures. Additionally, this chapter concludes by addressing the limitations and delimitations, credibility and dependability, expected findings, and ethical issues present in this phenomenological study. The data contributed to the literature on females' lived experiences with nontraditional programs of study in career and technical education and how they reported their experiences impacted their career choices. Lastly, the findings from this research study have the potential to be used by career and technical educators to increase the nontraditional completion percentage at their respective institutions.

Research Questions

The need to understand the lived experiences of female students who graduated from nontraditional programs of study in career and technical education influenced the research questions of this phenomenological study. This study answered the following research questions:

- RQ₁. How do female, career and technical education graduates perceive and describe their experience with nontraditional programs of study?

RQ₂. How do female, career and technical education graduates' experiences in nontraditional programs of study influence their career choice?

I answered the both research questions using Moustakas' (1994) model for phenomenological research to understand the lived experiences of female participants who graduated from a career and technical center and were enrolled in a nontraditional program of study. Participants were interviewed and asked to reflect on how their experiences as a female, career and technical center graduate influenced their career choice.

Purpose and Design of the Study

While numerous studies have attempted to identify best practices in the recruitment of females to careers in STEM fields (Costello, 2012; Doerschuk et al., 2016; Milgram, 2011; Toglia, 2013), missing from this research is how to recruit females to career and technical education programs considered nontraditional for females. Therefore, the significance of this study was in its contribution to the literature about females' lived experiences with nontraditional programs of study in career and technical education and how the reported experiences impacted their career choices. Additionally, the research contributed to the limited literature that existed in this area with the hope of improving the educational experiences of females enrolled in nontraditional programs of study.

This study examined females' lived experiences with nontraditional programs of study and how career and technical centers could use this information to recruit females to nontraditional programs of study as well as graduate females from such programs. The results of this phenomenological study provided career and technical administrators with a better understanding of the lived experiences of females enrolled in nontraditional programs of study,

which could be used to increase female participation in and completion of nontraditional programs of study and improve the institution's overall score in Perkins performance indicators.

To gain further insight into females' lived experiences with nontraditional programs of study in career and technical education, this study utilized a phenomenological research design. Specifically, Moustakas' (1994) transcendental phenomenological approach guided the data collection methods and provided rich and thick descriptions of the participants' lived experiences as graduates of nontraditional programs of study at career and technical centers. While the relationship between gender and enrollment in nontraditional, career and technical education course-taking had been studied using a quantitative approach (Fletcher, 2012; Fluhr et al., 2017; Grayson, 2017), this study employed a phenomenological research design aimed at answering both research questions by examining the lived experiences of the participants.

A phenomenological research design was best suited for understanding several individuals' shared experiences of a phenomenon (Creswell, 2013). This study examined the common experiences of female graduates from nontraditional programs of study at career and technical centers to provide a deeper understanding of the phenomenon, including what prompted them to choose a nontraditional program of study and how their decision impacted their future occupational goals.

Research Population and Sampling Method

This study took place at a career and technical center located in rural Pennsylvania because it failed to meet secondary performance levels for nontraditional completion as established by Perkins in both 2016–2017 and 2017–2018 (see Appendix A for 2016–2017 performance levels and Appendix B for 2017–2018 performance levels). Approximately 265 students attend this career and technical center, and approximately 36% of the students enrolled

are female. Table 1 includes enrollment information for the career and technical center that served as the setting for this phenomenological study.

Table 1

Career and Technical Center Enrollment Information

School Enrollment	92 Females	171 Males
Percent Enrollment by Gender	Female: 35.36%	Male: 64.64%

Note. Reprinted from the Pennsylvania School Performance Profile. Retrieved from

<http://www.paschoolperformance.org> Copyright 2018 by Commonwealth of Pennsylvania.

I utilized a non-probability sampling procedure to select participants for this research study. Specifically, criterion sampling was used to ensure that all participants met specific criteria, which was useful for quality assurance (Creswell, 2013). In this research study, the specific criteria all participants must have met was that they were adults over the age of 18, female, and a graduate of a nontraditional program of study from a career and technical center. Regarding sample size, it was recommended to have between five to 25 participants that have experienced the phenomenon in question (Creswell, 2013). In this research study, 17 female participants were contacted, they were all graduates of the same rural Pennsylvania career and technical center, and they were all enrolled in a nontraditional program of study.

It was expected that this sample size would result in saturation of data. Saturation occurs when the researcher stops collecting data because new information fails to result in new insights (Creswell, 2014). Interviewing participants until saturation of data is achieved is one tool researchers use to ensure that adequate and quality data is available to support the study of the phenomenon in question (Creswell, 2013). Through this process, there comes a point where the phenomenon is “saturated” and no new information is available to add to the understanding of the phenomenon (Creswell, 2013). I initially over-recruited to achieve the targeted sample size

of eight to 12 female participants, and if saturation would not have been met, I would have continued to recruit additional participants.

My relationship with the participants was as a former direct/indirect career advisor and administrator within the institution. Alumni students were contacted via email as potential participants based on professional relationships outside of the student/administrator role. A formal invitation was sent out to alumni based on an alumni roster that I maintain. Since the participants were no longer students of the institution and were adults over the age of 18, one-to-one interviews were conducted once the participants gave written consent by signing the consent form (see Appendix C for the consent form).

Instrumentation

In phenomenological inquiry, the researcher is the key instrument as they collect data, examine documents, interview participants, and observe participants' behavior (Creswell, 2013). The idea of the researcher as an instrument was an important consideration for this study because I utilized semistructured interviews as the primary data collection method (Galletta, 2013). Throughout the semistructured interview, I prompted participants, rephrased questions, and adapted interview procedures based on the situation, which is why the researcher is considered the instrument in phenomenology (Galletta, 2013).

The researcher as an instrument must be able to achieve reciprocity with the participants by engaging in clarification and capturing the meaning of their lived experiences with the phenomenon as accurately as possible (Galletta, 2013). In addition to achieving reciprocity, the researcher as an instrument must practice reflexivity to locate potential sources of interference (Galletta, 2013). As an instrument, the researcher comes with their own biases and challenges. While no research study is free of interference, it is the responsibility of the researcher to

document any interference to be used when discussing the limitations of the research (Galletta, 2013). The use of semistructured interviews as the primary data source in this research study required me to practice reciprocity and reflexivity to gather data on the lived experiences of females enrolled in nontraditional programs of study at a career and technical center in rural Pennsylvania.

Pilot study. The interview protocol was pilot tested using my career and technical education colleagues. Pilot testing is essential in qualitative research because it helps the researcher refine their interview questions and assess the degree of bias that exists (Creswell, 2013). Two career and technical education instructors, one male and one female, were interviewed. Currently, only two female instructors are employed at this career and technical center, and they both teach programs of study traditional for females: cosmetology and health occupations. Therefore, a male instructor was selected because no female instructors teach nontraditional programs of study at the career and technical center used for the pilot study. The male instructor's feedback was important because the questions asked pertain to female students' experiences in his program of study.

The instructors were told to answer the questions as if they were students enrolled in a nontraditional program of study at a career and technical center. Following the pilot testing, I solicited feedback from both instructors on the types of questions asked and the order in which they were asked. The use of a pilot study for the interview protocol assisted me in refining the semistructured interview protocol (Creswell, 2013).

Data Collection

Semistructured interviews. Three methods of data collection were utilized in this study: semistructured interviews, artifacts, and field notes. Semistructured interviews allow the

researcher to address specific topics while providing participants with the opportunity to share their experiences with the phenomenon in question (Galletta, 2013). When completing a semistructured interview for this study, the participants met with me once for approximately 60 minutes. A script was used to guide the semistructured interview process (see Appendix D). The interviews were conducted in-person because all participants were available, and all of the interviews were recorded using a digital recorder. Following the completion of the interviews, the audio recordings from every interview were transcribed using www.rev.com, an online software program.

The participants were asked open-ended questions related to their experiences with the phenomenon (Moustakas, 1994). The data that answered both research questions were candid responses from the participants about their lived experiences as graduates of a nontraditional program of study in career and technical education. To effectively utilize semistructured interviews as the primary data source in a qualitative study, Galletta (2013) recommended developing an interview protocol that included dividing the interview into three segments: the opening segment, the middle segment, and the concluding segment. Each segment of the interview accomplished a specific purpose and helped me achieve my research goals.

The goal of the opening segment of a semistructured interview is to build rapport with the participants and create an environment where they feel comfortable sharing their personal experiences (Galletta, 2013). This is why the opening segment in this research study featured open-ended questions, which gave participants the opportunity to speak to their experiences related to being a female enrolled in a nontraditional program of study at a career and technical center. The opening segment of the semistructured interview for this study included six questions (see Appendix D for semistructured interview protocol). These six questions helped

move the participants into their personal story, which was explored more in-depth in the middle segment of the semistructured interview.

The middle segment of the semistructured interview is where the researcher asks questions that ensure that the research topic is adequately covered (Galletta, 2013). Both research questions, which were, how do female, career and technical education graduates perceive and describe their experience with nontraditional programs of study, and how do female, career and technical education graduates' experiences in nontraditional programs of study influence their career choice were addressed in the middle segment of the semistructured interview. Within the middle segment of the semistructured interview is where participants began to describe their lived experiences as females enrolled in nontraditional programs of study at a career and technical center, what influenced their nontraditional career choice, and the artifact they brought to the interview. The middle segment of the semistructured interview for this research study featured 10 questions (see Appendix D).

The concluding segment of the semistructured interview is intended to conclude and summarize the participants' narrative (Galletta, 2013). The questions asked in the concluding segment were lighter and less intense than those found in the middle segment. Galletta (2013) recommended that researchers use the concluding segment to explore possible contradictions in participants' stories and connect back to earlier ideas presented by the participants. Additionally, the concluding segment of a semistructured interview must always give participants the opportunity to add any final thoughts or comments before the conclusion of the interview. Therefore, in this research study, the final question was "Do you have anything else to add?" (see Appendix D).

Before each interview, each participant was given the consent form (see Appendix C) to read and sign. Then, I read from the interview protocol (see Appendix D) and proceeded to start the semistructured interview process. At the end of the semistructured interview, each participant was thanked for their contribution to my dissertation research.

Artifacts. When scheduling the interview, I asked participants to bring an artifact to the interview they felt was representative of their experience. Artifacts are defined as things or objects in the participant's environment that are representative of some form of communication (Merriam, 2009). While bringing an artifact to the interview was highly encouraged, it was not mandatory. The use of artifacts as a data collection tool complemented the semistructured interviews because they provided another avenue to examine an individual's actions, experiences, and beliefs related to the phenomenon in question (Merriam, 2009). Examples of artifacts included the participants' career and technical center diploma, certifications they earned, school assignments, personal journal entries, or any other written examples of their lived experiences related to the phenomenon in question.

Personal artifacts are an important data collection tool because they provide a snapshot of what the participant values regarding their experiences (Merriam, 2009). The data supplied by the artifacts provided me with more information and provided an in-depth understanding of the participants' lived experiences of being a female who graduated from a nontraditional program of study from a career and technical center. Additionally, I asked a question during the interview directly related to the participants' artifact. The line of questioning depended on whether the participant brought an artifact to the interview or not (see Appendix D).

Field notes. Throughout the semistructured interview protocol, I took extensive field notes. Even though all of the interviews were recorded, taking field notes increased the

methodological rigor of the study because it served as a third method of data collection (Creswell, 2013). The field notes were reviewed during the data analysis phase of the study along with the interview transcripts, and I identified emerging themes between the various data collection methods. This process is known as the triangulation of data, which is when the researcher uses multiple sources and methods to provide corroborating evidence (Creswell, 2014).

Member checking. Before data analysis could occur, I engaged in a validation strategy known as member checking. All 11 participants were emailed both the audio and text file of their interview. This strategy gave participants the opportunity to review their individual transcripts before granting me approval to move forward in the study (Creswell, 2013). This validation strategy is regarded as the most important practice for creating credibility in a qualitative study (Creswell, 2013). Once member checking was completed, data analysis occurred.

Identification of Attributes

Throughout the study, the goal was to connect the lived experiences of females enrolled in nontraditional programs of study at a career and technical center in rural Pennsylvania. To do so, a phenomenological research design was used to better understand the lived experiences of the participants. Throughout the data collection process that utilized semistructured interviews as the primary data source, three main attributes were considered: gender, location, and socioeconomic status.

Gender was the primary attribute that defined the study. The study examined the lived experiences of females enrolled in nontraditional programs of study at a career and technical center. Gender was the primary attribute because the participants' gender is what led to their

educational experience being labeled as nontraditional at their career and technical center. A second attribute that was considered in the study was location. The career and technical center that served as the site for the study is located in rural Pennsylvania. Location was considered for its impact on the gender roles and stereotypes present in this region of Pennsylvania. Lastly, socioeconomic status was considered because of the impact on the availability of postsecondary education and career opportunities for females in this area. All three attributes were discussed as a part of the participants' lived experiences as females enrolled in nontraditional programs of study at a career and technical center.

Data Analysis Procedures

The data analysis for this phenomenological study was centered on the research and publications of Creswell (2013), Moustakas (1994), and Saldaña (2015). Data analysis occurred in the following three stages: interview transcript review, coding the data using in vivo coding, and lastly, theming the codes to identify similarities and patterns between participants' responses. The first stage of data analysis, the interview transcript review, was the crucial first step in organizing data from a qualitative study. During this process, I treated every statement as having equal value, which is referred to as horizontalizing the data (Moustakas, 1994). Following horizontalization, data analysis moved onto the second stage, coding the data using in vivo coding.

In vivo coding was used as the main coding method because it prioritized and honored the participants' voices (Saldaña, 2015). Since this study was a phenomenological study, the participants' voices served as the primary data in the study, and in vivo coding allowed me to capture their words and statements verbatim. When using in vivo coding, researchers are able to capture the true meaning of people's experiences with the phenomenon (Saldaña, 2015). In the

final stage of data analysis, after in vivo coding was completed, I utilized pattern coding to identify similarities and patterns between participants' responses. The pattern codes were clustered into six themes, which were indicative of the participants' lived experiences with the phenomenon. Then, the resulting themes were used to develop the textural descriptions of the participants' lived experience (Moustakas, 1994). The final stage of data analysis occurred when the codes were organized into themes that reflected commonalities between the participants' experiences as females enrolled in nontraditional programs of study at the same career and technical center.

Limitations of the Research Design

While a phenomenological research design provides rich and thick descriptions of the experiences of a group, there are certain limitations and delimitations present with this type of research design. The main limitation found in this study centered on the researcher as the primary instrument and the biases and assumptions they brought to the data collection process. In a phenomenological study, it is difficult for the researcher to bracket their personal experiences due to the presence of such biases and assumptions (Creswell, 2013). It is important to understand that no interview is completely free of interference, and while this was a limitation present in this study, I attempted to control it by practicing reflexivity, which is when the researcher actively anticipates how the research could be compromised (Galletta, 2013).

In addition to limitations, delimitations are also present when using a phenomenological research design. One delimitation was that the participants were all female, and the male students enrolled in nontraditional programs of study for their gender were not included. This was a deliberate choice because there are a greater number of females enrolled in nontraditional programs of study than males at the career and technical center that served as the site for this

study. Another delimitation was that all the participants were graduates of the same career and technical center, which limited the scope of the study. The final delimitation was that the study was conducted in rural Pennsylvania. The socioeconomic status of this area differs greatly from other parts of the state, but that was a factor that was beyond my control.

The difficulty of generalizing the findings of one sample to other samples is an inherent challenge when utilizing a phenomenological research design (van Manen, 1990). However, taking into account the limitations and delimitations of the study, the results were valuable to educators and administrators who (a) teach at a career and technical center, (b) in the state of Pennsylvania, (c) in a rural community, (d) and have nontraditional programs of study. The results were used by career and technical educators and administrators as they looked to increase female participation in and completion of nontraditional programs of study and improve their institution's overall score in Perkins performance indicators.

Validation

The validity of a study is based on the accuracy of the findings from the perspective of the researcher, the participant, and the audience (Creswell, 2014). To ensure validity in this study, I took the following measures to strengthen credibility and dependability of the data: member checking, reflexivity, and standardizing the interview protocol. All three measures were used to ensure the validity of this phenomenological study.

Credibility. Lincoln and Guba (as cited in Creswell, 2013) referred to the credibility of a study as the trustworthiness of the data. In qualitative research, credibility exists if the results of the study are an accurate interpretation of the participants' experiences (Creswell, 2013). In this study, two measures were taken to establish credibility: member checking and reflexivity.

Member checking was one measure that was taken to ensure confidence in the truth of the data. This technique encourages all participants to review their interview transcripts to check for any inaccuracies or misrepresentation following transcription, and after they approve the content, only then can the researcher move forward in the study (Creswell, 2013). Giving the participants the opportunity to review and approve the content of their interviews before data analysis helped me demonstrate the accuracy of the data collection process. For this reason, member checking is widely regarded as the most important method for establishing credibility in a qualitative study (Creswell, 2013).

A second measure that was taken to increase the credibility of the data was reflexivity. Acting as the primary instrument in data collection utilizing semistructured interviews, I practiced reflexivity to ensure credibility (trustworthiness) in the data by reflecting on how my role in the study and my own experiences had the potential to influence my interpretations (Creswell, 2014). According to Galletta (2013), “To respond to the challenges of carrying out interviews, the researcher must bring a level of reflexivity concerning what transpires during the interview between the researcher and participant” (p. 104). The practice of reflexivity required me to be vigilant throughout the interview process identify and document areas of potential interference (Galletta, 2013). In addition to the credibility of the data, dependability is the second component of validity in a qualitative study.

Dependability. To ensure the quality and reliability of this phenomenological research study, an interview protocol was established for all interviews (see Appendix D). Following a set protocol allowed me to maintain consistency throughout the interview process with all participants (Creswell, 2013). First, all interviews were held in a neutral location. Secondly, all interviews were recorded using a digital recorder. Then, following the completion of the

interviews, the audio recordings were transcribed using www.rev.com, an online software program.

Pilot study. To further ensure the dependability of this phenomenological research study, the interview protocol was pilot tested using my career and technical education colleagues who are employed at the career and technical center that served as the setting for the study. Pilot testing is essential in qualitative research because it helps the researcher refine their interview questions, assess the degree of bias that exists, and elicit feedback from an outside party (Creswell, 2013). The feedback I received assisted in refining the semistructured interview protocol to achieve maximum effectiveness (Creswell, 2013).

Expected Findings

The goal of this research study was to understand the lived experiences of female students who graduated from nontraditional programs of study in career and technical education and how their experiences impacted their career choices. My expectations aligned with the nature of phenomenological inquiry that aims to better understand the meaning of a group's experience with a specific phenomenon (Moustakas, 1994). Through the use of semistructured interviews and artifacts, it was expected that the participants would be able to describe their lived experiences as a student enrolled in a nontraditional program of study at a career and technical center. Additionally, I expected that the participants would describe both the positive and negative aspects of their lived experiences, and the participants' rich and thick descriptions contributed to the limited literature that exists in this area with the hope of improving the educational experiences of females enrolled in nontraditional programs of study. There was also an expectation that the results of this study would be used by career and technical administrators

to increase female participation in and completion of nontraditional programs of study and improve their institution's overall score in Perkins performance indicators.

Ethical Issues

For this phenomenological study, it was important to understand that ethical issues would arise during all phases of the study, not just during data collection (Creswell, 2013). Prior to data collection, the researcher received IRB approval to conduct this study on October 3, 2018, and the study was determined to be a minimal risk project. While the researcher's role in a quantitative study is virtually nonexistent, their role in a qualitative study is vital as they serve as the primary instrument of data collection (Galletta, 2013). Often, this results in the researcher bringing their own biases and assumptions to the interview process. To demonstrate a lack of conflict of interest on the part of the researcher, they must address the following areas: the conflict of interest statement, the researcher's position, and any ethical issues present in the phenomenological study.

Conflict of interest assessment. As a former direct/indirect career advisor and administrator to the participants in the study, I understood that even though they have graduated from the career and technical center, they may still feel that I am in a position of authority over them. Since I had a professional relationship with the participants, I bracketed my preconceptions and feelings to avoid a potential conflict of interest in the study (Moustakas, 1994). While I possessed a professional interest in the outcome of the study, it was only because the results had the opportunity to improve the educational experiences for female students enrolled in nontraditional programs of study in career and technical education. There were no financial conflicts of interest in this study because I did not receive any monetary compensation for the study and did not use the results of the study for personal gain (Creswell, 2014).

Researcher's position. As a result of my professional experiences in higher education and career and technical education, I brought certain biases to the study. I spent 12 years working in higher education as an admissions counselor, and one of my duties was enrolling female students in nontraditional majors. I am presently employed as the workforce development coordinator at the study site, and I was a former direct/indirect career advisor and administrator to the participants in the study. I worked at the study site for two years, which is the same length of time I knew the participants in the study. As the principal investigator, I made every effort to remain objective. However, I was aware of the impact my biases had on the findings, conclusions, and interpretations that resulted from this study.

Ethical issues in the study. Moustakas (1994) suggested the following ethical standards for human science researchers: establish agreement with the participants, recognize the need for confidentiality, anonymity, and informed consent, and lastly, disclose the nature and purpose of the research study. Since the participants were all be adults, they could volunteer to participate in the study, and as a result, permission from their school and parents was not required. Before conducting semistructured interviews with the participants, I obtained the participants' informed consent to participate in the study (see Appendix C). The consent form discussed the purpose and benefits of participating in the study, the potential risks, the freedom to withdraw, and the promise of confidentiality to the participants (Creswell, 2014). To ensure both confidentiality of participants' identities, I coded the participants numerically (Creswell, 2014).

Deception was not used in this study, and the participants were made fully aware of the study's purpose at the beginning of the interview process (see Appendix D). I also asked permission to record the interviews with the guarantee that all participants had the opportunity to review their interview transcripts following transcription. The one-on-one, in-person,

semistructured interviews took place in a private room at a neutral location to ensure confidentiality. To further ensure confidentiality, all interview recordings were deleted immediately following transcription and member checking. Signed consent forms will be stored in a locked filing cabinet in the researcher's home office, and coded data will be stored in a separate, locked filing cabinet in the researcher's home office. This information will be kept securely for three years and then destroyed.

Summary

This chapter provided an overview of the research methodology for a phenomenological study that examined the lived experiences of females enrolled in nontraditional programs of study at a career and technical center in rural Pennsylvania. Additionally, this chapter explained the rationale behind my design decisions as well as the action steps for data collection and analysis. The themes identified through data collection and analysis resulted in similarities and patterns between participants' responses and informed me of the most influential experiences affecting their career choices (Saldaña, 2015). This chapter also described the measures I took to control for bias and ensure that the study was valid and ethical (Creswell, 2013). While research has been conducted on females enrolled in STEM programs, phenomenological research focused on the lived experiences of females enrolled in nontraditional programs of study in career and technical education has yet to be explored. Therefore, this study helped to fill the gap in the literature by examining what the participants are experienced in their career and technical education program and expanded the body of research in this area to understand how their educational experiences impacted their career choices.

Chapter 4: Data Analysis and Results

At the secondary level, career and technical centers serve an important function as they expose female students to nontraditional career opportunities. Career and technical centers offer programs of study in various occupational areas to teach students technical skills and prepare them to enter the workforce and post-secondary institutions upon graduation (Hamilton et al., 2015). However, research indicates that females benefit less from their career and technical educational experience than their male counterparts as a result of the unique challenges they face as the gender minority in this setting (Camera, 2016). Additionally, their experiences in career and technical education, both negative and positive, can influence their career choices as adults.

This phenomenological study explored the lived experiences of female graduates of nontraditional programs of study from a rural Pennsylvania career and technical center to understand why females choose to pursue female-dominated occupations when nontraditional occupations provide more opportunities for upward social mobility, higher earning potential and economic security (Hegewisch & Williams-Baron, 2017). To understand why females are underrepresented in careers that are nontraditional for their gender, this phenomenological study examined the factors influencing females' understanding and experience with nontraditional career choices based on their experiences as nontraditional students in career and technical education. The four factors that were examined through semistructured interviews with participants included the availability and presence of female role models, familial influence, gender roles and stereotypes, and self-efficacy.

The purpose of this phenomenological study was to examine females' lived experiences with nontraditional programs of study in career and technical education and understand how their

experiences impacted their nontraditional career choices upon graduation. The following research questions guided this phenomenological study:

- RQ₁. How do female, career and technical education graduates perceive and describe their experience with nontraditional programs of study?
- RQ₂. How do female, career and technical education graduates' experiences in nontraditional programs of study influence their career choice?

As the primary investigator for this phenomenological study, I was involved in both data collection and analysis because, in phenomenological inquiry, the researcher is the key instrument as they collect the data, examine documents, interview participants, and observe participants' behavior throughout the interview process (Creswell, 2013). As an educator for over 12 years at both the secondary and post-secondary levels, my main motivation for conducting this study was to investigate why females are underrepresented in nontraditional careers by examining the factors influencing females' career choices.

I chose to conduct this phenomenological study because I am currently employed as a workforce development coordinator at a career and technical center in Pennsylvania, and I have witnessed female students' tendency to favor "pink collar" positions in human services and cosmetology, which are low-paying fields, and fail to enroll in nontraditional programs of study (Sullivan, 2002). I believe it is critically important to identify what female students enrolled in nontraditional programs of study in career and technical education are experiencing that would lead them to choose lower-paying, traditional occupations and make recommendations to increase recruitment and retention of females in nontraditional programs of study based on this information.

My current position as a workforce development coordinator was known to all participants because I was a former direct/indirect career advisor and administrator within the institution they graduated from in June 2018. My relationship with the participants may have had two effects regarding the data. First, participants were more descriptive when discussing their experiences as a female student enrolled in a nontraditional program of study in career and technical education because they knew I was familiar with the learning environment and instructors at the career and technical center. Secondly, even though I discussed confidentiality before every interview, my position within the career and technical center may have caused participants to avoid discussing certain negative aspects of their experience, such as their relationships with male instructors. While the participants were open and honest when discussing the bullying they endured by male peers, very few shared specific details about their male instructors. I acknowledged my role as the primary research instrument and my prior relationship with the participants as limitations in Chapter 3.

To best understand how female career and technical education graduates perceive and describe their experience with nontraditional programs of study and how their experiences in nontraditional programs of study influenced their career choice, a transcendental phenomenological research design was used. Utilizing semistructured interviews through the use of a phenomenological research design provided a better understanding of the problem through the experiences of those individuals who have experienced the phenomenon first-hand. Additionally, in a phenomenological study, the participants' voices serve as the primary data in the study, which justified the selection of this methodology for the study (Saldaña, 2015).

Each of the 11 participants in this phenomenological study voluntarily completed a semistructured interview where they reflected on their experiences as female students enrolled in

nontraditional programs of study at a career and technical center. Throughout the interview process, participants were asked 21, open-ended questions that encouraged them to reflect on their lived experiences with the phenomenon in question and describe the challenges and triumphs they experienced along the way. Specifically, participants described how the following factors influenced their nontraditional career choice: exposure to female role models working in nontraditional careers, familial influence, gender roles and stereotypes about females in nontraditional careers, and the participants' self-efficacy. Further, participants also provided artifacts they felt were representative of their experience as a female enrolled in a nontraditional program of study. In addition to the semistructured interview and artifact collection, I took extensive field notes throughout the interview process. The three methods of data collection resulted in triangulation of data, which is when multiple sources and methods of data collection are used to provide corroborating evidence in a study (Creswell, 2014).

While a majority of the previous research conducted in this area focused on best practices in the recruitment of females to careers in STEM (Costello, 2012; Doerschuk et al., 2016; Milgram, 2011; Toglia, 2013), this phenomenological study explicitly focused on females enrolled in career and technical education. Previous literature failed to examine the factors influencing females' lack of nontraditional enrollment and completion in career and technical education. Therefore, the focus of this study was on the factors influencing females' understanding and experience with nontraditional career choices and how career and technical centers can use this information to comply with nontraditional enrollment and completion numbers mandated by the Perkins Act of 2006 (Perkins, 2006).

In Chapter 4, an overview of the research population and participant sample will be provided, along with a discussion of the research methodology and analysis process. In this

study, data analysis occurred in the following three stages: data gathering, the interview transcription process, analyzing and coding the data, and theme development. In addition to a discussion of the research methodology and analysis process, a detailed summary of the findings and a presentation of the data and results will be provided based on the information obtained from semistructured interviews with 11 participants. I will also report on the themes and subthemes that emerged in the participants' responses. The themes and subthemes answered the two research questions used to guide the study. The results of the study will be used to make recommendations for change and establish best practices in recruitment and retention of females in nontraditional programs of study in career and technical education and improve career and technical centers' overall scores in Perkins performance indicators.

Description of the Sample

The setting for this phenomenological study was a career and technical center located in rural Pennsylvania. This career and technical center was chosen because it failed to meet secondary performance levels for nontraditional completion as established by Perkins in both 2016–2017 and 2017–2018 (Pennsylvania, 2018). Additionally, I am currently employed at this career and technical center. A non-probability sampling procedure was used to select the participants for this research study. Specifically, criterion sampling was used to ensure that all participants met specific criteria (Creswell, 2013).

Participant selection occurred in October and November of 2018. With an initial goal of 8–12 participants, the final number of participants who completed the semistructured interview process was 11. Participants were contacted via email based on an alumni roster that I maintained as a part of my position as the workforce development coordinator. The participants were identified by their age, gender, and program of study. I emailed all 17 females who met the

following criteria: they were all graduates of the same rural Pennsylvania career and technical center, they were all enrolled in a nontraditional program of study, and they were at least 18 years old, and I gave them a deadline to confirm their participation in the study. Twelve females responded to the email inquiry. However, only 11 interviews were conducted because one of the original 12 respondents had to withdraw from the study before her interview due to a medical emergency. Throughout the data collection process, I did not have to remove any participants. Males were excluded from this study because it only examined the lived experiences of female career and technical education graduates.

For this study, 17 female participants were originally recruited because they met the following criteria: they were all graduates of the same rural Pennsylvania career and technical center, they were all enrolled in a nontraditional program of study, and they were at least 18 years old. Eleven out of 17 potential participants took part in and completed this study, which is 65% of the original sample population. The participant sample represented the following four programs of study: welding (2 participants), protective services (5 participants), electronics technology (1 participant), and culinary arts (3 participants), which accounts for 33% of the nontraditional programs of study available at the career and technical center that served as the setting for the study. Two nontraditional programs of study, computer networking, and heavy equipment operations, were not represented in this study because they failed to have a student that met the participant criteria graduate in 2018. Below is a brief overview of each female who participated in this phenomenological study as well as a description of the pilot study participants.

Pilot Study

The use of a pilot study was critical to this phenomenological study because it tested the semistructured interview protocol and assisted me in refining the questions being asked of the participants (Creswell, 2013). The interview protocol was pilot tested using two instructors from the career and technical center that served as the setting for the study. Two career and technical education instructors, one male and one female, were interviewed by the researcher using the interview protocol (see Appendix D). Following the pilot study, I solicited feedback from both instructors and applied it to the interview protocol for the study.

Both pilot study participants felt that the opening segment of the interview protocol successfully built rapport and eased them into the interview process. Pilot study participant 1, which was the female instructor, believed it was important that I asked the participants if they were currently attending a postsecondary institution or if they were employed. She thought that was a strong question and was a solid segue into the more intense, middle segment of the interview. Pilot study participant 2, the male instructor, was surprised by the depth of the questions surrounding the participants' experiences as females in nontraditional programs of study. He admitted that he never really thought that deeply about how a female student's experience could differ so greatly from their male counterparts. While he thought the middle segment questions were purposeful, he did express concern that a few of the questions may be "over their heads." This concern was substantiated when I started interviewing, and the first two participants were unable to describe their experiences adequately. As a result, I made adjustments to the interview questions for the remaining participants. Lastly, both pilot study participants felt that asking if there were specific things the career and technical center could do to improve a female student's experience in a nontraditional program of study was a great

question and a positive way to end the interview. Overall, the pilot study produced only a few suggestions as the participants provided positive feedback regarding the types of questions being asked and the order in which they were presented.

Pilot study participant 1. This participant was a female instructor at the career and technical center that served as the setting for the study. Her program of study is considered traditional for females. She is currently in her second year of teaching. Since she was a pilot study participant, her data was not included in data analysis. As a pilot study participant, she was not asked to bring an artifact to the interview. Her participation was strictly for testing the interview protocol.

Pilot study participant 2. This participant was a male instructor at the career and technical center that served as the setting for the study. His program of study is considered nontraditional for females. He is currently in his sixth year of teaching. Since he was a pilot study participant, his data was not included in data analysis. As a pilot study participant, he was not asked to bring an artifact to the interview. His participation was strictly for testing the interview protocol.

Description of Sample (or Participants)

Participant 1. This participant was a quiet, shy student who struggled to verbalize and describe her experience as a nontraditional student in the protective services program. The biggest takeaways from her interview were that she loved her male instructor, and she felt that the male students in the class made the female students believe they did not belong. She seemed hesitant to elaborate on the negative details of her experience, and I thought it might have been because she had a positive relationship with her instructor.

Participant 2. This participant was a friendly student who required a majority of the semistructured interview questions to be repeated and clarified. She did not seem to understand what I was asking, and she answered “I don’t know” to several questions. Her interview provided the least amount of data of all eleven interviews. Following her interview, I spoke with my advisor to rephrase and reword some of the interview questions in an attempt to elicit more thorough responses from participants moving forward.

Participant 3. This participant was extremely outgoing and well-spoken. She was excited to have the opportunity to speak about her experience in the protective services program. She was confident and articulate in her responses, which was a reflection of her overall demeanor and personality.

Participant 4. This participant was quiet and reserved, but she was able to explain how she was the victim of collective bullying in her welding program. Out of all eleven participants, she seemed to have the most challenging experience because of collective bullying by her male peers. While she loved welding and made a career out of it, she did not have a positive experience in her program of study.

Participant 5. This participant was articulate and well-spoken. She provided thorough, thoughtful answers to all of the interview questions. It was easy for her to describe her experience in the protective services program, and she spent a lot of time discussing how the EMT portion of the program led her down a different career path than she had intended.

Participant 6. This participant was shy at first, and it took her a while to open up to me. She discussed how she was not very good at welding when she first started the program, but she did not give up. She kept practicing and eventually got better, which gave her more confidence.

She also described how she felt her instructor did not challenge her as much as he did the male students in the class.

Participant 7. This participant was bubbly, friendly, and outgoing. Her interview provided the most data of all eleven interviews because she took her time and provided thorough answers for every question. She discussed how her older sister had been enrolled in the protective services program, which is how she became interested in it. She also talked about how there were almost as many females as males in the program, which did not make it feel like a nontraditional program. She spoke highly of both the program and her male instructor, and she has even come back to visit him since she graduated.

Participant 8. This participant was not very talkative and only spoke when she was asked a question. There was almost no small talk before or after the interview. She seemed very nervous throughout the interview and unsure if she was answering correctly. I had to tell her to relax on multiple occasions. Her interview did not provide much useable data.

Participant 9. This participant was eager to start the interview. She was very outgoing and did an excellent job answering the questions. She was quick to point out that she was enrolled in two nontraditional programs throughout her time at the career and technical center. Her interview was the longest of all eleven interviews because she went into great detail describing her experience in both the electronics technology and culinary arts programs.

Participant 10. This participant was knowledgeable, well-spoken, but very reserved. She had a very calm, quiet demeanor and took her time answering questions. She spoke highly of her experience in the culinary arts program, but she did mention feeling like the male students did not want her in the program. She earned an academic scholarship at a local culinary arts institution and is studying to become a baker.

Participant 11. This participant was best friends with Participant 10, but they had a very different experience in the culinary arts program. This participant was much more outgoing and spoke candidly about experiencing discrimination because of her gender. She did not hold back and gave the most open and honest interview I conducted. A brief overview of each participant is listed in Table 2.

Table 2

A Brief Overview of the Participants

Participant	Age	Graduation Year	Program of Study	Current Job	Currently Attending College
1	18	2018	Protective Services	Unemployed	Yes
2	18	2018	Culinary Arts	Unemployed	Yes
3	18	2018	Protective Services	Waitress	No
4	18	2018	Welding	Welder	No
5	18	2018	Protective Services	EMT	Yes
6	18	2018	Welding	Unemployed	Yes
7	18	2018	Protective Services	EMT	Yes
8	18	2018	Protective Services	Food Service	No
9	19	2018	Electronics Technology/Culinary Arts	Food Service	Yes
10	19	2018	Culinary Arts	Apprentice	Yes
11	18	2018	Culinary Arts	Apprentice	Yes

Research Methodology and Analysis

The research methodology and analysis for this study was centered on the research and publications of Creswell (2013), Moustakas (1994), and Saldaña (2015). Specifically, Moustakas’ (1994) model for transcendental, phenomenological research was selected because it gave a voice to the participants throughout the interview process and provided the data needed to answer both research questions for this study. Additionally, a phenomenological research design was chosen because it was the approach best suited for understanding several individuals’ shared

experiences of a phenomenon (Creswell, 2013). Data analysis for this phenomenological study occurred in the following four stages: data gathering, the interview transcription process, analyzing and coding the data using in vivo coding, and theme development. The data was analyzed in a manner consistent with Moustakas' (1994) modification of the van Kaam (1959, 1966) method of analysis of phenomenological data, and the various stages of data analysis will be discussed in detail.

Phenomenology. According to Moustakas (1994):

In phenomenological studies, the investigator abstains from making suppositions, focuses on a specific topic freshly and naively, constructs a question or problem to guide the study, and derives findings that will provide the basis for further research and reflection.

(p. 47)

For this study, a phenomenological research design was chosen because it provides a means of research that had been underutilized in previous studies examining females' experiences in career and technical education. Additionally, a phenomenological research approach provided a detailed account of the experiences of females working in nontraditional careers and those enrolled in nontraditional programs of study at career and technical centers. The selection of a phenomenological research design was the best fit for this study because it provided readers with a better understanding of the problem through the lived experiences of those individuals who experienced the phenomenon first-hand.

Saturation of data. I utilized a non-probability sampling procedure to select participants for this phenomenological study (Creswell, 2013). Criterion sampling was used to ensure that all participants met the following criteria: they were adults over the age of 18, female, and a graduate of a nontraditional program of study from a career and technical center. This sampling

procedure helped me achieve quality assurance for this phenomenological study (Creswell, 2013).

Regarding sample size for a phenomenological study, it was recommended to have between five and 25 participants that have experienced the phenomenon in question (Creswell, 2013). For this phenomenological study, 12 participants responded to the initial inquiry, and 11 participants completed the study. This sample size resulted in saturation of data because new information from the participant interviews failed to result in new insights (Creswell, 2014). Interviewing participants until saturation of data was achieved is one tool I used to ensure that adequate and quality data is available to support the study of the phenomenon in question (Creswell, 2013).

Problems that occurred during data analysis. The only problem that occurred during data analysis was that the first two participants did not provide enough detail in their semistructured interviews. The participants failed to articulate their lived experiences as female students enrolled in a nontraditional program of study at a career and technical center thoroughly and descriptively, which resulted in a lack of data from those two participants. I was initially taken aback by the participants' poor articulation of their experiences because it was assumed the participants would be better equipped to describe their own lived experiences with the phenomenon in question. However, I failed to consider that some of the participants had an Individualized Education Plan (IEP) while enrolled at the career and technical center, and as a result, verbal expression was a challenge for them. This resulted in very short, nondescript responses to the semistructured interview questions and a lack of pertinent information about their experiences with the phenomenon in question.

In response to this setback during data collection, I conferred with my advisor, who suggested adding questions to the semistructured interview protocol (see Appendix A). First, I identified which questions were eliciting the best, most thorough responses from participants and added more questions related to that section of the interview. I also identified the questions that were generating the weakest responses and made adjustments to those questions to make them stronger and more purposeful. The results of the changes to the semistructured interview protocol were positive as the remaining participants provided more in-depth responses, provided specific examples of their lived experiences, and successfully described how their lived experiences in nontraditional programs of study impacted their career choices. As the edited interview questions did not change the premise of the study nor risk to participants, no IRB amendment was needed.

Four stages of data analysis. Using Moustakas' (1994) modification of the van Kaam (1959, 1966) method of analysis of phenomenological data as a guide, data analysis for this phenomenological study occurred in four stages: data gathering, the interview transcription process, analyzing and coding the data using in vivo and pattern coding, and theme development. The data analysis applied aligned with the chosen methodological approach, phenomenology, to provide readers with an in-depth understanding of the lived experiences of female graduates of nontraditional programs of study in career and technical education.

Data gathering. For this phenomenological study, three methods of data collection were utilized: semistructured interviews, artifacts, and field notes. Semistructured interviews were utilized as the primary data collection method because they allowed me to address specific topics while providing participants with the opportunity to share their experiences with the phenomenon in question (Galletta, 2013). Semistructured interviews for this study were

conducted at the public library in town. It served as a neutral, convenient location for myself and the participants, and it provided a private, quiet setting for conducting and recording interviews. Each participant met with me once individually, and a script was used to guide the semistructured interview process (see Appendix A). The participants were asked 21 open-ended questions related to their personal experiences with the phenomenon in question (Moustakas, 1994).

When scheduling the interview, I asked participants to bring an artifact to the interview they felt was representative of their experience with the phenomenon. The use of artifacts as a form of data collection complemented the semistructured interviews because they provided another way to examine the participants' actions, experiences, and beliefs related to the phenomenon in question (Merriam, 2009). All 11 participants brought an artifact to the interview, and each one was personal and unique to each participant, which generated a conversation about the participants' individual experiences as a female graduate of a nontraditional program of study in career and technical education. The artifacts that participants brought to the interview are listed in Table 3.

Table 3

The Artifacts Participants Brought to Their Interview

Participant	Artifact Description
1	Stethoscope
2	High school diploma
3	High school diploma
4	The first thing she ever welded, a gift for her grandma
5	Purple sweatshirt for being a one-year member of her program of study
6	Welding jacket she wore during her time in her program of study
7	Green sweatshirt for being a four-year member of her program of study
8	Green sweatshirt for being a four-year member of her program of study
9	SkillsUSA state championship medal
10	SkillsUSA state championship medal
11	Recipes that were given to her from a female chef at her apprenticeship location

Throughout the data collection process, I took extensive field notes. Even though all of the interviews were recorded using a digital voice recorder, taking field notes increased the methodological rigor of the study because it served as the third method of data collection (Creswell, 2013). I reviewed my field notes during the data analysis phase of the study along with the interview transcripts, and they assisted me in coding the data and identifying emerging themes between the three data collection methods. This process is formally called the triangulation of data, which is when the researcher utilizes multiple sources and methods of data collection to provide corroborating evidence in a study (Creswell, 2014). Additionally, taking field notes and writing analytic memos was a way for me as the primary researcher to engage in bracketing. Bracketing is a phenomenological reduction step that is taken to reduce preconceptions related to the research by setting everything else aside and focusing on the

research (Moustakas, 1994). Using field notes and analytic memos allowed me to acknowledge my own biases and work through them.

Interview transcription process. Following data gathering, the second stage of data analysis was the interview transcription process. Each participant interview was recorded with a digital voice recorder. Following each interview, I downloaded the interview from the digital voice recorder onto a laptop. I then transcribed the interviews using www.rev.com, an audio transcription software program, to convert the audio recordings to text files. Having a text file to reference in addition to the audio recording added value to the interviews and increased quality and reliability in the findings. After the audio recordings were transcribed into text files, I deleted all audio recordings from the digital recorder.

Prior to analyzing and coding the data, member checking was conducted. All 11 participants were emailed both the audio and text file of their interview. This gave participants the opportunity to review and approve their individual transcripts (Creswell, 2013). Once member checking was completed, data analysis followed.

Analyzing and coding the data. The third stage of data analysis, analyzing and coding the data, was done using the complete text file of each research participant. This portion of my data analysis process was where alignment began with the Moustakas' (1994) modification of van Kaam's (1959, 1966) method of analysis. When analyzing data in a phenomenological study, epoche is a necessary first step, and it is defined as refraining from judgment and staying away from the everyday, ordinary way of perceiving things (Moustakas, 1994). As the primary researcher, I set aside my prejudgments about the phenomenon in question to see it from a fresh, unbiased perspective. Following epoche, the next step in the process was horizontalizing the data, which included listing every expression relevant to the experience and treating every

statement as having equal value (Moustakas, 1994). This was accomplished by listing every expression relevant to the participants' experiences. Following the listing and preliminary grouping of the participants' expressions, reduction and elimination occurred. This process consisted of testing every participant expression for two requirements. First, did it contain a moment of the experience of the phenomenon that was necessary for understanding it, and secondly, was it possible to abstract and label it (Moustakas, 1994)? Once the participants' expressions were reduced to reflect the unique qualities of their experience with the phenomenon using the process described above, first cycle coding of the data took place using in vivo coding.

According to Saldaña (2015), "In vivo coding is appropriate for virtually all qualitative studies, but particularly for beginning qualitative researchers learning how to code data, and studies that prioritize the participant's voice" (p. 106). Since this was a phenomenological study, the participants' voices served as the primary data in the study, and in vivo coding gave me the best opportunity to capture the descriptions of their experiences with the phenomenon verbatim. While there was a multitude of different types of codes available to choose from, I chose in vivo coding as the first cycle coding method because it prioritized and honored the participants' voices and was conducive for a novice qualitative researcher such as myself (Saldaña, 2015). Additionally, first cycle coding using in vivo coding was an effective way to initially summarize my segments of data and prepare for second cycle coding.

Theme development. In the final stage of data analysis, after in vivo coding was completed, I utilized pattern coding as a second cycle coding method to group my in vivo codes into a smaller number of themes. According to Saldaña (2015), "Pattern codes are explanatory or inferential codes, ones that identify an emergent theme, configuration, or explanation" (p. 236). During second cycle coding, I took the in vivo codes identified during first cycle coding

and grouped them to form pattern codes. Each of the six pattern codes contained roughly 15 in vivo codes. Examples of some of the in vivo codes included: bullied, not challenged, felt left out, gained confidence, unequal, inferior, “a man’s world,” barriers, male instructors, mocked, gender stereotypes, family, and prove oneself. Then, the pattern codes were used to identify six emergent themes that were indicative of the participants’ lived experiences with the phenomenon, and they included: increased self-efficacy, bullied by male peers, need to prove oneself, lack of female role models in nontraditional occupations, familial influence, and not being challenged by their instructors. Lastly, the resulting themes were broken down further into subthemes, and both the themes and subthemes were used to develop the textural descriptions of the participants’ lived experience (Moustakas, 1994). The themes and subthemes are listed in Table 4.

Table 4

Themes and Subthemes

Themes	Subtheme 1	Subtheme 2	Subtheme 3
Increased self-efficacy	Sense of accomplishment	Overcoming barriers to success	
Bullied by male peers	Made to feel inferior based on gender	Collective bullying	
Need to prove oneself	Motivated to succeed in a “man’s world”	Had to work harder to prove their worth	
Lack of female role models in nontraditional occupations	Male instructors	Exposure to female role models at an earlier age	Alumnae network
Familial influence	Working mothers	Blue-collar fathers	
Not being challenged by their instructors	Gender stereotypes	Unequal learning environment	

Constructing a textural description for each participant using the meanings and essences of their individual experience was the final step in Moustakas' (1994) modification of the van Kaam (1959, 1966) method of analysis of phenomenological data. An individual textural description is defined as an integration of the invariant textural constituents and themes of each research participant (Moustakas, 1994). Textural descriptions for all 11 participants are presented in the Summary of Findings section in this chapter.

In summary, a phenomenological research design was the best methodological approach for this study topic because it describes the lived experiences of a group of people experiencing the same phenomenon and focuses on the commonalities between their experiences (Creswell, 2013). In this phenomenological study, the group of people were female graduates of a nontraditional program of study at a career and technical center, and the phenomenon in question was their lived experiences as the gender minority in their educational setting. Additionally, the selection of in vivo coding as the first cycle coding method was the correct fit for the methodological approach because the participants' voices served as the main data source, and in vivo coding prioritizes the participants' voices, especially as teenagers, which is considered to be a marginalized population (Saldaña, 2015). Additionally, the choice of pattern coding as the second cycle coding method assisted in organizing the codes into themes. The methodological strategies utilized in this study were consistent with a phenomenological research design, and the specific coding procedures provided me with the answers to both research questions that guided the study.

Summary of the Findings

This phenomenological study sought to identify what female students who were enrolled in a nontraditional program of study at a career and technical center experienced throughout their

educational journey and how those experiences influenced their career choice upon graduation. Once data collection was completed, I identified six central themes and related subthemes that emerged from first and second cycle coding, and they included: increased self-efficacy, bullied by male peers, need to prove oneself, lack of female role models in nontraditional occupations, familial influence, and not being challenged by their instructors. When the data was compiled, the similarities in participant responses revealed that their experiences with the phenomenon in question were comparable. The themes and subthemes identified through first and second cycle coding are presented below and feature textural descriptions of each participant's experience with the phenomenon in question.

Theme 1: Self-efficacy. Self-efficacy is defined as the belief one holds regarding their ability to complete specific tasks and behaviors (Bullock-Yowell et al., 2012). In this phenomenological study, self-efficacy was a major emerging theme, and it manifested itself through the participants' discussion of how they gained confidence throughout their program of study in the skills and abilities directly related to their occupational area. About welding, Participant 6 said, "I didn't think I was like the best at welding at first, but once I started practicing, I learned a lot more, felt like I got better at it, and got more confident about doing it on my own." When asked to describe her self-efficacy, Participant 3 stated:

I always knew that I wanted to go above and beyond, and having my teacher help me learn, providing one-on-one attention, and being in a smaller learning environment helped my confidence grow a lot from my first year to my fourth year in the program. Participant 8 felt that being a female enrolled in a nontraditional program of study positively impacted her self-efficacy. She said, "I was not really confident at first, but then through the years, I gained more confidence because I knew that I was learning something new every day

that most girls will never learn.” When discussing how her experience increased her self-efficacy, Participant 11 stated:

I was so shy that first year, and I didn’t want to be a part of too many things because I was scared of what other people would think. Over time, I was able to involve myself more in the kitchen and become a more confident person overall. It really helped me be able to come out of my shell and improve my confidence in my daily life.

Subtheme: A sense of accomplishment and overcoming barriers to success. The subtheme corresponding to self-efficacy that was identified by participants was a sense of accomplishment and overcoming barriers to success. When discussing the pride and sense of accomplishment she felt graduating from a nontraditional program of study, Participant 1 stated, “When I first started in the program, everyone said a girl couldn’t do it because it’s a guy’s job, and that just made me even prouder that I was able to graduate and be successful.” Participant 10 also felt that graduating from a nontraditional program of study as a female was a major accomplishment when she stated, “It was kind of empowering because they say not too many females make it in the field, and I was able to prove them wrong.”

As the gender minority in their nontraditional program of study, participants felt they had to overcome barriers that their male counterparts did not encounter. When addressing this subject, Participant 5 said:

I’m one of those people that believe that barriers are meant to be broken and that if things stand in your way, you have to do everything you can to be successful. If certain people think I can’t do something, it makes me want to do it more. That attitude helped me kind of block out everyone telling me that’s not something I should do because it’s for the boys.

This data based on participant interviews allowed me to confirm that an increase in self-efficacy was a factor in their experience as female students enrolled in nontraditional programs of study at a career and technical center. However, this increase in self-efficacy was not achieved without major challenges for the participants as they described how they endured bullying by their male peers.

Theme 2: Bullying by male peers. Bullying was the second major emerging theme as participants gave countless examples of habitual bullying and harassment from their male peers. This was the most negative theme that emerged from participant interviews as some participants got emotional recounting instances when they felt victimized by their male peers. Participant 4 stated, “Well, boys can be cruel, but at the end of the day, you’re there to get experience so you can make money and further yourself in life.” She also discussed some sexist remarks that were made to her throughout her time in the welding program such as “You should be in culinary or cosmetology, or if you wore makeup, they’d say something about it.”

Participant 9 shared a story about her female classmates in the electronics program who left the program because of constant bullying by male peers. She said:

A couple of my friends in the electronics program with me dropped out because they couldn’t take it, and the guys were just so hard on them. They just couldn’t prove themselves. They felt like because they weren’t getting it in the first couple of months, they were never going to get it and keep getting bullied. So, they just dropped out.

Subtheme: Made to feel inferior based on gender and collective bullying. The subtheme corresponding to bullying by male peers that was identified through participant interviews was that females were made to feel inferior based on their gender, and the

collective bullying by male students that occurred in nontraditional programs of study. When discussing being made to feel inferior based on her gender, Participant 9 stated, “My female classmates and I felt like we had to prove ourselves more to the guys in class than to anybody because they said we didn’t belong and couldn’t do it because we were girls.” The idea that female students were treated as inferior based on their gender led to collective bullying by male students. Participant 10 discussed her experience in culinary and said, “I mean sometimes there’s added pressure because the guys kind of gang up on you and you’re like the only female in the room.” Participant 4 had a similar experience in welding, and said, “It was always boys versus girls.” This discussion emphasized the emotional impact that bullying by male peers had on the participants throughout their experience and how it undermined their educational journey in a nontraditional program of study.

Theme 3: Need to prove oneself. The third major theme that emerged from participant interviews was their need to prove oneself in their nontraditional program of study. The feeling that they had to prove themselves stemmed from their knowledge that they were the gender minority in their program of study. Participant 5 stated:

So, when I went in that first day, I felt like I had something to prove to the people that were already there that I deserved to be there, and I had to make the guys feel like I was a good person to welcome into the program.

In her electronics program, Participant 9 experienced this feeling early on in her nontraditional program of study as well. About her struggle, she said:

In electronics, it was hard at first, because everyone just thought that I was a girl who didn’t know how to do anything. I had to prove myself. I truly did have to prove myself. More to the peers, but sometimes, I felt like I did have to do it to the teacher as well. He

would assign the guys the harder stuff, and the girls would get the super easy stuff to work on in class.

Subtheme: Motivated to succeed in a man's world and work harder to prove their worth. The subtheme corresponding to having to prove oneself that was identified through participant interviews was that participants were motivated to succeed in a “man's world,” and they had to work harder to prove their worth. While the career path she is pursuing as an EMT is considered a nontraditional career for females, Participant 3 knew she could succeed in a “man's world.” She stated, “I could do just as much as the guys could do, maybe if not more at certain points throughout the program, and the guys definitely didn't like that a girl could outperform them in class.” Participant 9 definitely felt like she had to work harder than the guys to prove her worth to her instructor and her male peers. She stated:

I just kept putting myself out there by taking the hardest things from the guys and doing them myself. One day, my teacher finally noticed that I knew what I was doing, and he seemed surprised that I could actually do the work. I told him that I have been trying to show you all that I can do for months, but you never noticed.

Based on the participants' responses, it is clear that they felt they had to work harder to prove themselves to their male instructor as well as their male peers. This was an added burden as they strived to achieve success in their nontraditional program of study.

Theme 4: Lack of female role models in nontraditional occupations. As the gender minority, the participants described how they had very few, if any, female role models in their nontraditional programs of study and in their personal lives. This led to the lack of female role models in nontraditional occupations emerging as the fourth major theme from the data. All participants made mention of the fact that every instructor they had was male, and the majority

of guest speakers brought in to speak to their classes were male. These experiences made them realize that a lack of female role models existed for female students pursuing nontraditional programs of study at the career and technical center.

For example, Participant 2 said, “I guess I hadn’t thought about it until now, but I can’t name a female in my life that is working in a nontraditional career.” Participant 11 spoke about the guest speakers brought into in her culinary program. She said, “Anybody that would come in to talk to us about going into culinary as a career or go to a certain college to major in it were always men.”

Subthemes: Male instructors, exposure to female role models, and alumnae network.

The subthemes corresponding to a lack of female role models that were identified through participant interviews were male instructors, exposure to female role models at an earlier age, and an alumnae network at the career and technical center. At the career and technical center where the study was conducted, there was a male instructor in every nontraditional program of study. This created an environment where female students felt they had to prove themselves to their male instructors more than their male peers. While all the instructors were male, there were female aides assisting instructors in a few of the nontraditional programs of study. Regarding her relationship with a female aide, Participant 10 stated:

I worked with a female aide in my culinary program of study, and she was responsible for the baking side. I felt she was a powerful woman, and I’m really glad that she was there to support and encourage me to pursue my dreams. Without her there, my experience would have been much less enjoyable.

The second subtheme was exposure to female role models at an earlier age. Participant 1 believed that ninth grade is too late to start discussing nontraditional career opportunities with

females. She stated, “The career and technical center has to start talking to female students in middle school and even elementary school about what a nontraditional career is and how females have the chance to start their training at the CTC.” Participant 3 echoed this sentiment when she said, “I wish that I would have had the chance to tour the career and technical center all the way back in elementary school and see that there were actually girls in the protective services program.”

The third and final subtheme was establishing an alumnae network at the career and technical center. When asked how the career and technical center could improve the recruitment and retention of females into nontraditional programs of study, Participant 9 stated:

I honestly think that the CTC should have something where former female students come back to the CTC and share their experiences with the younger students. This would mainly benefit the younger students so that they don’t feel like they are the first female to try and do this because it’s not true. There have been girls before, and they are now successful in the real world.

Based on the participants’ responses, it is clear that they felt that a lack of female role models in their nontraditional programs of study negatively impacted their experience, and several made suggestions for how the career and technical center can work to improve this aspect of a female student’s educational experience.

Theme 5: Familial influence. The fifth theme that emerged through participant interviews was the influence their family unit had on their decision to pursue a nontraditional career. Research has shown that an individual’s family unit is one of the strongest influences on their occupational choice (Wagner, 2013). For Participant 7, her parents did not have a significant influence on her decision to become an EMT, but rather, it was her older sister. She

stated, “My older sister influenced me a lot because she actually took the protective services program before me, and she talked about it at home a lot.” Now, Participant 7 has a younger sister enrolled in the protective services program as well, carrying on the nontraditional program of study trend in her family. Participant 10 had a female cousin that was enrolled in the culinary arts program of study previously. She said, “I kind of thought it was pretty cool that she did it, and she’d come home all excited about the stuff she got to cook or bake that day.”

While those participants had been encouraged to pursue a nontraditional occupation by a member of their family, other participants were discouraged by their families. Participant 9 discussed how her family tried to persuade her to pursue a more traditionally female occupation. She stated:

My parents were definitely more traditional. They wanted me to go into nursing or something medical like that, but I was not interested in it. My mom actually wanted me to go into cosmetology, but I’m absolutely not a “cosmo girl.” It wasn’t easy, but they eventually started to support me and my nontraditional career goals. I guess I had to show them I could actually succeed in a job that wasn’t traditionally female. Now, my younger sister is enrolled in the protective services program at the same CTC where I went. I kind of feel like I paved the way for her to pursue that nontraditional program of study.

Subtheme: Working mothers and blue-collar fathers. The subtheme corresponding to familial influence that were identified through participant interviews were working mothers and blue-collar fathers. Participant 11 discussed how her hard-working mother motivated her to be successful. She stated, “My mom was put under a lot of pressure because she had to meet quotas and lift heavy things, but seeing her work so hard physically and mentally really helped me know

that I could do that also.” In addition to working mothers, blue-collar fathers were supportive of their daughters pursuing a nontraditional career. Participant 4 stated:

My dad was so proud that I was going to be a welder just like he was, and he bought me my very own welder when I was 14. He always pushed me to do better. I helped him build things, and we always made stuff together. We even sold them online. My dad was always pushing me to be a better worker, period.

This discussion emphasized the critical role that the participants’ family unit had on their pursuit of a nontraditional career by either encouraging or discouraging them from following their passion. For many participants, a sibling or an extended family member provided the encouragement they needed that they may not have received from their parents.

Theme 6: Not being challenged by their instructors. The sixth and final theme that emerged through participant interviews was that they felt their instructors were not challenging them because they were female. Participant 6 recalled:

I felt like there wasn’t a lot of things that my instructor let me do in class, but at the same time, there was a lot more that I could have been doing. I got the overall feeling that because I was a girl, my instructor would always let the guys do the harder jobs. So, I was always left feeling like I wish I would be given a chance to do more and like help out the guys more.

Participant 11 had a similar experience in her culinary arts program of study. She said, “There were times I was spoken to in a certain way, and there were certain things like projects I was put on that I feel had to do with me being a female.”

Subthemes: Gender stereotypes and unequal learning environment. The subthemes corresponding to not being challenged by their instructors were gender stereotypes and an

unequal learning environment. Previous research indicated that the presence of gender stereotypes in the workplace is why females will not consider nontraditional careers, even with the opportunity to earn a significantly higher income (Hall, 2016). Participant 4 experienced gender stereotyping in her program of study, but she was able to rise above the negative comments regarding her gender. She stated:

Well, because of the bullying and the guys saying all these nasty things about you being a woman, you kind of get this mindset that you're going to show them up and you're going to do better than what they can do because you're a woman. You can push through anything, same as a guy can. You can do whatever a man can do, regardless of your physical appearance. If you're skinny, short, tall, chubby. It doesn't matter. You can still do the same thing they can do, and you might even be able to do it better.

Participant 2 believed that an unequal learning environment for female students was very common in all the nontraditional programs of study at the career and technical center. She stated, "I know that the guys were given more opportunities in my shop, and I also heard from my female friends in other nontraditional programs of study that the same thing happened in their shops." However, the participants that were enrolled in the protective services expressed that they felt there was an equal learning environment because there was a large nontraditional enrollment in that program of study. Participant 7 stated, "I felt like I was treated the same and given the same opportunities as the guys, but there were almost as many girls as guys enrolled in the program." Based on the participants' responses, it was clear that a majority of them felt like their instructors did not adequately challenge them because they were females. However, the few participants that did not experience this were enrolled in a program of study where the number of females was comparable to the number of males enrolled in the program of study.

Presentation of the Data and Results

According to Moustakas (1994), “From the individual textual-structural descriptions, develop a composite description of the meanings and essences of the experience, representing the group as a whole” (p. 121). The composite textural description in a phenomenological study is defined as an integration of all of the individual textural descriptions into a group or universal textural description (Moustakas, 1994). For my participants, their experience at a career and technical center was a time of career exploration and self-discovery. In my study, the experience of being a female student enrolled in a nontraditional program of study at a career and technical center consisted of a series of highs and lows for participants. For many participants, the highs were breakthrough experiences that occurred as a result of an increase in self-efficacy over the course of their nontraditional program of study. Their ability to perform increasingly difficult tasks within their nontraditional program of study contributed to their increased self-efficacy and sense of belonging. For certain participants, their highs came as a result of proving to themselves and others that they could succeed in a “man’s world.” In regards to the highs, participants expressed common feelings of confidence, empowerment, and pride.

In contrast to the highs the participants experienced, the lows were singular events such as a bullying incident involving male peers or being passed over for a challenging project. For certain participants, their experience in a nontraditional program of study involved sexist remarks and teasing by their male peers because of their physical appearance. My participants reported that their hair, makeup, and clothing were targeted by their male peers. For others, their lows stemmed from having to sit on the sidelines while their male peers were given the more challenging, difficult assignments from their instructors. These experiences left my participants feeling alienated, intimidated, and overlooked in their nontraditional program of study.

In summary, my participants experienced a range of emotions and feelings as female students enrolled in a nontraditional program of study at a career and technical center. While they were focused on exploring a nontraditional career path and planning for their future, they experienced an increase in self-efficacy as they became more skilled in their trade. However, they also endured bullying by their male peers and felt overlooked by their male instructors. Although my participants were enrolled in various nontraditional programs of study at the same career and technical center, commonalities existed when they described the highs and lows of their experience with the phenomenon in question.

Chapter 4 Summary

The data collected through interviews with all 11 participants revealed six major themes following first and second cycle coding: increased self-efficacy, bullied by male peers, need to prove oneself, lack of female role models in nontraditional occupations, familial influence, and not being challenged by their instructors along with multiple subthemes. This chapter also provided a detailed overview of each participant that included their age, program of study, career goal, and the artifact they brought to the interview. Through data collection during the semistructured interviews, the findings of this phenomenological study provided insight into the lived experiences of females enrolled in nontraditional programs of study in career and technical education.

In the final chapter, Chapter 5, I will determine what the reported results mean and how they can be applied to the community of practice. I will present and evaluate the results of this phenomenological study and connect it to past and current literature on the topic. Lastly, I will discuss the limitations and implications of this phenomenological study's results as well as recommendations for further research in this area.

Chapter 5: Discussion and Conclusion

The purpose of this study was to examine females' lived experiences with nontraditional programs of study in career and technical education, and to understand how their experiences as females enrolled in nontraditional programs of study in career and technical education impacted their choice of a nontraditional career. This phenomenological study was initially motivated by my professional interest in the topic as I have spent my entire career working in education at both the secondary and post-secondary level. My current position as a workforce development coordinator at a career and technical center made me believe it was worth investigating why females are grossly underrepresented in nontraditional programs of study in career and technical education. This phenomenological study applied Social cognitive career theory (SCCT) to examine how personal, behavioral, and environmental factors worked together to influence the participants' career choices (Sickinger, 2013).

In Chapter 5, a summary of the research is presented, along with a discussion of how the results served to answer the research questions that guided the study. In addition, there is discussion of the results in relation to previous literature and theory, and how they connect to the community of practice. Then, the limitations of the study are presented in order to improve the study if it were to be replicated in the future. Next, there is a discussion of the implications of the results for the community of scholars and how the research has the ability to inform policy and practice for nontraditional recruitment and retention in career and technical education. Finally, this chapter provides recommendations for further research in the area of nontraditional recruitment in career and technical education in order to increase female participation in and completion of nontraditional programs of study.

Summary of the Results

In the current study, I sought to better understand how female students enrolled in nontraditional programs of study in career and technical education perceived and described their experience, and how their lived experiences as the gender minority in their programs of study influenced their career choice. The four factors that were examined through semistructured interviews with participants included the availability and presence of female role models, familial influence, gender roles and stereotypes, and self-efficacy. Previous research revealed that the absence of females in nontraditional programs of study in career and technical education was significant and warranted attention because females enrolled in nontraditional programs of study have a higher earning potential over the course of their lifetime compared to those enrolled in traditionally female programs of study (Grayson, 2017).

The organization of the data and results was done according to the two research questions that were used to guide the study:

- RQ₁. How do female, career and technical education graduates perceive and describe their experience with nontraditional programs of study?
- RQ₂. How do female, career and technical education graduates' experiences in nontraditional programs of study influence their career choice?

Both research questions were used to help me identify emerging themes from the data gathered through participant interviews. Upon completion of the data collection process, participant interviews were analyzed for common themes and subthemes, and the commonalities for each research question are presented in the following paragraphs.

Research question one. Research question one asked how female, career and technical education graduates perceived and described their experience with nontraditional programs of

study. The participants' perceptions and descriptions of their experience were categorized into six major themes: increased self-efficacy, bullied by male peers, need to prove oneself, lack of female role models in nontraditional occupations, familial influence, and not being challenged by their instructors. The themes that emerged were indicative of the feelings, emotions, and attitudes the participants experienced as a female student enrolled in a nontraditional program of study at a career and technical center. A majority of the themes identified were negative, which indicated that the participants believed their experience as a female student enrolled in a nontraditional program of study at their career and technical center could have been improved. The negative experiences were expressed through the personal stories shared throughout participant interviews regarding the bullying and gender discrimination they faced as females in nontraditional programs of study.

Participant 4 discussed how she was constantly bullied by the male students in her class because of her appearance. She said, "They would mock me if I had my nails done, dyed my hair a different color, or dressed more feminine than usual." Participant 6 felt like her male instructor prevented her from taking on more challenging projects and assignments. She stated,

I felt like there were a lot of things that I had the skills to do, but I didn't get as many opportunities to work on that kind of stuff as much as the guys did. It was frustrating because I knew I could handle it, but my teacher didn't have the confidence in me that he had in the guys.

Research question one was designed to provide insight into the participants' lived experience with the phenomenon in question. The raw, emotional responses given by a majority of the participants indicated that their experiences as female students enrolled in nontraditional programs of study in career and technical education were not what they intended them to be.

Rather, they were victims of bullying and gender discrimination, which left them wanting more from their educational experience. Research question two was designed to examine how participants' experiences in nontraditional programs of study influenced their career choice after graduation.

Research question two. Research question two asked how female, career and technical education graduates' experiences in nontraditional programs of study influenced their career choice. Even though several participants shared stories of bullying and other barriers to success they had to overcome as females enrolled in nontraditional programs of study at a career and technical center, the majority of participants reported that they felt very prepared for their nontraditional career upon graduation from the career and technical center. Participant 11 stated, "I think the CTC helped me understand what it would be like in a real kitchen and gave me the hands-on skills I needed to be successful in my culinary apprenticeship." Participant 10 reported she left the career and technical center prepared for her current major at the college level because of the training she received in her nontraditional program of study. Participant 2 believed that being enrolled in a nontraditional program of study directly impacted her nontraditional career choice. She stated, "I got to learn more about culinary arts and work catering events while I was at the CTC, and now I am enrolled in college for culinary and baking." Regarding learning different welding techniques, Participant 4 stated, "I definitely got a lot more hands-on experience than I would have if I would've just learned at home with my dad because I learned every type of welding I could ever imagine." Participant 4 also shared that she is currently employed as a welder at a local machine shop and is meeting her employer's expectations.

A few participants started at the career and technical center enrolled in traditional programs of study, but ended up transferring to a nontraditional program of study. Participant 5 shared her story, and she recalled:

In the beginning, when I started in health occupations, I wanted to be the lady that takes all of your information at the doctor's office. I didn't like blood, guts, and gore. Now, after transferring to the protective services program and completing my EMT certification, I am the person at the ambulance station that can actually save someone.

I've kind of come full circle from when I started at the CTC, and now I am working as an EMT. My experience in the protective services program really changed the way I saw myself working in medicine.

Participant 7, who also works as an EMT said, "I wouldn't have gone for my EMT if I hadn't transferred to the protective services program because it never interested me until I was actually in the program." In addition to the EMT certification that several participants that were graduates of the protective services program earned, the participants also spoke about other industry certifications they received in their nontraditional programs of study. In the following section, a discussion and interpretation of the results of the current study are presented.

Discussion of the Results

Data for this phenomenological study was collected using semistructured interviews, which is a form of qualitative methodology. The use of a phenomenological approach allowed me to describe the meaning of the participants lived experiences as a female student enrolled in a nontraditional program of study at a career and technical center by examining what they experienced and how they experienced it (Moustakas, 1994). All participants completed a one-on-one, semistructured interview where they had the opportunity to answer questions directly

related to their experience with the phenomenon in question. The participants' descriptions of their lived experiences with the phenomenon in question provided the results of the study.

What do the results mean? While every participant was a female student enrolled in a nontraditional program of study at a career and technical center, the program of study in which they were enrolled impacted their responses. For example, the five participants enrolled in the protective services program of study all described their experience in the program as very positive. However, it is important to understand that protective services, while still considered a nontraditional program of study, has a much higher female enrollment compared to the other nontraditional programs of study represented in the current study. Therefore, the results indicate that females enrolled in nontraditional programs of study that have a higher percentage of female students enrolled will have a better experience compared to a program of study with very few females. This is due to the lack of bullying and gender discrimination that exists in nontraditional programs of study where female students are greatly outnumbered by male students. As a result, the results of this study showed that females enrolled in nontraditional programs of study where they were one of the few, or only, female in the program of study did not feel that their educational experience was equal to that of their male peers.

The results of this study also included recommendations that the participants felt would have improved their overall education experience. The areas of improvement included: hiring female instructors in nontraditional programs of study, greater exposure to female role models in nontraditional occupations, and creating an alumnae network at the institution. The participants felt that a female students' experiences in nontraditional programs of study could be dramatically improved if the administration made an effort to implement their recommendations. The participants also commented on the push for increasing female enrollment in nontraditional

programs of study at their career and technical center, and they expressed their disappointment in the efforts that are currently in place. Therefore, the results of this study have implications for career and technical center administrators if they want to better understand what really matters to female students enrolled in nontraditional programs of study.

While every participant had a unique experience as a female student enrolled in a nontraditional program of study at a career and technical center, the similarities in their responses revealed that their experiences with the phenomenon in question were comparable. Based on the participants' responses, the results answered the research questions that guided this study because the participants' described their lived experiences with the phenomenon in detail, and they reflected on how their experience impacted their career choice. In the following section, a discussion of the way the results of this study relate to the literature is presented.

Discussion of the Results in Relation to the Literature

The lack of literature that is available regarding the experiences of female students enrolled in nontraditional programs of study in career and technical education was a motivating factor to conduct this research study. Ericksen and Schultheiss (2009) observed that while the number of women in professional, white-collar occupations has increased over the last 30 years, the percentage of women employed in nontraditional occupations in the skilled trades has remained fairly consistent. This is despite the fact that research indicates that females employed in nontraditional occupations earn higher wages compared to those employed in traditional occupations (Grayson, 2017). As the demand for females in nontraditional occupations increases in today's evolving workforce, it is critical to understand the factors influencing females' nontraditional career choices.

This phenomenological study sought to contribute to the literature in this area of education by exploring how females' experiences as nontraditional students at a career and technical center influenced their career choice. Previous research focusing on females' lived experiences in career and technical education had been limited. Rather, a majority of the research was dedicated to women in STEM (Costello, 2012; Doerschuk et al., 2016; Milgram, 2011; Toglia, 2013). Therefore, there was a need to expand the literature in this area of education.

In a study conducted by Sullivan (2002), 11 adult women enrolled in nontraditional majors at the Pennsylvania College of Technology were interviewed regarding their motivation to enroll in a nontraditional major. This study found that what led these women to choose a nontraditional major were transitions and triggers in their life, such as a divorce or separation from employment (Sullivan, 2002). It can be interpreted that the life events the participants experienced forced them to seek out a nontraditional occupation because of the higher earning potential. For example, if participants were in the midst of a divorce, they may have been forced to become financially independent. Additionally, if they lost their job, they may have wanted to explore a nontraditional career because of the demand for workers in the skilled trades. Both these factors could have impacted the participants' decision to seek out a nontraditional occupation.

The main difference between the previous study and the current study was the age of the participants. In the current study, the participants were recent high school graduates and had not yet experienced life events such as divorce or separation from employment. Rather, their motivation for entering a nontraditional program of study was multifaceted and was influenced by a number of factors such as the presence of female role models, gender roles and stereotypes,

familial influence, and self-efficacy. Their decision to pursue a nontraditional occupation was their first career choice, not a backup plan like the women in the previous study.

Farrington (2012) conducted a study examining the impact that exposure to female role models in nontraditional occupations had on females' understanding and experience with nontraditional career choices. The study concluded that girls must be exposed to female role models in nontraditional career fields throughout their education to diminish the gender stereotypes regarding nontraditional occupations (Farrington, 2012). The current study explored the importance of exposure to female role models and expanded the literature by identifying a common theme in this area, the gender of instructors. In the current study, a common theme amongst all participants was that every instructor teaching a nontraditional program of study at the career and technical center was male. This was an area of concern for participants because they were being taught by men, which reinforced the gender stereotypes that plague career and technical education. When asked how the career and technical center could improve the recruitment and retention of female students in nontraditional programs of study, several participants said there must be a concerted effort to hire female instructors in nontraditional programs of study. The current study highlighted the importance of exposure to female role models in nontraditional occupations and expanded the literature by recognizing the influence instructors have in a female's educational experience.

Hall (2016) conducted a study using a phenomenological approach to understand the factors that influenced women to choose nontraditional careers. This study found that women face different challenges when entering into a nontraditional career field and discovered the perpetuation of gender stereotypes to be one reason why females do not consider nontraditional careers, even with the promise of financial security (Hall, 2016). It can be interpreted that the

participants in this study felt discouraged by the gender stereotypes that persist for females in nontraditional occupations and as a result, they chose to pursue a traditional career path. This study showed that even with the promise of higher earning potential, women avoid nontraditional occupations due to the challenges brought on by their gender. The current study had similar findings as several participants reported they felt that they had to work harder to prove their worth to their instructors and male peers because of gender stereotypes. Participants also highlighted the bullying they endured by male peers and spoke about how they were made to feel inferior based on their gender. While the current study supported previous research showing the negative effects of gender stereotypes on females' pursuit of nontraditional occupations, this study expanded the literature by highlighting the collective bullying that occurs by male peers. This is a major factor that dissuades females from pursuing nontraditional occupations, and it begins during a females' secondary school experience.

A study conducted by Wagner (2013) examined the relationship between a mother's occupation and her daughter's career choice. The study found that mothers who are employed are more likely to raise daughters with greater career aspirations (Wagner, 2013). It can be interpreted that mothers with their own career aspirations are more likely to push their daughters to achieve educationally and occupationally as well. The current study explored familial influence on nontraditional occupations, and unlike the previous study, the influence was not limited to participants' mothers. Rather, several participants cited their father's influence and support of their pursuit of a nontraditional career. Additionally, participants found encouragement and support from siblings and extended family members who were working in nontraditional careers themselves. This provided participants with the encouragement they needed that they may not have received from their parents. The current study expanded on

previous literature by examining the influence of family members beyond participants' parents, and the findings indicated that siblings and extended family members can be influential in a females' nontraditional career choice.

Ericksen and Schultheiss (2009) conducted a study examining how an individual's self-efficacy is strengthened through learning experiences. The study found that females' self-efficacy only increases if they are provided with educational opportunities to enhance their skills in nontraditional careers (Ericksen & Schultheiss, 2009). It can be interpreted that as females became more comfortable and confident in their nontraditional program of study, their self-efficacy increased. The increase in self-efficacy was a process that occurred from the beginning to the end of their educational experience. In the current study, several participants discussed how they gained confidence throughout the course of their program of study in the skills and abilities directly related to their occupational area. Participants also discussed the pride and sense of accomplishment they felt graduating from a nontraditional program of study because they were told they did not belong. The increase in self-efficacy the participants experienced throughout their nontraditional program of study resulted in a feeling of empowerment. This study expanded the literature by confirming the importance of exposing females to nontraditional programs of study earlier in their educational experience to accelerate the development of self-efficacy in nontraditional programs. In the following section, the limitations of the current research study are discussed with the intent of strengthening the study if it were to be replicated.

Limitations

Since this study utilized a phenomenological research design, it contained certain limitations that are associated with this type of methodology (Creswell, 2013). The most significant limitation that impacted this study was that I served as the primary research

instrument. Since the main data collection method for this study were semistructured interviews with all participants, my individual biases had the potential to influence the data collection process. In an attempt to control my personal biases, I practiced reflexivity, which is actively anticipating how the current research study could have been compromised (Galletta, 2013). I accounted for reflexivity by remaining vigilant throughout the interview process by identifying and documenting areas of potential interference (Galletta, 2013).

A second limitation of this study was my relationship to the participants. My current position as a workforce development coordinator was known to all participants because I was a former direct/indirect career advisor and administrator within the institution they graduated from in June 2018. My relationship with the participants may have impacted participants' responses because of my first-hand knowledge of the learning environment and the instructors. First, throughout the semistructured interview process, participants were more descriptive when discussing their experiences because they knew I was familiar with the learning environment and instructors at the career and technical center. Secondly, even though I stressed that confidentiality would be preserved before every interview, my position within the career and technical center may have caused participants to avoid discussing certain negative aspects of their experience, specifically, their relationships with male instructors.

Another limitation of this study was due to the nature of the semistructured interview process. Since the main method of data collection for this phenomenological study were semistructured interviews with each participant, I relied strictly on self-reported data. I had to believe that the participants were being truthful when they discussed their lived experiences with the phenomenon in question. The participants' responses to the semistructured interviews served

as the main method of data collection, and if they were dishonest or insincere in their descriptions, the results of the study could be misleading.

While no phenomenological study is free of interference, it is important to discuss the ways a study can be strengthened if it were to be replicated (Creswell, 2013). The main way this study could be strengthened is by selecting a group of participants that have no prior relationship to the researcher. If the researcher is employed at an educational institution, it would be beneficial to recruit participants from a school outside of their district. This modification would eliminate the potential for the preexisting relationship between the researcher and participants to influence their responses. In the next section, the results of the current study are presented along with the implications they had for the following groups: females, the workforce, and public education.

Implication of the Results for Practice, Policy, and Theory

Research which examines the experiences of females enrolled in nontraditional programs of study in career and technical education historically was limited due to the focus on women in STEM careers (Costello, 2012; Doerschuk et al., 2016; Milgram, 2011; Toglia, 2013). This study was conducted with the intent to inform future research in this area of career and technical education and improve the experience of females enrolled in nontraditional programs of study at career and technical centers. Additionally, the current study was conducted to create awareness about the significance of females enrolled in nontraditional programs of study in career and technical education, specifically for the following groups: females, the workforce, and public education. In addition to having implications for practice for females and the workforce, the current study had implications for public education, specifically career and technical education, in its approach to its nontraditional enrollment policy. Lastly, the current study had implications

for theory as the components of SCCT were explored in relation to females' nontraditional career choices.

Implications of the results for practice. The main goal of the current study was to provide insight into the lived experiences of female students enrolled in nontraditional programs of study in career and technical education. In doing so, the current study's results had implications for practice for both females and the workforce. This study had implications for females because it demonstrated how females' tendency to favor "pink collar" positions in the workforce limits their social mobility in comparison to their male counterparts (Sullivan, 2002). Additionally, the current study had implications for the workforce because it identified ways in which companies, businesses, and labor unions can increase the number of females in nontraditional occupations.

Implications for females. The current study was significant for females because it demonstrated how females' self-efficacy is strengthened by mastering the skills and abilities required for success in nontraditional programs of study. Research has shown that an individual's self-efficacy is strengthened through learning experiences, and in the case of females, their self-efficacy is strengthened when provided with opportunities to enhance their skills in nontraditional careers (Ericksen & Schultheiss, 2009). Participants reported how their experiences in nontraditional programs of study increased their self-efficacy as they became more confident in their skills and abilities. Several participants indicated they saw a positive change in their overall personality as they became more effective communicators and more outgoing, which they attribute to their experience in a nontraditional program of study.

In addition to increased self-efficacy, the results of this study had implications for females because it provided insight into the factors influencing their nontraditional career

choices, which may assist them in making more informed decisions about their occupational goals at a younger age (Inanc et al., 2017). Research indicated that females enrolled in traditionally male programs of study earn higher wages compared to those enrolled in traditionally female programs (Grayson, 2017). However, in the current study, participants did not indicate that income was a factor in their motivation to pursue a nontraditional occupation. Rather, they reported an interest in hands-on learning, encouragement from family members, and the motivation to succeed in a “man’s world” as factors that influenced their decision to enroll.

Implications for the workforce. In addition to its value for females, this study was significant for the workforce by identifying how career and technical centers can help meet current workforce demands by preparing secondary students to fill the middle-skills gap (Kochan et al., 2012). Throughout the study, participants indicated the reasons why they chose to pursue nontraditional programs of study and how their experiences can be improved. This is important information for the workforce because the same conditions that exist at career and technical centers could also exist in a workplace environment. The results of this study implied that gender stereotypes and gender discrimination still exist and hold women back from pursuing nontraditional careers (Farrington, 2012).

Labor market experts predicted that between 2010 and 2020, 25 million jobs are going to be considered a skilled trade, and females’ participation in the workforce is a necessity if these positions are to be filled (Kochan et al., 2012). However, females continue to be underrepresented in the skilled trades (Inanc et al., 2017). Previous research in this area indicated that the presence of gender stereotypes in the workplace is why females will not consider nontraditional careers, even with the opportunity to earn a significantly higher income (Hall, 2016). Participants in this study reported that they were not challenged as much as their

male peers and not awarded the same opportunities in their nontraditional program of study. This is important information for the workforce as they aim to recruit females to nontraditional occupations to fill the middle-skills gap. It is evident that females demand equal treatment in the workforce, even if they are employed in a nontraditional occupation. Therefore, if they are not afforded the same opportunities as males, females will continue to shy away from nontraditional occupations.

Implications for public education policy. In addition to females and the workforce as a whole, the final group for which the study had significance was public education, specifically career and technical centers and its approach to its nontraditional enrollment policy. The current study provided insight into the lived experiences of females enrolled in nontraditional programs of study in career and technical education, and this information is valuable to administrators as they strive to increase nontraditional recruitment and retention at their institutions to comply with the Perkins Act of 2006. Since female students' experiences in nontraditional programs of study have been underreported, this study has significant implications for public education policy. The results may guide career and technical center administrators in their decision making as they aim to achieve specific outcomes in the recruitment and retention of females in nontraditional programs of study. The results may also guide them in developing policies to help improve the experiences of females enrolled in nontraditional programs of study at their institutions.

Participant responses reflected their need to prove themselves to their male peers and instructors, which many described as an "I don't belong here" mentality (Farrington, 2012, p. 109). Throughout the interviews, it was evident that the participants felt they were outsiders in their nontraditional programs of study, and many participants reported they were bullied by male

peers. The participants' responses indicated the high value they placed on being included and made to feel welcome in their nontraditional program of study. When their experience failed to meet their expectations, that is when they considered dropping out of their nontraditional program of study and the career and technical center altogether. The information from this study could be used by career and technical center administrators as they look at implementing a nontraditional recruitment and retention initiative at their institutions to improve the institution's overall score in Perkins performance indicators tied to nontraditional enrollment and completion. They need to consider the significance of their female students' overall experience in nontraditional programs of study and its value in terms of retention and completion.

In this phenomenological study, participant responses indicated a desire for a greater number of female role models in nontraditional occupations. Participants reported that none of the instructors in their nontraditional programs of study were females. They also indicated a lack of exposure to females in nontraditional occupations throughout their entire educational experience. This information is significant for public education because exposure to female role models in nontraditional careers must start early in girls' educational experiences (Cutshall, 2002). Participants provided suggestions for increasing exposure to female role models, and they included: hiring female instructors in nontraditional programs of study, inviting alumnae from nontraditional programs of study to speak to current students, and hosting a female-only career fair for nontraditional occupations. The results of this study could be used by administrators to increase opportunities for female students to interact with female role models in nontraditional occupations.

Implications of the results for theory. The theoretical framework applied to this study was SCCT, which focuses on the role of thinking in career decision-making (Bullock-Yowell et

al., 2012). SCCT was chosen because it examines how personal, behavioral, and environmental factors work together to influence an individual's career choices (Sickinger, 2013). SCCT features three distinct components: self-efficacy beliefs, outcome expectations, and personal goals (Bullock-Yowell et al., 2012). The results of this study had implications for all three components of SCCT.

According to Bullock-Yowell et al. (2012), "Self-efficacy can be attained through four primary sources: (a) personal performance accomplishments, (b) vicarious learning (e.g., modeling), (c) social persuasion, and (d) the individual's physiological and affective states" (p. 105). In the current study, participants reported an increase in self-efficacy as they became more proficient with the skills and abilities needed to succeed in their given nontraditional program of study. This is an example of a personal performance accomplishment that is a component of SCCT. Participants' self-efficacy increased as a result of a personal accomplishment in their nontraditional program of study.

The second component of SCCT is outcome expectations, which is defined as an individual's beliefs about the consequences or outcomes of performing particular behaviors (Bullock-Yowell et al., 2012). Outcome expectations are responsible for influencing an individual's behavior because when the expectation is that a certain behavior will lead to positive results, they are more likely to engage in the behavior (Sickinger, 2013). In the current study, participants indicated a lack of female role models in nontraditional occupations. The lack of vicarious learning experiences throughout their educational experience left them with a low outcome expectation of their own success in nontraditional occupations. To rectify this issue for future female students, participants suggested establishing an alumnae network of successful females employed in nontraditional occupations.

The final component of SCCT is an individual's personal goals. Personal goals refer to the individual's intention to engage in a particular activity or produce an outcome (Bullock-Yowell et al., 2012). In this study, participants were recent graduates of a career and technical center. Several of them are currently enrolled at post-secondary institutions, many of them are employed part-time or full-time, and others are currently unemployed. The participants' personal goals were not the focus of this study. However, the participants who had a positive experience in their nontraditional program of study were able to articulate a specific career goal compared to those participants who had a negative experience in their nontraditional program of study.

As the gender minority in their nontraditional programs of study, participants reported that they had to overcome barriers that their male counterparts did not encounter. Participants also indicated they were victims of bullying as participants gave countless examples of habitual bullying and harassment from their male peers. These are both examples of the environmental factors identified in SCCT that have the potential to impact an individual's career choice.

According to Sickinger (2013):

The theory highlights the potentially powerful impact of environmental factors on career choice formation and realization, especially as these factors relate to the shaping of relevant learning experiences, exposure to appropriate role models to provide vicarious learning opportunities, the opportunity structure with barriers that limit or restrict women's participation, and societal circumstances such as discrimination. (p. 72)

In addition to overcoming barriers and enduring bullying, the participants described how they had very few, if any, female role models in their nontraditional programs of study and in their personal lives. Another environmental factor the participants reported was that their

instructors were not challenging them in their nontraditional programs of study because they were female. The environmental factors that are emphasized in SCCT directly impacted the participants' experience in their nontraditional programs of study. Since the primary goal of this study was to identify and examine the factors influencing females' nontraditional career choices, the application of SCCT supports and justifies the importance of the current study as it sought to examine the many factors influencing females' nontraditional career choices.

The aim of the current study was to provide insight into the lived experiences of females enrolled in nontraditional programs of study in career and technical education. The results of the study had implications for practice, policy, and theory, specifically for the following groups: females, the workforce, and public education. The implications of the results for all groups were intended to improve female students' experiences in nontraditional programs of study in career and technical education. In an effort to expand on the current study, the following section contains recommendations for further research on this topic.

Recommendations for Further Research

Equity in career and technical education is prioritized in the Perkins Act of 2006 as one of the six required core indicators of performance at the secondary level (Dortch, 2012). However, many career and technical centers fail to meet the required nontraditional participation and nontraditional completion performance indicators outlined in the Perkins Act of 2006. The findings from this study provided insight into the lived experiences of female students enrolled in nontraditional programs of study in career and technical education and the factors that influence their nontraditional career choices. In this section, I discuss how this study could be expanded, strengthened, or altered to create new opportunities for research in this area of career and

technical education. Based on the methodology, data, and delimitations of this study, recommendations for further research are offered.

Recommendations from methodology. The current study utilized a phenomenological research design, and this type of methodological approach contains inherent limitations such as the researcher as the primary research instrument (Creswell, 2013). However, one limitation that could be altered to strengthen future research is the sample. A suggestion for future research is to select a group of participants that have no prior relationship to the researcher. For example, if the researcher is employed at an educational institution, the recommendation would be to recruit participants from a school or career and technical center outside of their own district. This alteration would eliminate the potential for the preexisting relationship between the researcher and participants to influence their responses.

In addition to sample selection, it may also benefit future researchers to study female students longitudinally to determine how their experiences evolve over a period of time. Judge and Livingston (2008) discussed that attitudes and beliefs often experience shifts within individuals over time, which is why a longitudinal approach would provide more insight into female students' experiences with nontraditional occupations. For example, future researchers could conduct a longitudinal study of female students enrolled in nontraditional programs of study at a career and technical center and follow them after graduation as they transition into the workforce or post-secondary education. This type of methodological approach would provide more insight into why female students enrolled in nontraditional programs of study at a career and technical center choose to forego their training and pursue a traditionally female occupation. Lastly, it may be purposeful for future researchers to utilize a quantitative research design.

Taking this type of methodological approach could help researchers eliminate bias and increase sample size (Creswell, 2013).

Recommendations from the data. The participants in this study identified a lack of female role models in nontraditional occupations at the career and technical center where they were enrolled. To encourage females to pursue nontraditional careers, the message that females can be employed in nontraditional occupations and find success professionally while still having a family must be communicated early in a student's educational experience (Milgram, 2011). Therefore, future research should focus on female middle school students and their experiences with female role models in nontraditional occupations.

This recommendation is an extension of the current research study as it would seek to inform researchers on whether a lack of female role models in nontraditional occupations is an issue that begins at the middle school level and continues at the high school level. It would be beneficial to understand if female role models in nontraditional occupations are lacking at the middle school level as well as the high school level because it may make educators aware of the need to invite females working in nontraditional careers to speak to students at the middle and high school level about the nontraditional career opportunities available to them (Cutshall, 2002). Lastly, providing students with the opportunity to interact with female role models at the middle school level could give them the motivation they need to pursue a nontraditional program of study at their respective career and technical center, which could lead to an increase in nontraditional enrollment.

Recommendations from delimitations. An additional recommendation for future research is to address the following delimitations that were present in this study. The first delimitation that limited the scope of the study was that all the participants were graduates of the

same career and technical center. If this study were to be replicated, it may be beneficial for researchers to include female students from multiple career and technical centers. This would broaden the scope of the study and provide additional insight into the lived experiences of female students enrolled in nontraditional programs of study. Additionally, by increasing the sample size, this would expand the conclusions drawn from the study. In terms of sample size, it is recommended to have between 5 to 25 participants that have experienced the phenomenon in question, and the current study had 11 participants (Creswell, 2013).

A second suggestion for future research is to expand the study to include students from multiple career and technical centers. The current study included participants from a single career and technical center in rural Pennsylvania, which is a lower socioeconomic area. As a result, the socioeconomic status of this region may not be generalizable to other parts of the state or country. Therefore, it may be beneficial for future research to include female students enrolled in nontraditional programs of study from multiple career and technical centers in socioeconomically diverse areas. This would provide a more comprehensive representation of the lived experiences of female students enrolled in nontraditional programs of study in career and technical education.

Conclusion

While half of the number of students enrolled in career and technical education centers are females, they tend to be enrolled in low-wage, low-skill, programs of study that are traditional for females (“National,” 2014). This phenomenological study sought to further explore the experiences of female students enrolled in career and technical education centers, specifically those enrolled in nontraditional programs of study. After reviewing previous literature, it was clear that a gap exists in this area of education because a majority of previous

research focused on best practices in the recruitment of females to careers in STEM (Costello, 2012; Doerschuk et al., 2016; Milgram, 2011; Toglia, 2013). The absence of females from nontraditional programs of study in career and technical education is significant and warrants further exploration because research indicates that females enrolled in these types of programs earn higher wages over their lifetime compared to those enrolled in traditionally female programs of study (Grayson, 2017).

This study focused on the common experiences of female graduates from nontraditional programs of study at a career and technical center to provide a deeper understanding of the phenomenon, including what prompted them to choose a nontraditional program of study and how their decision impacted their future occupational goals. In this study, I examined the factors influencing females' nontraditional careers, which included: the presence of female role models in nontraditional careers, gender roles and stereotypes that exist in society, familial influence, and self-efficacy. The participants reported both the positive and negative aspects of their experiences as female students enrolled in nontraditional programs of study. From their responses, I identified six central themes and related subthemes that emerged from first and second cycle coding, and they were: increased self-efficacy, bullied by male peers, need to prove oneself, lack of female role models in nontraditional occupations, familial influence, and not being challenged by their instructors. The findings from this phenomenological study were used to make recommendations for further research in this area.

Chapter 5 concluded this phenomenological study and provided a summary of Chapter 4 and previous research on the topic. While this study examined the lived experiences of female students enrolled in nontraditional programs of study in career and technical education, there is a need for further research related to the topic of women working in nontraditional occupations.

This area of research is critically important given the current state of the workforce as employers are looking to overcome skills shortages in “middle skills” occupations (Inanc et al., 2017). Females’ participation in the workforce in nontraditional occupations is a necessity if these positions are to be filled (Kochan et al., 2012). The significance of the current worker shortage in the skilled trades warrants further exploration of this topic to determine how educators and employers can encourage more women to pursue nontraditional careers.

References

- Allegheny Conference (2016). Inflection point: supply, demand and the future of work in the Pittsburgh region. *Burning Glass Technologies and the Council of Adult and Experiential Learning with: Allegheny Conference on Community Development*. Burning Glass Technology, Boston.
- Blustein, D. L. (2004). Moving from the inside out: Further explorations of the family of origin/career development linkage. *The Counseling Psychologist*, 32, 603–11.
- Berman, J. (2013). Utility of a conceptual framework within doctoral study: A researcher's reflections. *Issues in Educational Research*, 23(1), 1–18. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/1413417026?accountid=10248>
- Boote, D. N., & Beile, P. (2005). Scholars before researchers: On the centrality of the dissertation literature review in research preparation. *Educational Researcher*, 34(6), 3–15.
- Bullock-Yowell, E., Katz, S. P., Reardon, R. C., & Peterson, G. W. (2012). The roles of negative career thinking and career problem-solving self-efficacy in career exploratory behavior. *Professional Counselor*, 2(2), 102–114. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/1720063198?accountid=10248>
- Camera, L. (2016, June 29). Women losing out on career and technical education. *U.S. News & World Report*. Retrieved from <https://www.usnews.com/news/articles/2016-06-29/women-losing-out-on-career-and-technical-education>

- Clark, P. (2000). *What do we know about nontraditional careers? and how can we effectively recruit and teach nontraditional students?* Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/62224841?accountid=10248>
- Cooper, H., Hedges, L. V., & Valentine, J. C. (2009). *The handbook of research synthesis and meta-analysis* (2nd ed.). New York, NY: Russell Sage Foundation.
- Costello, C. B. (2012). *Increasing opportunities for low-income women and student parents in science, technology, engineering, and math at community colleges.* Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/1697488825?accountid=10248>
- Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches.* Thousand Oaks, CA: Sage.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage.
- Cutshall, S. (2002). Not just a guy thing. *Techniques: Connecting Education and Careers*, 77(1), 26–27. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/62294283?accountid=10248>
- Doerschuk, P., Bahrim, C., Daniel, J., Kruger, J., Mann, J., & Martin, C. (2016). Closing the gaps and filling the STEM pipeline: A multidisciplinary approach. *Journal of Science Education and Technology*, 25(4), 682–695. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/1826538533?accountid=10248>

- Dortch, C. (2012). *Carl D. Perkins career and technical education act of 2006: Background and performance*. Retrieved from <https://fas.org/sgp/crs/misc/R42863.pdf>
- Ericksen, J. A., & Schultheiss, D. E. (2009). Women pursuing careers in trades and construction. *Journal of Career Development*, 36(1), 68–89. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/61858317?accountid=10248>
- Fain, P. (2017, May 5). *Bipartisan bill to reauthorize perkins act* [Web log post]. Retrieved from <https://www.insidehighered.com/quicktakes/2017/05/05/bipartisan-bill-reauthorize-perkins-act>
- Farrington, J. (2012). From the research: Myths worth dispelling--gender--still a long way to go. *Performance Improvement Quarterly*, 25(2), 107–114. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/1031151347?accountid=10248>
- Fluhr, S. A., Choi, N., Herd, A., Woo, H., & Alagaraja, M. (2017). Gender, career and technical education (CTE) nontraditional coursetaking, and wage gap. *High School Journal*, 100(3), 166–182. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/1895984115?accountid=10248>
- Fouad, N. A., & Byars-Winston, A. (2005). Cultural context of career choice: Meta-analysis of Race/Ethnicity differences. *Career Development Quarterly*, 53(3), 223–233. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/62079141?accountid=10248>
- Fuller, A., Beck, V., & Unwin, L. (2005). The gendered nature of apprenticeship: Employers? and young people's perspectives. *Education + Training*, 47(4), 14–15. Retrieved from

<http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/62126386?accountid=10248>

Galletta, A. (2013). *Mastering the semistructured interview and beyond*. New York, NY: New York University Press.

Grant, C., & Osanloo, A. (2014). Understanding, selecting, and integrating a theoretical framework in dissertation research: creating the blueprint for your “house.” *Administrative Issues Journal: Connecting Education, Practice, and Research*, 4(2), 12–26. doi: 10.5929/2014.4.2.9

Grayson, C. J. (2017). *Examining gender equity in Florida’s career and technical education nontraditional programs*. Retrieved from

<http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/1878083738?accountid=10248>

Hall, J. S. (2016). *Identifying the variables that impact the nontraditional career choices of women*. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/1874968479?accountid=10248>

Hamilton, A. F., Malin, J., & Hackmann, D. (2015). Racial/ethnic and gender equity patterns in Illinois high school career and technical education coursework. *Journal of Career and Technical Education*, 30(1), 29–52. Retrieved from

<http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/1871587770?accountid=10248>

Hegewisch, A., & Williams-Baron, E. (2017). The gender wage gap and work-family supports: women’s choices or policy choices? *Saint Louis University Public Law Review*, 36(5), 5–18. Retrieved from http://law.slu.edu/sites/default/files/journals/ariane_hegewisch-and-

emma_williams-baron-article.pdf

- Hyslop, A. (2018, February 12). *Administration's long-awaited infrastructure proposal released* [Web log post]. Retrieved from <http://ctepolicywatch.acteonline.org/perkins/>
- Inanc, H., Needels, K., & Berk, J. (2017, October). *Gender segregation in training programs and the wage gap*. [Web log post]. Retrieved from <https://www.mathematica-mpr.com/our-publications-and-findings/publications/gender-segregation-in-training-programs-and-the-wage-gap-issue-brief>
- Jacobs, J. E., Chhin, C. S., & Bleeker, M. M. (2006). Enduring links: Parents' expectations and their young adult children's gender-typed occupational choices. *Educational Research and Evaluation, 12*(4), 395–407. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/62005602?accountid=10248>
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(7), 14–26.
- Judge, T.A., & Livingston, B.A. (2008). Is the gap more than gender? A longitudinal analysis of gender, gender role orientation, and earnings. *Journal of Applied Psychology, 93*(5), 994–1012.
- Kochan, T., Finegold, D., & Osterman, P. (2012). Who can fix the “middle-skills” gap? *Harvard Business Review, 90*(12), 81–90.
- Lent, R. W., Brown, S. D. and Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior, 45*(1), 79–122.

- Lucci, W. (2007). Changing traditional roles in the world of work. *Techniques: Connecting Education and Careers*, 82(1), 30–33. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/62034923?accountid=10248>
- Lufkin, M., Wiberg, M., Jenkins, C., Lee Berardi, S., Beyer, T., Eardley, E., & Huss, J. (2007). Gender equity in career and technical education. In S. S. Klein (Ed.), *Handbook for achieving gender equity through education* (2nd ed., pp. 421–443). Mahwah, NJ: Lawrence Erlbaum Associates.
- Machi, L. A., & McEvoy, B. T. (2016). *The literature review: Six steps to success* (3rd ed.). Thousand Oaks, CA: Corwin.
- Meeder, H. (2008). *The perkins act of 2006: Connecting career and technical education with the college and career readiness agenda*. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/61949311?accountid=10248>
- Merriam, S. (2009). *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass Publications.
- Milgram, D. (2011). How to recruit women and girls to the science, technology, engineering, and math (STEM) classroom. *Technology and Engineering Teacher*, 71(3), 4–11. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/964179602?accountid=10248>
- Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage.

- National Alliance for Partnerships in Equity. (2014). *National career technical education profile*. Retrieved from http://www.napequity.org/nape-content/uploads/National-2014-FactSheet_Final_6-26-14.pdf
- National Women's Law Center. (2014). Underpaid and overloaded: Women in low-wage jobs. www.nwlc.org/sites/default/files/pdfs/final_nwlc_lowwagereport2014.pdf
- Patterson, M. M. (2012). Self-perceived gender typicality, gender-typed attributes, and gender stereotype endorsement in elementary-school-aged children. *Sex Roles: A Journal of Research*, 67(7–8), 422–434. doi:<http://dx.doi.org.cupdx.idm.oclc.org/10.1007/s11199-012-0184-9>
- Pennsylvania School Performance Profile. (2018). Retrieved from <http://paschoolperformance.org/>
- Perkins act. (2006). Retrieved from <https://cte.ed.gov/legislation/about-perkins-iv>
- Radcliffe, R. (2016). *A mixed-methods study examining effective practices for increasing secondary student enrollment in career and technology education courses*. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/1867747858?accountid=10248>
- Saldaña, J. (2015). *The coding manual for qualitative researchers*. Los Angeles, CA: Sage.
- Scott, M. L., Annexstein, L. T., Ordover, E. L., Esters, L. T., Bowen, B. E., & Reeve, E. M. (2003). *Equity issues in career and technical education*. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/62171285?accountid=10248>
- Sickinger, P. H. (2013). *Social cognitive career theory and middle school student career exploration* (Order No. 3538741). Retrieved from

- <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/1340940774?accountid=10248>
- Simon, L., & Clarke, K. (2016). Apprenticeships should work for women too! *Education & Training, 58*(6), 578–596. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/1826544198?accountid=10248>
- Sullivan, M. (2002). Blue collar choices: Women who opt for nontraditional careers. *PAACE Journal of Lifelong Learning, 11*, 25–35. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/62299504?accountid=10248>
- Taylor, A., Servage, L., & Hamm, Z. (2014). Trades and aides: The gendering of vocational education in rural alberta. *Journal of Research in Rural Education, 29*(8), 15–16. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/1651852878?accountid=10248>
- Toglia, T. V. (2013). Gender equity issues in CTE and STEM education: Economic and social implications. *Tech Directions, 72*(7), 14–17. Retrieved from <http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/1373091081?accountid=10248>
- Wagner, M. (2013). *Modeling my mother? An exploration of the relationship between a mother's occupational status and her daughter's career aspirations*. Retrieved from [file:///C:/Users/sblittle01/Downloads/PDF%20datastream%20\(1\).pdf](file:///C:/Users/sblittle01/Downloads/PDF%20datastream%20(1).pdf)
- Webb, J. G. (2010). The evolution of women's roles within the university and the workplace. *Forum on Public Policy Online, 2010*(5), 17–18. Retrieved from

<http://cupdx.idm.oclc.org/login?url=https://search-proquest-com.cupdx.idm.oclc.org/docview/854553905?accountid=10248>

Appendix A: 2016–2017 Secondary Performance Levels

Indicators	State Expectations (USDE)	State Performance 2014-2015	Consortium Performance 2014-2015
1S1 Keystone Literature	45	56.02	41.96
1S2 Keystone Algebra	35	44.54	19.64
2S1 Technical Skill Attainment (NOCTI)	75	86.66	80.49
3S1 Student Attainment (Diploma)	96	98.81	95
4S1 Graduation Rate	95	98.82	95.8
5S1 Placement (Job- Postsecondary -Military)	97.5	91.05	82.05
6S1 Nontraditional Participation (Gender Dominated)	17.55	16.43	15.99
6S2 Nontraditional Completion (Gender Dominated)	12.6	11.79	1.49

Appendix B: 2017–2018 Secondary Performance Levels

Indicators	State Expectations (USDE)	State Performance 2015-2016	Consortium Performance 2015-2016
1S1 Keystone Literature	53	54.23	34.62
1S2 Keystone Algebra	43	47.89	37.18
2S1 Technical Skill Attainment (NOCTI)	80	84.06	79.1
3S1 Student Attainment (Diploma)	98	99	98.77
4S1 Graduation Rate	97.7	90.74	88.79
5S1 Placement (Job- Postsecondary -Military)	97.5	91.05	82.05
6S1 Nontraditional Participation (Gender Dominated)	17.7	16.74	17.9
6S2 Nontraditional Completion (Gender Dominated)	12.8	12.96	8.22

Appendix C: Consent Form

Research Study Title: A Phenomenological Study: The Lived Experiences of Females Enrolled in Nontraditional Programs in Career and Technical Education

Principal Investigator: Shawna Little

Research Institution: Concordia University–Portland

Faculty Advisor: Dr. Brianna Parsons

Purpose and what you will be doing:

The purpose of this research study is to understand females' lived experiences with nontraditional programs of study in career and technical education and how they reported their experiences impacted their career choices. Additionally, this research will contribute to the limited literature that exists in this area with the hope of improving the educational experiences of females enrolled in nontraditional programs of study in career and technical education. We expect approximately 12 volunteers. No one will be paid to be in the study. We will begin enrollment on September 1, 2018, and end enrollment on December 1, 2018. To be in the study, you will need to answer questions about your experiences as a female student enrolled in a nontraditional program of study at a career and technical center. I will conduct semistructured interviews in the Career Resource Center that should take approximately one hour of your time.

Risks:

There are no risks to participating in this study other than providing your information. However, we will protect your information. Any personal information you provide will be coded so it cannot be linked to you. I, the researcher, will protect the confidentiality of all participants by not using actual names; transcribing interviews in a private, secure setting; ensuring all electronic recording devices are only accessible to the researcher through password protection, and the participants' identity will never be written on any notes. All written notes and recordings will be stored in a locked drawer when not in use by the researcher. Once the interviews have been transcribed, the audio recordings will be deleted. We will not identify you in any publication or report. Your information will be kept private at all times, and all study documents will be destroyed three years after we conclude this study.

Benefits:

Information you provide will help improve the overall educational experience for females enrolled in nontraditional programs of study at career and technical centers. The findings will contribute to the literature about females' lived experiences with nontraditional programs of study in career and technical education and how they reported their experiences impacted their career choices. Additionally, the findings from this research study will be used by career and technical educators to increase the nontraditional completion percentage at their institution. You may not personally benefit from your participation in this study.

Confidentiality:

This information will not be distributed to any other agency and will be kept private and confidential. The only exception to this is if you tell us abuse or neglect that makes us seriously concerned for your immediate health and safety. Audio recordings will be deleted immediately following transcription and member checking. All other study related materials will be kept securely for three years and then destroyed.

Right to Withdraw:

Your participation is greatly appreciated, but we acknowledge that the questions we are asking are personal in nature. You are free at any point to choose not to engage with or stop the study. You may skip any questions you do not wish to answer. This study is not required and there is no penalty for not participating. If at any time you experience a negative emotion from answering the questions, we will stop asking you questions.

Contact Information:

You will receive a copy of this consent form. If you have questions, you can talk to or write the principal investigator, Shawna Little at [email redacted]. If you want to talk with a participant advocate other than the investigator, you can write or call the director of our institutional review board, Dr. OraLee Branch (email obranche@cu-portland.edu or call 503-493-6390).

Your Statement of Consent:

I have read the above information. I asked questions if I had them, and my questions were answered. I volunteer my consent for this study.

Participant Name

Date

Participant Signature

Date

Investigator Name

Date

Investigator Signature

Date

Investigator: Shawna Little; email: [redacted]
c/o: Professor Brianna Parsons
Concordia University–Portland
2811 NE Holman Street Portland, Oregon 97221



Appendix D: Semistructured Interview Protocol

Interview Date: _____ Interview Time: _____

Name of Interviewee: _____ Location: _____

Researcher: *Thank you for volunteering to participate in this interview about your experience as a female who graduated from a nontraditional program of study from a rural Pennsylvania career and technical center. I am currently completing my doctorate of education in Professional Leadership, Inquiry, and Transformation at Concordia University–Portland. The purpose of this study is to understand the lived experiences of female students enrolled in nontraditional programs of study at career and technical centers. The study will explore how females’ lived experiences as nontraditional students influenced their career choice upon graduation. Please understand your participation is completely voluntary and will contribute greatly to the depth of the research study. The interview will last approximately one hour, and I may ask follow-up questions to gain clarification. You may skip any questions you do not feel comfortable answering and end the interview at any point. The interview is confidential, and your identity will be protected. I would like your permission to record the interview using my digital recorder to utilize for data transcription. May I have your permission to record the interview in its entirety?*

Distribute the consent form at this time.

Collect the signed consent form.

Researcher: *As previously mentioned, I may need to ask follow-up questions to gain clarification. Do you have any questions about the interview or the study before we begin?*

Begin recording the interview.

Opening Segment

1. Please state your age.
2. Please state your program of study while enrolled at the career and technical center.
3. Please describe why you chose to attend a career and technical center.
4. Did you complete your program of study? If not, what were your main obstacles?
5. Are you currently enrolled in a postsecondary institution? If so, what is your major?
6. Are you currently employed either part-time or full-time? If so, what is your current position?

Middle Segment

7. Please describe your experience as a female student in a nontraditional program of study.
8. Please explain how you benefited from the educational opportunities available to you as a nontraditional student at the career and technical center.
9. Please describe how your experience as a female student enrolled in a nontraditional program of study compared to the experience of other female students enrolled in other nontraditional programs of study.
10. Do you think females in other nontraditional programs faced the same issues and challenges that you did?
11. Please describe how being exposed to female role models working in nontraditional careers influenced your nontraditional career choice.
12. Please describe how your parents/guardians influenced your nontraditional career choice.
13. Please explain how gender roles and stereotypes pertaining to females in nontraditional careers influenced your nontraditional career choice.

14. Please explain how your self-efficacy influenced your nontraditional career choice. *Be prepared to define self-efficacy. An individual's belief in his or her innate ability to achieve one's goals.

15. Did your experience as a female in a nontraditional program of study positively impact your self-efficacy in that area?

16. If the participant brought an artifact to the interview: Please describe why you brought that specific artifact and its meaning.

If the participant did not bring an artifact to the interview: May I ask why you chose not to bring an artifact?

Concluding Segment

17. Please describe how your experience as a female student enrolled in a nontraditional program of study at a career and technical center influenced your career choice.

18. Did the nontraditional program you studied at the CTC prepare you for your future career?

19. Please describe how you feel about the overall learning environment at the career and technical center.

20. Are there specific things the career and technical center can do to improve a female student's experience in a nontraditional program of study?

21. Do you have anything else to add?

Thank you for participating in today's interview. I appreciate your willingness to assist with my dissertation research.

Appendix E: Statement of Original Work

The Concordia University Doctorate of Education Program is a collaborative community of scholar-practitioners, who seek to transform society by pursuing ethically-informed, rigorously-researched, inquiry-based projects that benefit professional, institutional, and local educational contexts. Each member of the community affirms throughout their program of study, adherence to the principles and standards outlined in the Concordia University Academic Integrity Policy. This policy states the following:

Statement of academic integrity.

As a member of the Concordia University community, I will neither engage in fraudulent or unauthorized behaviors in the presentation and completion of my work, nor will I provide unauthorized assistance to others.

Explanations:

What does “fraudulent” mean?

“Fraudulent” work is any material submitted for evaluation that is falsely or improperly presented as one’s own. This includes, but is not limited to texts, graphics and other multi-media files appropriated from any source, including another individual, that are intentionally presented as all or part of a candidate’s final work without full and complete documentation.

What is “unauthorized” assistance?

“Unauthorized assistance” refers to any support candidates solicit in the completion of their work, that has not been either explicitly specified as appropriate by the instructor, or any assistance that is understood in the class context as inappropriate. This can include, but is not limited to:

- Use of unauthorized notes or another’s work during an online test
- Use of unauthorized notes or personal assistance in an online exam setting
- Inappropriate collaboration in preparation and/or completion of a project
- Unauthorized solicitation of professional resources for the completion of the work.

Statement of Original Work (Continued)

I attest that:

1. I have read, understood, and complied with all aspects of the Concordia University–Portland Academic Integrity Policy during the development and writing of this dissertation.
2. Where information and/or materials from outside sources has been used in the production of this dissertation, all information and/or materials from outside sources has been properly referenced and all permissions required for use of the information and/or materials have been obtained, in accordance with research standards outlined in the *Publication Manual of The American Psychological Association*



Digital Signature

Shawna Beth Little

Name (Typed)

6/29/2019

Date