DIFFERENCES IN ENGAGEMENT OF ONLINE DOCTORAL STUDENTS BASED ON GENDER AND RACE

by

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Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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ABSTRACT

Student engagement is considered to be one of the most important indicators for success at all levels of education. Engagement in doctoral students is poorly understood, and the least researched area of engagement. As online programs become increasingly available, it is important to have insight into doctoral engagement and interventions which improve academic success while decreasing attrition. The purpose of the present study was to understand differences in engagement based on gender and race/ethnicity. Students in the dissertation phase of their doctoral candidacy in an online program based at a private, mid-Atlantic, Christian university were invited to participate anonymously. Self-reported responses to survey questions from the Online Student Engagement scale were analyzed using a Two-Way Analysis of Variance to measure differences in engagement scores based on participants' gender and race/ethnicity. Significant differences were found in engagement scores based on gender. No differences in scores were detected based on race/ethnicity, and there was no significant interaction detected between the main factors. Results and implications are discussed, with suggestions made for future research.

Keywords: student engagement, online, doctoral, gender, race, ethnicity

Dedication

I dedicate this work to my wife, Marian, for your loving support throughout my doctoral journey and our many years. You have lifted me up, restored my confidence, and reinforced my will through the many rough patches. I greatly appreciate your encouragement and inspiration. May this document serve as a reminder of our faith in, and commitment to, each other. I love you and am forever grateful that you return that love in so many ways.

I dedicate this work to my children, Alexander and Michalina, who have inspired me through our many shared experiences and precious memories, and who continue to do so through all of your loving encouragement. I don't know the words to describe how much I love you.

I dedicate this work to my family, and especially my parents, Ellen and Bob, and brothers Jerry and Steven, who have given me many gifts beyond measure: a strong work ethic, belief in each other, and the knowledge of the unyielding power of love. I have learned so much from you. This manuscript serves as a testament to our strength as a family and my love for each of you.

Table of Contents

List of Tables

List of Figures

List of Abbreviations

Asynchronous Learning Environment (ALE)

Institutional Review Board (IRB)

National Survey of Student Engagement (NSSE)

Online Student Engagement Scale (OSE)

Statistical Package for the Social Sciences (SPSS)

Student Engagement (SE)

Synchronous Learning Environments (SLE)

CHAPTER ONE: INTRODUCTION

Overview

The purpose of this study was to measure levels of engagement among doctoral students in an online program based on gender and race. Chapter One will discuss the background related to student engagement and doctoral candidates in distance education programs based on their gender and race. The theoretical basis for the study will be discussed. The significance of the study, problem statement, and purpose will provide the rationalization for conducting the study and discuss how the study will inform the body of knowledge about engagement and doctoral students in online programs. Lastly, the research questions will outline the specific goals of the research project, along with definitions pertinent to this study.

Background

Research has shown student engagement (SE) to be an important factor in college students' success in academics and personal development (Burch, Heller, Burch, Freed, & Steed, 2015; Hu & Kuh, 2002; Kahu, 2013). SE is a multidimensional construct which encapsulates the perspectives of behavior, emotion, and cognition (Fredricks, Blumenfeld, & Paris, 2004; Kahu, 2013), and is considered one of the better means of predicting student achievement (Burch et al., 2015). SE is generally viewed as a positive term when applied to research on educational outcomes (Christenson, Reschly, & Wylie, 2012; Milburn-Shaw & Walker, 2016). Current research in education regards SE as a key element of academic success and persistence towards undergraduate students earning a degree (Kahu, 2013; Kuh, 2009). There has been a proliferation of online doctoral programs over the past two decades (Martin & Parker, 2014; Meyer, 2014), where the accompanying influx of tuition fees, coupled with lowered instructional delivery costs, help universities control the rising costs of educational programs (Bowen,

Chingos, Lack, & Nygren, 2012). Gender (Lester & Harris, 2015) and race (Guardia & Evans, 2008; Quaye & Harper, 2015) may play a role in levels of engagement among doctoral students.

Asynchronous learning environments (ALE) have existed for decades, going back to correspondence courses via mail in the 1960s (Astin, 1999; Moore, 1997), with no means of real-time interaction (Deschaine & Whale, 2017). Early research into what has become known as student engagement began in the 1940s with Tyler's (1949) investigation connecting positive student outcomes to time on task and continued in the 1950s in Pace's studies into quality of effort (Pace & McFee, 1960; Pace, 1990). For the past twenty years, there has been a proliferation of online programs which situate learning in asynchronous environments, with little real-time interaction between the student, the professor, and classmates (Bowen et al., 2012; Chen, Lambert, & Guidry, 2009; Dixson, 2010; Martin & Parker, 2014; Meyer, 2014). Some students prefer ALE, because they can choose the time when they participate in coursework. (Glenn, 2016). Bandura (2006) noted that "The internet is a tool which requires personal enablement for its effective use" (p. 177). Students in ALE must make choices to guide their journey, with intentionality and forethought, in order to make meaningful decisions about the direction their learning takes.

The term *student engagement* has become popular in contemporary literature, and the supporting constructs are mostly synonymous with the term *involvement with learning* (Astin, 1984; Axelson & Flick, 2011; Kahn, 2014). In his theory, Astin (1984) posited that students' college outcomes are based on their effort, and not all college outcomes are determined by the set of circumstances a student encountered prior to attending college. Student perceptions about various features of the campus also play a role in their choice to engage and persist in coursework, though not in how much they actually learn (Kuh, 2009). Research supports the

assertion that the three most significant factors related to the involvement with learning theory are the students' involvement with their academic coursework, their social interaction with the faculty, and having social learning opportunities with peers (Astin, 1999; Koole & Stack, 2016). Higher levels of engagement have been associated with improved academic success, higher attendance, higher retention rates, and improved degree completion rates (Axelson & Flick, 2011; Christenson et al., 2012; Deschaine & Whale, 2017; Finn & Zimmer, 2012; Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008). Though the construct of engagement has been researched for decades there is still no consensus on either a definition or conceptual framework (Axelson & Flick, 2011; Burch e al., 2015; Dixson, 2015; Finn & Zimmer, 2012; Fredricks et al., 2004; Fredricks & McCloskey, 2012; Kahu, 2013; Kuh, 2009; Milburn-Shaw & Walker, 2016; Zepke, 2015). Some authors suggested separating the construct of SE from that of student disengagement (Mann, 2001; Wang & Degol, 2014), arguing the two shared only some overlap and should be studied as separate phenomenon with different antecedents and outcomes.

While engagement has been researched a great deal in undergraduate courses (Bowen et al., 2012; Kuh, 2009; McBrien, Jones, & Cheng, 2009), research into engagement among doctoral online students is both lacking and inconclusive (Bagaka's, Badillo, Bransteter, & Rispinto, 2015; Dixson, 2015; Fredrickson, 2015; Gardner & Barker, 2015; Rockinson-Szapkiw, Wendt, Whighting, & Nisbet, 2016; Strayhorn, 2010), requiring more investigation into the phenomenon. Authors differ in their findings, with a few suggesting there is no reason to believe doctoral students are any different from other students when it comes to the value or impact of engagement (Cantwell, Bourke, Scevak, Holbrook, & Budd, 2017). Problematically, research into online doctoral programs has labored under a variety of interpretations of what comprises an engagement practice, such as only counting discussion board posts, or the number of emails

between student and professor (Dixson, 2010; Kahn, 2014; Peters, Shmerling, & Karren, 2011), but mostly involving behavioral engagement activities (Milburn-Shaw & Walker, 2016).

A review of the literature finds contradictory conclusions about engagement based on gender (Kinzie Tison, Bateman, & Culver, 2011, Peters et al., 2011; Wollast et al., 2018). According to some researchers, males are generally found to be less engaged in schoolwork, have higher dropout rates, and earn lower grades (Lietaert, Roorda, Laevers, Verschueren, & De Fraine, 2015). Conflicting research studies have found both that males benefitted more from social engagement during online coursework (Kamphorst, Hofman, & Terlouw, 2015), and that the loss of competitive spirit due to the lack of interaction in online courses left males less socially engaged (Peters et al., 2011). Some research findings suggest there are aspects of online learning where ALE is preferable (Watts, 2016). The literature suggests this may true for males (Koole & Stack, 2016), but also true for females (Peters et al., 2011). More research is needed to reconcile the discrepancies in these findings about SE based on gender.

Race and ethnicity may also play in SE, as non-White males typically have among the lowest grade point averages in undergraduate programs (Arana & Blanchard, 2017). The literature on the engagement levels of men and women of color in graduate programs is scarce considering the number of students enrolled in college (Harper, Berhanu, Davis, & McGuire, 2015; Patton, Harris, Ranero-Ramirez, Villacampa, & Lui, 2015). Race is an important consideration when researching engagement in online doctoral programs (Harper & Quaye, 2015).

Determining interventions meant to improve SE is important due to the impact on student grades, achievement, and completion rates (Fredricks et al., 2004; Fredricks et al., 2016, Kuh, 2007). Given the pliability of the construct, engagement interventions may be extended into the

realm of doctoral students (Bagaka's et al., 2015; Dixson, 2010; Cantwell et al., 2017). Taken as a whole, more research is needed in the area of engagement in doctoral studies based on gender and race.

Problem Statement

The construct of student engagement in doctoral programs is still poorly understood (Fredricks & Filsecker, 2016; Rabourn, BrckaLorenz, & Shoup, 2018). Lower levels of SE contribute to lower rates of academic success and retention for online doctoral students in ALE (Deschaine & Whale, 2017; Koole & Stack, 2016). Authors have suggested a need for more research related to engagement interventions, particularly in distance education (Alexander, Lynch, Rabinovich,, & Knutel, 2014; Chang & Hannafin, 2015; Pyhältö & Keskinen, 2012), and benchmarks for long-term success as they relate to doctoral students in general (Cantwell et al., 2017; Gardner & Barker, 2015; Sallee, 2014) and males, specifically (Kinzie, Gonyea, Kuh, Umbach, Blaich, & Korkmaz, 2007; Wang et al., 2011). However, there has been scant research into which practices improve engagement in doctoral level students (Bagaka's et al., 2015; Deschaine & Whale, 2017; Koole & Stack, 2016; Pyhältö & Keskinen, 2012). Institutions of higher learning need to take a more proactive role by providing interventions for students meant to improve engagement, and devote more resources meant to encourage students to participate (Coates, 2007; Kuh, 2007).

Gender may play a role in student engagement (Kinzie et al., 2007; Tison et al., 2011). Females tend to demonstrate higher levels of engagement when participating in distance learning programs, while males may require interventions intended to promote engagement (Lietaert et al., 2015). Male students are possibly less engaged than females within distance education programs (Peters et al., 2011), resulting in lower retention rates and degrees earned for doctoral

candidates (Deschaine & Whales, 2017). Researchers suggest there is still no consensus on whether males or females respond better to ALE engagement interventions (Cantwell et al., 2017; Tison et al., 2011). A review of the literature reveals little about the long-term results of engagement interventions across diverse populations (Trowler, 2010; Wang & Degol, 2014), particularly for doctoral students (Dixson, 2010; Pyhältö & Keskinen, 2012; Wollast et al., 2018). Little is known about the engagement levels of graduate students based on race (Bird, 2017; Quaye et al., 2015).

The problem is that levels of engagement among doctoral students in online programs are poorly understood, while the roles of gender and race further complicate the problem, since cultural differences, contrasting learning styles, means of socialization, and attempted interventions may impact engagement differently based on the gender and race of doctoral students.

Purpose Statement

The purpose of this causal comparative study was to investigate whether there is a significant difference in means of student engagement scores among online doctoral students based on gender and race/ethnicity, and if there was an interaction between the two main effects. The first independent variable was fixed and had two levels, determined by the gender of the participant, and measured categorically as either male or female (Wollast et al., 2018). The second independent variable was fixed and had two levels, based on the race or ethnicity of the participant, and measured categorically as either Caucasian (non-Hispanic) or Minorities, which encompassed participants who identified as African American or Black, Asian or Pacific Islander, Hispanic, Native American or Native Alaskan, or Other (Federal Register, 2016; Quaye & Harper, 2015). The continuous dependent variable was differences found in student

engagement mean scores as measured on the 17-item Online Student Engagement Scale (Dixson, 2010). Student engagement is defined as, "participation in educationally effective practices, both inside and outside the classroom, which leads to a range of measurable outcomes" (Harper & Quaye, 2015, p. 2).

Significance of the Study

High levels of student engagement have been shown to be a critical factor in student success and academic achievement (Astin, 1983; Finn & Zimmer, 2012; Fredricks et al., 2004; Meyer, 2014). This study is important because it could add to the body of knowledge concerning SE in doctoral students in online programs by collecting data intended to improve understanding of the construct of engagement as it relates to doctoral students in general (Deschaine & Whale, 2017; Kahu, 2013); bolster understanding of the role gender plays in SE specifically for doctoral students (Koole & Stack, 2016; Lester & Harris, 2015); lead to a better understanding of the role race/ethnicity plays in levels of engagement (Harper et al., 2015; Kao, 2019; Reason, 2015; Taira, 2018); and improve understanding of underlying causes of attrition or persistence in online doctoral programs (Stavredes & Herder, 2014; Spaulding & Rockinson-Szapkiw, 2012). Regardless of gender or race, high levels of engagement among doctoral students have led to improved leadership, research, critical and analytical thinking, collaboration, and communication skills (Milburn-Shaw & Walker, 2014; Nyquist, 2002; Strayhorn, 2008), and improved well-being later in life, including a sense of belonging, success in work, better salary, stability, and the knowledge needed to solve real-world problems (Gallup, Inc., 2014; Institute of Higher Educational Policy, 2013; Kattner, 2011; O'Meara, 2008). Significant findings of the proposed study would be of interest to online education program administrators and professors because it would provide information about improving the quality of instruction (Rockinson-Szapkiw et al.,

2016), help identify institutional resources to support engagement (Strayhorn, 2008); promote measures for controlling costs (Bowen et al., 2012), and understand ways to lower doctoral student attrition rates (Gittings, Bergman, Shuck, & Rose, 2018; Meyer, 2014; Stavredes & Herder, 2014). The proposed study may a substantive source of data related to levels of engagement for students enrolled in online doctoral programs based on gender and race.

Research Questions

RQ1: Is there a difference between the student engagement scores of male and female students in online doctoral programs?

RQ2: Is there a difference between the student engagement scores of Caucasian and minority students in online doctoral programs?

RQ3: Is there an interaction among engagement scores of male and female students of various races in online doctoral programs?

Definitions

1. *Asynchronous learning* – "The process of teaching and learning in a technology-mediated environment that does not require the teacher and the learner to interact at the same time but rather happen in delayed time" (Larbi-Siaw & Owusu-Agyeman, 2017, p. 458).

2. *Distance education* – "providing opportunities for learning anytime, anywhere" (Stavredes & Herder, 2015, p. 257).

3. *Student engagement* – "Student engagement is simply characterized as participation in educationally effective practices, both inside and outside the classroom, which leads to a range of measurable outcomes" (Harper & Quaye, 2015, p. 2).

CHAPTER TWO: LITERATURE REVIEW

Overview

This chapter begins with an introduction to student engagement, followed by an examination of the educational theories and conceptual framework that support the study and research design. The related literature section delves into research on gender and race, and how these are linked in the literature to inform the purpose and significance of the study. This chapter concludes with a summary of the information found in the literature and demonstrates how the related literature informs and establishes a rationale for the present study intended to provide additional information on student engagement in doctoral students in distance education based on gender and race.

Introduction to Student Engagement

Student engagement (SE) is the physical, mental, and emotional energy a student exerts to achieve success in their education (Astin, 1984; Axelson & Flick, 2011). The tenets of engagement have been studied for over 70 years, with the names, definitions, and suppositions changed and clarified as new theories emerged in the literature (Christenson, Reschly, & Wylie, 2012; Kuh, 2009). Engagement has been examined as a multidimensional construct consisting of between two and four factors (Burch, Heller, Burch, Freed, & Steed, 2015; Finn & Zimmer, 2012; Fredricks, Blumenfeld, & Paris, 2004; Fredricks, Filsecker, & Lawson, 2016) for cognitive, behavior, affective, and physical engagement. Student achievement, academic success, improved attendance rates and persistence have been linked to increases in engagement (Bair & Hawort, 2005; Kahn, 2014; Tinto, 1999; Trowler, 2010). Highly engaged students tend to become highly engaged adults later in life who report more positive outlooks on their careers and their personal lives (Gallup, Inc., 2014).

The review of the literature finds many questions related to SE, but not as many concrete answers as one might be initially led to believe. Some researchers have concluded that the construct of SE is still unsettled (Burch et al., 2015; Deschaine & Whale, 2017; Finn & Zimmer, 2012) while others have assumed it is mostly a finished product (Dixson, 2015; Reeve & Tseng, 2011). For the purposes of the present study, researchers understanding of the theoretical constructs of engagement are assumed to be accepted but unpolished.

Student engagement is a multidimensional construct related to the behavior, emotion, and cognition of students (Fredricks, Blumenfeld, & Paris, 2004; Kahu, 2013), and is considered to be one of the better means of predicting student achievement. Burch et al. (2015) argued for recognition of a physical component to SE as well, noting that student presence was an obvious prerequisite to engagement. Higher levels of SE have been associated with improved academic success, higher attendance, higher retention rates, and improved degree completion rates (Axelson & Flick, 2011; Christenson et al., 2012; Deschaine & Whale, 2017; Finn & Zimmer, 2012; Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008). As such, SE is generally viewed in a positive light when researched for educational outcomes (Christenson, Reschly, & Wylie, 2012; Milburn-Shaw & Walker, 2016).

Researchers have examined the construct of engagement for decades without coming to a consensus on either a definition or a single conceptual framework (Axelson & Flick, 2011; Burch et al., 2015; Dixson, 2015; Finn & Zimmer, 2012; Fredricks et al., 2004; Fredricks & McCloskey, 2012; Kahu, 2013; Kuh, 2009; Milburn-Shaw & Walker, 2016; Zepke, 2015). Some authors believe the construct may be defined too narrowly (Henrie, Halverson, & Graham, 2015; Kuh, 2009; Zepke, 2015), while others believe many definitions of engagement used in research are too broad to be useful (Appleton, Christenson, & Furlong, 2008; Dixson, 2015;

Wollast et al., 2018). In arguing for an additional construct of engagement through personal agency, Reeve & Tseng (2011) characterized the construct of engagement as being "well-understood" (p. 257), before suggesting an additional construct to explore. Agency is worthy of consideration and additional research as a potential link between autonomy and engagement because doctoral students work mostly by themselves.

Authors have also noted an issue in research into engagement, whereby one researcher would operationalize an action as emanating from the cognitive domain, while others observe the action within the behavioral or affective domains (Christenson et al., 2014; Fredricks & McCloskey, 2012) or through personal agency (Reeve & Tseng, 2011). One criticism of research instruments is the aforementioned lack of continuity between operational definitions, making comparisons difficult (Fredricks & McCloskey, 2012; Fredricks et al., 2016). It is important to determine and utilize optimum research design strategies when planning to measure SE to ensure accurate and useful analytical outcomes (Christenson et al., 2012; Wang, Willett, & Eccles, 2011).

Many researchers have latched onto the behavioral aspect of engagement, as it is readily observed thorough such actions as verbal participation, active note-taking, and joining in collaborative activities, as well as in students who are bored, inattentive, or unmotivated (Appleton et al., 2008; Milburn-Shaw & Walker, 2016). Of particular interest are proactive behaviors such as being organized, taking good notes, and engaging in discussion boards or live chat sessions (Dixson, 2010; Peters, Shmerling, & Karren, 2011). Researchers have mostly mined the cognitive aspect of engagement through self-report surveys, as it is impossible to observe objectively in the classroom (Dixson, 2010; Fredricks et al., 2004). Strayhorn (2010) argued that little is known about what constructs link academic achievement and SE. The social

aspects of engagement are not as easily observed, particularly in asynchronous learning environments (ALE) (Bagaka's, Badillo, Bransteter, & Rispinto, 2015; Dixson, 2010), but social outcomes such as self-understanding, tolerance, and social responsibility should be regarded as at least equal in importance to the cognitive aspects of learning (Astin, 1999).

Engagement in College Students

Student engagement has been found to be one of the key factors for predicting success in college (Dixson, 2010; Kuh et al., 2008). Tinto (1999) determined that SE is probably the single most important factor related to persistence among college students. Thus, there is a strong relationship between engagement, persistence, and academic success (Harper & Quaye, 2015; Strayhorn, 2010; Whillans, Hope, Wylie, Zhao, & Souza, 2018). According to some authors, one reason for difficulties in trying to conceptualize engagement in college students is that too much research has focused on activities outside the college classroom, such as socialization, extracurricular activities, and university services, rather than focusing exclusively on in-class instructional practices (Burch et al., 2015). Other authors suggest the construct of engagement is meaningless without including the broader scope of engagement outside of classroom behaviors (Arana & Blanchard, 2010; Flynn, 2014; Kuh, 2009; Milburn-Shaw & Walker, 2016; Pascarella & Terenzini, 2005) as they are related to the totality of the college experience, and therefore, impact the levels of SE in students. Still other researchers argue that new college students are estranged by the foreign culture of university life, resulting in internal conflicts, alienation, and lack of engagement (Krauss, 2006; Mann, 2001). These authors suggest embedding support mechanisms into the learning environment to support disengaged students. This assertion is supported by Rabourn et al. (2018), who reported, "To the best of our knowledge, none of the

current theories or suggestions for enhancing adult student learning focus broadly on their engagement in effective educational practices" (p. 24).

Learning styles among students may also affect their ability to either engage, or assume the appearance of engagement, in classroom settings (Coates, 2007; Gourlay, 2015; Kao, 2019; Trowler, 2010). Colleges and universities have a responsibility to promote student engagement as a matter of instructional practice (Guardia & Evans, 2008; Kao, 2019; Lundberg, 2014; Quaye & Harper, 2015). Student retention, satisfaction in their studies, and levels of engagement are associated with students' overall perceptions of institutional support (Gourlay, 2015; Kuh, 2007; Lundberg, 2014). Colleges and universities are invested both in the satisfaction of their students and the schools' reputations, and administrators should be tasked with promoting higher levels of SE via institutional oversight to improve outcomes on both fronts (Milburn-Shaw & Walker, 2016; Trowler, 2010). Researchers (Kuh, 2009; Strayhorn, 2008) noted that there is valued added to the college experience beyond learning in the classroom, with engagement in extracurricular activities promoting higher levels of peer interaction and personal satisfaction.

Some researchers have held narrower views of the construct of SE while studying engagement in college environments (Deschaine & Whales, 2017; Kahn, 2014). These studies have greater reliability coefficients and validity, owing to the specific definitions used in the studies and more detailed explanations of the constructs supporting the research (Dixson, 2015). Some factors related to SE in college students are the level of academic rigor, experiences related to social learning with professors and peers, and the use of high-impact practices (Harper & Quaye, 2015), including the use of technology (Revere & Kovach, 2011). Kattner (2011) reported that some universities were creating administrative jobs specifically to improve SE outside of the classroom.

The National Survey of Student Engagement (NSSE) is used in many universities, and by many researchers, to measure engagement in college students (Chen et al., 2009; Kuh, 2009). The NSSE takes a very broad view of engagement, including elements of classroom activities, peer interactions, and campus living into account when gauging levels of engagement (Kuh, 2009). Other authors expressed serious doubts as to the claimed validity of the NSSE, noting that most of the items are too broad, leaving the meanings open to interpretation (Kahn, 2014). Many of the items are only casually linked to specific educational goals, and the extent to which some elements are connected in some correlations are weak at best (Dixson, 2010). Another issue with the NSSE is that it is only administered to college freshmen and seniors, leaving out a large part of the picture of engagement in universities completely (Dixson, 2010), including doctoral programs.

Engagement in Doctoral Students

Engagement in adult learners looks quite different from other ages of students, due to the requirements and restrictions that may come from also supporting a family, having economic and time constraints, and possessing different learning styles (Arana & Blanchard, 2017; Dixson, 2010; Gardner & Barker, 2015; Harper & Quaye, 2015; Rabourn et al., 2018; Rockinson-Szapkiw et al., 2016; Zepke, 2015). Rabourn et al. (2018) reported finding adult learners were typically more engaged than more traditional-aged college students. Consistently high levels of engagement are necessary for academic success and persistence at the doctoral level (Bair & Hawort, 2005; Spaulding & Rockinson-Szapkiw, 2012). However, even the most talented professors may not be able to reach the most talented doctoral students without implementing engagement interventions which allow them to interact in meaningful ways (Lawson & Lawson, 2013, Miller, 2012).

While the construct of engagement has been researched a great deal in undergraduate courses (Bowen et al., 2012; Kuh, 2009; McBrien, Jones, & Cheng, 2009), research into SE among doctoral online students is both lacking and inconclusive (Bagaka's, Badillo, Bransteter, & Rispinto, 2015; Dixson, 2015; Fredricks et al., 2016; Fredrickson, 2015; Gardner & Barker, 2015; Rabourn et al., 2018; Rockinson-Szapkiw, Wendt, Whighting, & Nisbet, 2016; Strayhorn, 2010). Authors differ in their findings, with a few suggesting there is no reason to believe doctoral students are any different from other college students when it comes to the value or impact of engagement, though doctoral candidates surely work at a more elite level (Cantwell, Bourke, Scevak, Holbrook, & Budd, 2017). Lower levels of SE were found to contribute significantly to lower rates of academic success and persistence among online doctoral students (Deschaine & Whale, 2017; Koole & Stack, 2016), reiterating the importance of developing institutionalized systems and practices for promoting and ensuring high levels of SE.

Though studies on engagement have flooded the literature in recent years, research specifically about engagement levels for doctoral students is both limited and poorly understood (Coates, 2007; Dixson, 2015; Kahn, 2014; Kahu, 2013; Lake, Koper, Balayan, & Lynch, 2016). Few instruments have been developed to measure engagement in doctoral students (Sakurai, Vekkaila, & Pyhältö, 2017). Research suggests that success in undergraduate work is not a good indicator of success at the graduate level (Pontius & Harper, 2006). This is a problem because colleges and universities tend to put more effort and resources into engagement practices and initiatives at the undergraduate level, while devoting fewer resources to engage graduate and doctoral students (Gardner & Barker, 2015; Gittings et al., 2018; Lake et al., 2016). This is apparently because many institutions of higher learning assume that, having made it that far, graduate and post-graduate students have already developed the abilities and coping skills

necessary to achieve at higher levels (Gardner & Barker, 2015). However, engaging graduate students likely requires specialized engagement strategies that are different from undergraduate practices (Pontius & Harper, 2006), including interventions meant to improve their emotional engagement (Sakurai et al., 2017).

Doctoral students make up an increasingly larger proportion of university student bodies (Gardner & Barker, 2015; Pontius & Harper, 2006; Rockinson-Szapkiw, Spaulding, & Lunde, 2017), and universities need to do more to connect and engage doctoral students, particularly in online programs. Pyhältö and Keskinen (2012) noted the importance of engaging doctoral students in scholarly communities early in their studies led to better involvement, lower levels of attrition, and reports of higher levels of well-being after graduation. These findings were supported by Ray and Marken (2014), who reported that doctoral students who were engaged in their studies were also more than twice as like to be engaged in their work after graduation. In another study (Pyhältö, Toom, Stubb, & Lonka, 2012), the well-being of doctoral students was tied to developing better communication skills and involvement with the scholarly community. These studies, with findings based on factors for structure and dialogue, support the theory of transactional distance to be discussed later in this chapter.

Areas of concern for researching doctoral students include the issue whereby such research tends to focus on large groups of participants to ensure some capacity for generalization, when engagement is possibly more of a personal construct (Bandura, 2006; Cantwell et al., 2017; Kahn et al., 2017; Lake et al., 2016; Rayner, Lord, Parr, & Sharkey, 2015; Virtanen, Taina., & Pyhältö, 2013). Also, studies on SE for doctoral students may focus on engagement with the research, into the mentorship provided by professors, or use interaction among peers as proxies for measuring elusive engagement practices (Bagaka's et al., 2015;

Gardner & Barker, 2015; Trowler, 2010). Rayner et al. (2015) disagreed, arguing that participation in such activities was at the heart of building, rather than merely measuring, engagement practices in doctoral students.

In order to be engaged, doctoral students in online programs need the same social learning environments as students at other levels of education, and the same access to course offerings and resources as traditional doctoral students (Ali & Kohun, 2007; Gardner & Barker, 2015). Distance learners often have limited time and access to offerings similar to those of traditional doctoral programs, due to occupational, familial, or technological demands (Ali & Kohun, 2007; Bagaka's et al., 2015; Rockinson-Szapkiw et al., 2017). Bandura (2006) argued for a more personal view of human agency as a means to explore engagement, as people contribute to the course of their circumstances, and are not just products of the circumstances to which they are exposed. Students offer input into how a lesson flows, or the outcomes of their own work by modifying and enriching learning activities (Reeve & Tseng, 2011). Doctoral students have agency over the course of their work, and engagement should improve as a result of their choices as long as they have some control.

Theoretical Framework of Engagement

Theory of Engagement

Much of the literature suggests student engagement is a meta-construct composed of cognitive, psychological/affective, and behavioral components (Appleton, et al., 2008; Christenson et al., 2012). Other researchers have suggested cognitive engagement in the classroom, outside the classroom, and both emotional and physical engagement are hallmarks of the concept (Burch et al., 2015), or that academic and social engagement are separate constructs (Flynn, 2014). Lundberg (2014) suggested that involvement and engagement were two different

constructs that revealed different outcomes of education. Engagement touches on areas of student life such as feelings of belonging, behavioral participation, motivation, self-efficacy, and school-connectedness (Fredricks et al., 2004; Kuh, 2009).

Though there has been substantial research into the underpinnings supporting the construct of engagement, the theory remains poorly defined (Burch et al., 2015; Dixson, 2010; Kahn, 2014; Milburn-Shaw & Walker 2016). A few authors have attempted to bridge the disparities between engagement models, in order to meta-analyze research (Appleton et al., 2008; Christenson et al., 2012). Different studies use different indicators to measure engagement and analyze data using different strategies, making comparisons between studies difficult (Wang et al., 2011). This lack of agreement still confounds most means of comparison for studies from different researchers (Kahn, 2014; Rockinson-Szapkiw et al., 2016).

Engagement and Involvement with Learning Theory

The term *student engagement* has become popular in contemporary literature, and the supporting constructs are mostly synonymous with the term *involvement with learning* (Astin, 1984; Axelson & Flick, 2011; Kahn, 2014). In his theory, Astin (1984) posited that students' college outcomes are based on their effort, and not all college outcomes are determined by the set of circumstances a student encountered prior to attending college. Astin noted that involvement was by-and-large indicated by behavior, and the construct was best viewed through the lens of what an individual did more so that what they felt or thought. Individualized learning is more than just the classroom curriculum, and subsumes all aspects of campus life, including extracurricular activities, advising, counseling and independent study. Astin determined that it was important for college professors and administrators to clearly and specified tie involvement to students' learning, rather than presume such involvement was already occurring. Instead of

putting so much energy into developing the curriculum and teaching to the masses while assuming students would take advantage of the resources available to them, university personnel should focus on what involves individuals in their learning in the first place. Only when universities place the emphasis on individuals will students become involved in learning. Thus, student perceptions about various features of the campus also play a role in their choice to engage and persist in coursework, though not in how much they actually learn (Kuh, 2009). This distinction is important when considering distance education, as students do not interact on-campus in the same way as traditional resident students. Knowing that students can and do engage in their learning outside of brick-and-mortar classrooms is important when assessing the motives for engagement or determining reasons for disengagement.

Research supports the assertion that the three most significant factors related to the involvement with learning theory are the students' involvement with their academic coursework, their social interaction with the faculty, and social learning opportunities with peers (Astin, 1999; Koole & Stack, 2016; Strayhorn, 2008). The importance of the student/faculty relationship is a theme that arises repeatedly in the literature (Bagaka's et al., 2015; Dennen, Darabi, & Smith, 2007; Glenn, 2016; Maher, Ford, & Thompson, 2004), but the most important link to involvement may be the interaction with peers (Ali & Kohun, 2007; Strayhorn, 2008). Research into SE needs to include aspects of how students are involved with their learning, professors, and peers (Dixson, 2010).

Engagement and Social Cognitive Theory

Bandura originally labeled his notion of learned behavior *social learning theory* but changed the name to reflect the important role cognition plays in learning (Bandura et al., 1963). The theory posits that students learn behaviors through social interaction, and atypical behaviors

could be observed in subjects after they watched the same types of behaviors in others. Tenets of the theory are that learning is social in nature, occurs in any social situation, and is cemented by rewards (Bandura et al., 1963). This is an important aspect of student engagement theory as well, as students learn best through interaction with others (Lawson, 2017). Lower levels of social interaction are linked to lower levels of learning (Finn & Zimmer, 2012). Social learning theory is one of the pillars of the framework for the present study, with an emphasis on teacher-student interaction, peer interactions, and collaboration being keys to academic success and engagement in online learning (Rovai, 2003; Stavredes & Herder, 2014).

The social role of learning extends in college environments in both student-to-peer, and student-to-professor interactions as well (Kuh et al., 2008). Doctoral students in distance education programs need to be socialized to the culture of the online program, and have opportunities to socialize with peers and mentors, if they are to achieve success (Bagaka's et al., 2015, Chatham-Carpenter, 2017; Gardner & Barker, 2015; Golde, 2005; Miller, 2012; Sallee, 2014; Wikeley & Muschamp, 2004). Building relationships with faculty and having opportunities to collaborate with peers are crucial to persistence and, ultimately, attainment of a degree (Gardner, 2010; Harper, Carini, Bridges, & Hayek, 2004; Spaulding & Rockinson-Szapkiw, 2012; Tinto, 1999). Faculty members need to introduce doctoral students to the culture of doctoral studies and interact with them throughout the journey to keep them engaged (Gardner & Barker, 2015; Vekkaila, Pyhältö, & Lonka, 2013). Instructor presence is as crucial to success in online programs as in traditional programs (Bagaka's et al., 2015; Dixson, 2010). The review of the literature also reveals the importance of socialization with peers, because students learn better in collaborative efforts (Chang & Hannafin, 2015; Miller, 2012; Tinto, 1999). The issue

of gender expectations can impede the socialization process, as students act in ways that reinforce stereotypes (Harper et al., 2004; Lester & Harris, 2015; Sallee, 2014).

In one study, peer support was found to be significant to the success of doctoral students, but professor interaction was not (Dupont, Meert, Galand, & Nils, 2013). Other studies (Chang & Hannafin, 2015; Miller, 2012; Sallee, 2014) noted that interactions with attentive instructors lead to higher levels of engagement. Though the research is still limited, most studies reviewed indicated a strong teacher-student relationship, and strong social presence of the instructor, had significant impacts on student success (Bowen et al., 2012; Butz & Stupnisky, 2015; Chen et al., 2009; McBrien et al., 2009; Rockinson-Szapkiw et al., 2017; Yamagata-Lynch, 2014).

Bandura (2006) found that personal agency plays a role in learning, as students make choices and produce actions which determine the direction learning takes. This assertion was echoed by Reeve and Tseng (2011) who determined agency guided students' effort, was determined by their interests, and ultimately to their involvement. Along with learning from others, a person can act with intention to accommodate their own self-interests. Students can act with forethought to anticipate outcomes based on their choices. The ability to construct courses of action and reflect on adjustments also leads students to be more engaged in learning.

Engagement and Theory of Transactional Distance

Moore (1983, 1997, 2013) theorized that learning takes place regardless of the distance between and instructor and learner. These learning opportunities are referred to as transactions – interactions between teacher and pupil that occur regardless of space or time – and they are social in nature (Gorsky & Caspi, 2005; Moore, 2013). The closer a teacher is to a student, the greater their relationship and means of teaching and learning. The greater the distance, the more the structure of the learning environment plays in whether learning is successful or not. The

three main features of transactional distance are structure, dialogue, and autonomy (Moore, 2013). Huang, Chandra, DePaolo, and Simmons (2016) noted that, while the theory of transactional distance is well-established, it lacks empirical supporting evidence.

The distances referenced in the theory are more than just physically spatial – there are also psychological distances which can separate people, even if they are in the same room (Moore, 1997). A student who is reading a book or watching a video may have little interest in doing so with a goal of achieving academic success because they lack social interaction from sharing their knowledge or interests, which make such transactions possible (Fredericks et al., 2004; Wagner, Enders, Pirie, & Thomas, 2016). Asynchronous learning environments (ALE), which include emails, letters, or discussion board posts, can achieve some degree of closing the physical transactional distance via two-way communication (Gray & DiLoreto, 2016). Golde (2005) reported on the importance of meaningful interactions between students and the educational organization to decrease feelings of isolation from the university department and the larger community surrounding the discipline studied.

Closing the transactional distance should, in theory, increase engagement. According to Fredericks et al. (2004), ". . . engagement lies at the interaction of the individual and the setting" (p. 86). It may be difficult for some students in distance education to engage due to the lack of interactions based on the structure of ALE, resulting is disengagement, apathy, and dropping out. More (1983) noted that autonomous learners need to work without the emotional support of a tutor, and their success depends on ". . . the extent to which he can make decisions for himself about learning needs, objectives, study procedures and evaluation" (p. 158). Huang et al. (2016) determined that the factors of dialogue, structure, and learner autonomy were largely responsible for closing the transactional distance in online learning. Falloon (2011) noted that some learners

experience a negative outcome through the loss of perceived autonomy. Thus, there needs to be a careful balance for doctoral students between providing the academic and emotion support needed to be successful and the demands for such students to work autonomously.

The dissertation phase of doctoral study is a prime area of concern; though individuals may have interactions with their committee, these are usually limited, and they have almost no interaction with peers (Kuh et al., 2008). Since a large measure of behavioral SE has been linked to collaboration and peer interaction, interventions which increase engagement that do not rely on such interactions are necessary to keep doctoral candidates on track. Institutional and curricular structures which lead to closing the transactional distance while increasing engagement will produce an environment where doctoral candidates can be most successful.

Related Literature

Engagement and Gender

The review of research regarding gender and SE in doctoral students in distance learning programs revealed such studies are both scant in number and mixed in results. Authors noted that results may have been mixed due to inconsistencies with the measures used (de Souza, Brewis, & Rumens, 2016; Wollast et al., 2018), particularly when assessing student-faculty relationships and the impact of SE (Sallee, 2014; Tison, Bateman, & Culver, 2011). Females tend to be more engaged because they demonstrate more proactive outcomes which are important determinants of success (Peters et al., 2011). Female students may be more engaged in ALE than SLE, which allows more time for reflection and introspection, while at the same time reducing the competitiveness which possibly motivates males to be more engaged (Harper et al., 2004; Peters et al., 2011). Over two decades ago, Jacobs (1996) noted that researchers had not paid enough attention to the role gender played in higher education, particularly when

researching males. There have been few efforts to fill the gap in the interim (Harper et al., 2015; Lester & Harris, 2015), particularly for doctoral students (Gardner & Barker, 2015).

Researchers found that differences in persistence placed undergraduate males at a disadvantage when it came to degree completion (Institute of Higher Educational Policy, 2013; Lester & Harris, 2015; Patton et al., 2015; Quaye & Harper, 2015); however, more studies are needed to determine if the same relationship is true for male doctoral students (Rockinson-Szapkiw et al., 2016). Patton et al. (2015) in particular pointed to evidence that showed women were at an advantage when it came to persistence, as they were more likely to enroll and graduate from baccalaureate programs than men. On the contrary, other researchers found no difference in engagement and persistence based on gender among millennials (Harvey, Parahoo, & Santally, 2017), though these researchers noted that gender roles may be culturally embedded.

Using data culled from the NSSE, researchers (Kinzie, Gonyea, Kuh, Umbach, Blaich, & Korkmaz, 2007) determined that fourth-year male college students were less engaged in their learning, and in collegiate activities in general than first- and fourth-year college females or first-year males, which may result from trends that begin in high school. These authors also questioned whether the findings were a result of systemic trends across many universities and noted the need for further inquiry. Mastekaasa (2005) found that differences in gender within Norwegian doctoral programs had little effect when it came to attainment of a Ph.D. but noted that recruitment efforts seemed to favor males. While women in general may seem to hold some advantage in academic success, that advantage is not seen when focusing on the results for women of color compared to other ethnic groups (Patton et al., 2015).

In a study of undergraduate engineering students, males were significantly influenced to persist as a result of engagement interventions during the first year, while persistence was

already apparent in females before the beginning of the first year (Kamphorst et al., 2015). This could be a result of engineering programs and fields being dominated by males, but the gender differences related to engagement were significant (Kamphorst et al., 2015; Sallee, 2014). This appears to support the perception that males need more support than females to engage in academic studies (Lester & Harris, 2015).

Studies found that females benefited more from interaction with faculty (Kamphorst et al., 2015; Main, 2014). Other research produced evidence that gender was not a significant factor in academic success, but there were significant differences based on age (Cantwell et al., 2017; Dupont et al., 2013; Peters et al., 2011). Research into trends in Norwegian universities found that the effect of gender on completion rates was not significant, but there was a noted effort to recruit more males (Mastekaasa, 2005).

Transgendered students and gender fluidity are also confounding factors when investigating gender issues related to SE (de Souza et al., 2016: Marine & Catalano, 2015). There are a limited number of studies on trans experiences and SE at colleges and universities, and no literature was identified that was specific to doctoral programs (Marine & Catalano, 2015). Transgendered students experience residential and distance education programs differently, and their gender identify may not be known, or an issue, in online settings (Miller, 2017). Students will respond and interact with others according to the gender they identify with (de Souza et al., 2016; Marine & Catalano, 2015).

Gender and Doctoral Students

Researchers have found numerous links between gender and engagement of doctoral students. Different authors reported contradictory findings for which gender, if either, was more engaged. Thomas, Drake-Clark, Grasso, and Banta (2014) reported that, “Women continue to be

underrepresented among holders of doctoral degrees" (p. 88). In general, women were found to take longer to complete the dissertation phase of their doctoral program than males (Maisto & Kahn, 2016). Gender may also determine a doctoral student's success after graduation (Arana & Blanchard, 2018; Bryan & Guccione, 2018; Lin & Chiu, 2016).

Authors have called for further investigation into differences in socialization among doctoral students based on gender, noting the need for more research intended to investigate how students' post-graduate collegiate experiences differ based on gender (Lin & Chiu, 2016; Main, 2014; Sallee, 2014). Information about the role gender plays in engagement of doctoral students is contradictory, with some studies reporting findings that males were more engaged, while conflicting studies reported the opposite (Harper et al., 2004; Sallee, 2014; Tison et al., 2011). Wollast et al. (2018) argued that previous research which had found no difference based on gender was due to using too broad of an analysis, having found that gender was indeed significant in explaining differences found in certain demographic studies. Through confirmatory factor analysis, Wang et al. (2011) found evidence to support the idea that any differences found in statistical analysis based on gender probably represented real differences in engagement.

The native culture of a doctoral student may also affect the way they engage socially based on gender (Guardia & Evans, 2008; Harper et al., 2004; Harvey et al., 2017; Lundberg, 2014; Kao, 2019; Mastekaasa, 2005). Some cultures place specific pressures on one gender or the other, which may influence how comfortable a student is when interacting (Lundberg, 2014; Peters et al., 2011).

Studies showed contradictory evidence that the genders of doctoral students and their dissertation advisors was significant in females, but not males (Kamphorst, Hofman, Jansen, &

Terlouw, 2015; Sallee, 2014), and also in males, but not females (Harper et al., 2004). These findings also including indications that some differences were a result of the genders within the student-faculty relationships. In their study of professional mentoring relationships, Welsh and Diehn (2018) reported that women were probably more engaged as protégés with male supervisors than with females. Main (2014) reported to the contrary, finding females were more likely to be engaged when they had a female mentor. In a meta-analysis of mentoring relationships, O'Brien, Biga, Kessler, and Allen (2010) noted that males tended to be less engaged in their college mentoring relationships than females but were offered more opportunities to act as mentors later in their careers. Females tended to be more engaged on an interpersonal level than males, and this trend continued later into their professional relationships with their protégés. Research into professional mentoring relationships found a link between gender and perceived levels of mentoring where females were more likely to report a mentoring relationship with a male than female (Welsh & Diehn, 2018).

The well-being of doctoral students also plays a role in engagement and attrition. In their literature review of doctoral well-being, Schmidt and Hansson (2018) reported that universities needed to adopt a more student-centered approach to meeting the physical and emotional needs of doctoral candidates in order to improve productivity and reduce attrition. Their review found that perceived organizational support improved levels of engagement. Women experienced greater levels of emotional exhaustion, which led to higher rates of attrition. Appel and Dahlgren (2003) noted that, while all doctoral students experience some level of stress or mental fatigue, women seem to be more susceptible. The review of the literature suggests more research is needed to understand the role gender plays on levels of student engagement for doctoral students.

Engagement and Race

Several authors noted the effect race plays on the engagement levels of minority populations, particularly Black males (IHEP, 2013; Harper et al., 2004;) and females (Du, Mingming, Jianzhong, & Sao, 2016), Native Americans in general (Akee & Yazzie-Mintz, 2011), Native American college students (Bird, 2017; Cole & Denzine, 2002: Lundberg & Schreiner, 2004), Asian Pacific Islanders (Strayhorn, 2008), Hawaiian students specifically (Kao, 2019; Taira, 2018), and Hispanic/Latinos (Arana & Blanchard, 2018). There is a dearth of information on outcomes for Asian, Native Americans, and Latino males (Bridges, Cambridge, Kuh, & Leegwater, 2005; Harper et al., 2015).

Cultural differences may appear in the form of engagement, or, more precisely, the lack of what appears to be engagement between students and their college professors (Lee, 2015), including not making eye contact, being timid about speaking out in class, and appearing superior to males in the room. Ethnic minority students have more difficulty approaching and interacting with faculty members who are a different race or ethnicity than their own (Guardia & Evans, 2008; Harper et al., 2015; Lundberg & Schreiner, 2004; Quaye et al., 2015; Patton, Harris, Ranero-Ramirez, Villacampa, & Liu 2015). These difficulties are not a result of race, but ethnic cultural differences that should be accounted for and proactively considered by institutions of higher learning when considering online collaboration, campus policies, instructional practices and extracurricular activities (Du et al., 2016; Guardia & Evans, 2008; Harper et al., 2015; Harvey et al., 2017; Kao, 2019; Lundberg, 2014). Harvey et al. (2017) noted that, at least for millennials in online programs, engagement may be a result of culturally embedded expectations for both genders.

Cole & Denzine, (2002) found no significant differences in engagement between Caucasian students and Native Americans, but Lundberg and Schreiner (2004) reported slight differences in levels of engagement favoring Whites over Native Americans. In an historical review of data from the early 20th century, Taira (2018) could not discern levels of engagement because cultural differences made such comparisons impossible. Taira determined that language and cultural difference left the issue of engagement unresolved. Similarly, a study of native Hawaiians (Kao, 2019) found similar cultural and language barriers left these students less engaged in all but 11 of the 47 indicators on the NSSE.

Cultural differences and problems with assimilation were found in Black students as well, with different interpretations of outcomes reported. Quaye et al. (2015) found Black males to be more engaged in some aspects of higher education, while other authors (Patton et al., 2015) found the opposite was true – Black males were less engaged than their female counterparts and Whites in general. These findings were supported by other authors studying SE (Guardia & Evans, 2008; Harper et al., 2015; IHEP, 2013; Lundberg & Schreiner, 2004). Du et al. (2016) reported that culture played a role in the preferences among Black females in online programs for opportunities to collaborate with peers, even though cultural differences created issues within those collaborations.

In their 2005 study, Bridges et al. noted, "Compared with 22 percent of white adults who have earned at least a bachelor's degree and 37 percent of Asian Americans, only 16 percent of African American adults, 11 percent of Hispanic adults, and 9 percent of American Indian–Alaskan Native adults have earned postsecondary degrees" (p. 30). In the US, those of Asian descent are twice as likely to graduate from college, and four times more likely to earn a doctoral degree, than Hispanics (Noël, 2018).

Hispanic attrition rates are about two and a half times higher than for Blacks, and over three times higher than for Whites (Arana & Blanchard, 2017). Native Americans who attend tribal colleges before attending predominantly White universities are four times as likely to attain a degree as those who go straight into a predominantly White college (Guardia & Evans, 2008). Researchers have sought to explain the discrepancies in graduation and degree attainment rates based on race. The present study will research SE in minority races and ethnicities.

Research into the relationship between race and engagement over the past two decades has tended to focus on comparisons between Black and White student outcomes, primarily at the undergraduate level (Harper et al., 2015; Reason, 2015). On predominantly White campuses, the usual expectation is for minority students to assimilate to the prevailing culture and to separate themselves from their ethnic identities while learning (Harper et al., 2015; Lundberg, 2014; Quaye et al., 2015). Barker (2016) related stories of Black doctoral students of both genders who had White advisors, and the difficulties they had in socializing to the culture of academics based on race, biases, and departmental practices, which the author determined favored Whites.

Many authors (Cole & Denzine, 2002; Guardia & Evans, 2008; Kao, 2019, Reason, 2015, Taira, 2018) reported that ethnic and cultural barriers such as language and social norms related to respect, subservience, servitude to community and manners, and values such as independence, competition, and care for the family were all roadblocks to assimilation and engagement in higher education. However, Arana and Blanchard (2018) determined that ethnic loyalty led Hispanic students at a predominantly Hispanic college to be more engaged by taking advantage of the same campus resources as others of the same ethnicity. Ethnic loyalty can refer to cultural traditions, ethnic identity, and ethnic pride. Cultural differences also impede engagement among Asian and Pacific Islanders, Blacks, Native Americans and Native Alaskans, and among

Hispanic populations, as the cultures value collaboration and cooperation among members, rather than the highly individualistic and competitive atmosphere that exists within most doctoral programs (Akee & Yazzie-Mintz, 2011; Arana & Blanchard, 2018; Cole & Denzine, 2002; Kao, 2019; Lundberg, 2014; Tiara, 2018). Minority students who attend a university where they are the majority, such as Historically Black Colleges and Universities and tribal colleges, tend to have more academic success, engage more fully, and graduate at higher rates than minority students who attend predominantly White universities (Bridges et al., 2005; Harper et al., 2015; Quaye, Griffin & Museus, 2015).

Among engagement issues identified based on race, Asians and Pacific islanders are overrepresented in higher education proportional to their general populations (Chen & Hune, 2011), but still suffer from feelings of isolation and loneliness (Patton et al., 2015). Kao (2019) researched first-generation Asian-Americans in determining they were not as engaged as Whites, even though their culture demanded exceptional work ethic and outcomes. Native American populations in general, and particularly their levels of engagement, have been poorly researched (Akee & Yazzie-Mintz, 2011; Guardia & Evans, 2008; Lundberg, 2014), though Cole and Denzine (2002) reported no significant difference in levels of SE between Whites and Native Americans.

Race and Ethnicity in Research

There is a difference between *race* and *ethnicity* (Federal Register, 2016; Lundberg, 2014, Noël, 2018; Reason, 2015; Taira, 2018; Weber, Hiers, & Flesken; 2016). Race may be seen as a social and political construction (Reason, 2015) based on one's skin color, while ethnicity is based mainly on cultural identity regardless of skin tone (Quaye et al., 2015). In his essay, Brubaker (2014) argued, "Ethnicity is a chronically unsettled and ill-defined field of

inquiry" (p. 807), noting that the concept of ethnicity is too broad to be constrained into a very few categories, and certainly not by location or language. However, in research, both race and ethnicity are used simultaneously as categories (Federal Register, 2016), highlighting the difficulty with differentiating between the two.

The terms *Hispanic* and *Latino* are used usually used interchangeably (Arana & Blanchard, 2018; Federal Register, 2016). The US Department of Labor and Statistics uses the term *Hispanic* as an ethnic, rather than racial term – a person can be Black or White and still be Hispanic (Noël, 2018). However, the US Office of Budget and Management (Federal Register, 2016) regards *Hispanic* as a racial, rather than ethnic, designation, blurring the lines between race and ethnicity, and making reporting more difficult. Problematically, many Hispanics do not identify with any of the racial designations offered, reporting only as Hispanic (Arana & Blanchard, 2018). In accordance with the Federal Register (2016), "The racial and ethnic categories set forth in the standard should not be interpreted as being scientific or anthropological in nature" (p. 67401). As the conceptualization of ethnicity and race are far removed from the purpose of the present study, and the vast majority of researchers adhere to the standards set forth in the Federal Register, these categorizations have been used to inform both the review of literature and research design for the present study.

Gender and Race

The review of the literature revealed a few studies on the influence of both gender and race on SE. Harper, Berhanu, Davis, and McGuire (2015) reported Black males were less engaged than Black females in undergraduate programs, while Patton et al. (2015) determined the opposite was true. The rate of college enrollment for Black females is higher than for Black males (IHEP, 2013), so Black women have more opportunities for success, but that does not

mean they necessarily take advantage of those opportunities. Black males were also found to invest less time outside of the classroom on academic work (Harper, 2006) than their female equivalents. Both genders of Black students tended to be less engaged while attending predominantly White colleges compared to their compatriots attending historically Black institutions (Barker, 2016; Quaye et al., 2015). In their study of Black female doctoral students, Williams, Brown Burnett, Carroll, and Harris (2018) found, "perceptions of racism were more readily apparent to our participants than issues of sexism" (p. 271). The Black doctoral students studied were more inclined to view their experiences through a lens of race rather than gender.

The proportion of Latino males who enter college and graduate lags behind both Latina women and other racial and ethnic groups (Perez, 2017). While Latinas graduate at higher rates (Saenz & Ponjuan, 2009), little is known about their levels of engagement (Patton et al., 2015). Latinas must surely be more engaged than Latinos, argued Saenz and Ponjuan (2009), because cultural expectations of female subservience and caring for families mean fewer would be enrolled or graduating if the opposite were true. Latinos are generally less likely to interact with faculty than other ethnicities (Perez, 2017), but the impact of these interactions was found to be more meaningful than for other racial or ethnic groups.

Patton et al. (2015) noted that while greater numbers of Asian, Black and Latina women were enrolled in college programs than their male counterparts, this did not translate into higher levels of SE, and called for more research into interventions meant to increase engagement in all women of color. In researching professors and their protégés, Hu, Thomas, and Lance (2008) found that the gender and race of both the mentor and doctoral student in mentoring relationships made a difference in engagement and, ultimately, the students' success in completing their studies. A review of the literature suggests more research is necessary to explain current levels

of engagement and to identify interventions to improve SE in the future when considering the interaction between gender and race.

Distance Education and Student Engagement

Research into engagement in online learning environments reveals mixed results (Kahn, Everington, Kelm, Reid, & Watkins, 2017). There has been a decrease in admissions overall for traditional enrollment in higher education, but online programs continue to grow (Dixson, 2015). The literature supports the notion that online learning can be just as effective as residential classes, as long as certain criteria are met (Astin, 1999; Allen & Seaman, 2013; Bagaka's et al., 2015; Dixson, 2015). Studies indicated comparable learning outcomes between residential and online students in basic courses with similar levels of productivity, but at lower costs (Bowen et al., 2012). Most distance learners reported they believed learning outcomes in online programs were comparable to residential programs, but also believed the faculty had not valued the legitimacy of distance learning (Allen & Seaman, 2013). It is the responsibility of the instructor to improve course delivery and interaction with students when they report minimal engagement or learning (Gray & DiLoreto, 2016).

Universities need to use evolving technologies in order to benefit distance learners (Chang & Hannafin, 2015; Chatham-Carpenter, 2017). Virtual classrooms allow instructors in distance education programs to mimic some of the classroom characteristics of traditional, face-to-face classroom instruction by using video, chat, and interactive whiteboards (Martin & Parker, 2014). Institutions should ensure that students are comfortable and competent in using the necessary technologies to engage in online programs in general, and specifically in virtual classrooms (Chang & Hannafin, 2015; Raymond, Jacob, Jacob, & Lyons, 2016; Stavredes & Herder, 2014). Dennen, Darabi, and Smith (2007) determined the most important student-

reported instructional practices in virtual classrooms related to the frequency of contact, and having regular face-to-face interactions, with the professor. This means professors should respond to student communications, furnish feedback in a timely fashion, and use technology to afford opportunities for face-to-face contact in a virtual classroom environment similar to the instructional contact and interaction granted to students in a regular classroom setting. Raymond et al. (2016) found that students liked a blended environment of ALE and SLE, with the opportunity to interact with peers being a primary concern.

Doctoral Students in Distance Programs

Creating an environment with the right structures for autonomy, interaction, curriculum, and technology suitable for full-time students who also work full-time is crucial in online doctoral programs (Allen & Seaman, 2013), as only about half of all doctoral students actually earn a degree (Cassuto, 2013; Peters et al., 2011; Rockinson-Szapkiw et al., 2017). Students in online doctoral programs can create unique challenges for researchers, mainly because of the types of personalities most likely to pursue an advanced degree, the characteristics of online learners, and the age when many begin to pursue a doctoral degree (Coates, 2007; Dixson, 2010; Gardner & Barker, 2015; Koole & Stack, 2016).

Minimal research has been conducted to understand the extent to which providing feedback and scaffolding through socialization affect underperformers' academic success when using interventions with collaborative distance education technologies (Chang & Hannafin, 2015). Researchers have reminded professors to not abandon tried-and-true classroom practices just for the sake of technology (Raymond et al., 2016; Wikeley & Muschamp, 2004), warning that, although doctoral students work in isolation, they still require the means to adapt to the academic culture and assimilate the accumulated knowledge of past generations (Gardner &

Barker, 2015). An asynchronous curriculum, supplemented by regular, synchronous meetings with the professor, improved engagement and academic success for undergraduate collegiate online learners (Bowen et al., 2012; Raymond et al., 2016). However, it is not known if the same will hold true for doctoral students (Bagaka's et al., 2015).

Attrition in Distance Education

The literature uses many different words and definitions for students who remain or leave a program, including *attrition*, *persistence*, and *retention* (Gardner, 2009; Malmberg, 2000; Rovai, 2003; Tinto, 1999). Attrition rates in colleges and universities are highly related to student engagement (Chakraborty & Nafukho, 2014; Kuh et al., 2008). While many researchers have established theories on attrition at the undergraduate level, Golde (2005) noted that attrition at the doctoral level is poorly understood. In online doctoral programs, levels of attrition range from about 50 percent to as high as 70 percent (Gittings et al., 2018; Spaulding & Rockinson-Szapkiw, 2012). Some researchers reported finding rates of attrition within online collegiate programs to be higher than for residential programs (Stavredes & Herder, 2014). Numerous authors have called for universities to improve retention rates as one step towards improving overall doctoral student programs (Nyquist, 2002; Rockinson-Szapkiw et al., 2016). Kahn et al. (2017) stated that once candidates reach the dissertation phase, they need to be able to demonstrate self-agency and reflexivity as the process becomes more individualized. Other authors (Allen & Seaman, 2013: Cassuto, 2013; Tinto, 2012) believe universities must make better efforts to improve institutional conditions meant to retain graduate students throughout their time in doctoral programs.

Though many of the reasons for student departures from college are known (Tinto, 2012), it is difficult to generalize these reasons for doctoral attrition, possibly because records of why

doctoral students drop out are not kept the way undergraduate records are, but also due to the degree of variance among both doctoral students and degree-granting institutions in general (Cassuto, 2013; Tinto, 2012), and in the difference among doctoral programs offered online (Bair & Hawort, 2005). Admissions offices must improve efforts to vet applicants and increase the quality of candidates, though there will always be a number of students who do not complete a doctoral degree program for a variety of reasons (Bair & Hawort, 2005; Bagaka's et al., 2015; Cassuto, 2013; Meyer, 2014). Over 70 percent of admissions officers surveyed believed retention of students was important to the growth of online program (Allen & Seaman, 2013). Researchers suggested a need for additional studies of the distance doctoral experience and how institutions can better support learners and increase completion rates (Bair & Hawort, 2005; Golde, 2005; Koole & Stack, 2016). The proposed study is intended to add to the body of knowledge by measuring engagement of doctoral students in distance programs.

According to Astin (1984), the effectiveness of an educational experience and the extent to which the action increases student involvement are directly related. In an effort to reach more students, most universities have adopted some form of distance education program of online learning (Bagaka's et al., 2015; Dixson, 2010). For some students, online learning may be preferable to residential programs due to scheduling convenience, location, and work or familial requirements (Peters et al., 2011; Rockinson-Szapkiw et al., 2016). Problematically, practical, first-hand educational experiences may be more difficult to obtain in such settings (Chakraborty & Nafukho, 2014; Rabourn et al., 2018). Distance education may not be a student's preferred form of learning, leading to less engagement, alienation, and departure from the program (Mann, 2001; McBrien et al., 2009).

On the Importance of Student Engagement

To the purpose and significance of the present study, it matters if levels of SE are higher in students based on gender or race because of the benefits realized later on for personal and professional outcomes (Akee & Yazzie-Mintz, 2011; Arana & Blanchard, 2018; Bird, 2017; Buskist, Busler, & Kirby, 2018; Chen & Hune, 2011; Nyquist, 2002; O'Brien et al., 2010; Sallee, 2014; Strayhorn, 2008). Interventions which improve levels of SE in doctoral students, both in and out of the classroom, should result in improved graduation rates (Chakraborty & Nafukho, 2014; Kuh et al., 2008). The review of the literature revealed a myriad of positive outcomes for people later in life as a result of higher levels of SE for while in school, regardless of gender or race.

Higher levels of SE promote personal and professional benefits for doctoral graduates (Gallup, Inc., 2014; Noël, 2018; Nyquist, 2002; O'Meara, 2008; Strayhorn, 2008). These benefits include clarified values, improved resilience, more effective communication skills, involvement in meaningful interpersonal relationships, and a sense of social responsibility (Strayhorn, 2008). Higher levels of engagement in female doctoral students resulted in better interpersonal relationships with protégés later in their professional careers (O'Brien et al., 2010). Bryan and Guccione (2018) proffered a different set of benefits based on doctoral completion, including greater capacity for building resilience, improved networking, and an increased likelihood for gaining employment. Reporting on the results of a Gallup poll, Ray and Marken (2014) noted that being engaged in college, whether through a good relationship with a professor, or being more involved in extra-curricular activities, mattered more than the type of institution attended when it came to well-being later in life. These factors more than doubled the likelihood of graduates being engaged in their careers. Dunstan, Eads, Jaeger, and Wolfram

(2018) emphasized the impact of SE on improved leadership skills which carryover to life after graduation.

Higher levels of SE have been shown to improve students' persistence to graduate (Chakraborty & Nafukho, 2014; Kuh et al., 2008), and to make a mark in their chosen profession (Barker, 2016; Strayhorn, 2008). Increased engagement during graduate school helped promote the use of professional expertise later on in solving real-world problems in local communities (O'Meara, 2008). Engagement interventions which improve the odds of success for graduate students have global impacts, because "Engaged scholars value disseminating the products of their work in the places where it will have the most impact (O'Meara, 2008, p. 39).

Higher levels of SE results from engagement in activities both within and outside of the classroom (Astin, 1999; Kuh, 2009). This is important because there are more doctoral graduates than there are jobs available, particularly in academia (Lin & Chiu, 2016). Nyquist and Woodford (2000) reported that doctoral students who experienced higher levels of SE while in school had a professional advantage after graduation when it came to employment opportunities, access to funding for research, access to privileged research, and opportunities for paper presentations due in part to better networking while pursuing their degrees. Torpey (2018) reported that, in the US, weekly earnings for those who held a doctoral degree were three times higher than those with less than a high school diploma, and individuals with a doctoral degree had an unemployment rate of 1.6%, compared to 3.6% for all workers.

Summary

The review of the literature has revealed disparities in the body of knowledge when it comes to understanding engagement levels among doctoral students in online learning environments. The number of studies specific to doctoral students in online programs is meager

compared to similar studies of undergraduate programs, especially when considering the programs themselves are gaining in both popularity and number. There are contradictions in the literature as to whether gender plays a significant role in engagement, particularly among males. Similarly, contradictions of findings in regard to SE by race and ethnicity have left gaps in the body of knowledge.

For the present study, the literature was only of some assistance in predicting outcomes for the research questions. The review of the literature revealed that questions remain about the level of SE in doctoral students in general, and particularly in online programs. Rival reports found different results for SE based on gender. Though levels of engagement have been studied extensively for men and women of color in undergraduate programs, the same is not true for doctoral students. The review found evidence that race and ethnicity have some bearing on academic achievement, but authors differed on why, or what interventions may improve SE in certain minorities. The literature points to differences in levels of engagement for students having significant impacts later in life, and thus, significant relevance for understanding current levels of engagement. In sum, more research is needed to understand student engagement in online doctoral programs, and the effect gender and race may have on SE of doctoral students in these programs.

CHAPTER THREE: METHODS

Overview

The purpose of this causal comparative factorial study was to examine student engagement (SE) of doctoral students in online programs based on gender and race. This chapter will outline the specific research conducted, including the research design, research questions, and the null hypotheses. Information regarding the selection of participants, the setting for the study setting, the instrumentation used for data collection, and procedures for implementing the study are covered. This chapter concludes with descriptions of the procedures used to prepare, conduct, and analyze data associated with the present study.

Design

A causal comparative, between-subject factorial analysis of variance (ANOVA) was used for this research study (Campbell & Stanley, 1963). This design was appropriate for the present study because the independent variables of gender and ethnicity were preexisting and were not manipulated by the researcher (Campbell & Stanley, 1963; Gall, Gall, & Borg, 2007; Warner, 2013). The two independent variables were categorical in nature, and the dependent variable was quantitative (Campbell & Stanley, 1963; Gall et al., 2007; Wagner, 2013).

The first categorical independent variable was a fixed factor of gender with levels of female or male (Warner, 2013). Gender is defined by ". . .who is considered and considers themselves to be 'men' and 'women' in a particular time and place. . ." (De Souza, Brewis, & Rumens, 2016, p. 610), and was used as an independent variable in studies conducted by Gardner and Baker (2015), Lester and Harris (2015), and Wollast et al. (2018). The second categorical independent variable was the categorical factor of race/ethnicity with levels of Caucasian (non-Hispanic) and Minorities, which included participants identifying as African

American or Black, Asian or Pacific Islander, Hispanic, Native American or Native Alaskan, and Other (Wagner, 2013). Race is defined as ". . . (A) social and political construction that has no reality outside of the socio-historic context in which we live" (Reason, 2015, p. 82); while ethnicity is ". . . the perception of a common origin, based on a set of common attributes, such as language, culture, history, locality, and/or physical appearance" (Weber et al., 2016, p. 2). Race and ethnicity were used as independent variables in studies conducted by Cole & Denzine (2002) Kao (2019), and Taira (2018). The dependent variable used in this study was student engagement, as measured by the Online Student Engagement scale (OSE) (Dixson, 2010). Engagement is defined as ". . . participation in educationally effective practices, both inside and outside the classroom, which leads to a range of measurable outcomes" (Harper & Quaye, 2015, p. 2). Student engagement has been the subject of studies conducted by Dixson (2010) and Fredrickson (2015) among many others.

Research Questions

RQ1: Is there a difference between the student engagement scores of male and female students in online doctoral programs?

RQ2: Is there a difference between the student engagement scores of Caucasian and minority students in online doctoral programs?

RQ3: Is there an interaction among engagement scores of male and female students of various races in online doctoral programs?

Hypotheses

$H_0$1: There is no difference between the student engagement scores of male and female students in online doctoral programs.

$H_0$2: There is no difference between the student engagement scores of Caucasian and minority students in online doctoral programs.

$H_0$3: There is no interaction among engagement scores of male and female students of various races in online doctoral programs.

Participants and Setting

Population and Setting

The participants for the study were drawn from the population of students enrolled in the online doctoral program at a large, private, mid-Atlantic university. The university serves students who live throughout the US and other countries. The setting was an online doctoral educational environment. The survey instrument was administered through the university computer services with the survey link sent by email to the prospective participants' university email addresses. Participants, who were enrolled in a 15-week independent study course, accessed the link through their own electronic devices. The university incorporates an online learning and course management system which allows for asynchronous participation in coursework (Blackboard, 2019). Participants had the option to volunteer for the study by clicking through a link delivered via an email message and providing consent to take part in the study.

Sample

Doctoral candidates enrolled in an online program (N = 420) were contacted via email with an anonymous link to the study. A total of 189 students responded to the link, with 186 providing consent and the survey. One person declined to give consent, and two potential participants abandoned the survey before submission. The convenience sample of 186 participants represented a response rate of 44.29%. This sample size met the minimum

requirement of a total of 152 participants to achieve the desired statistical power of .80 with a medium effect size at the 0.05 alpha level for a two-way factorial ANOVA (Warner, 2013).

Demographics

The female group consisted of 130 females. The racial breakdown was 87 Caucasian (non-Hispanic) and 43 minority female participants. The female minority group consisted of 36 African American/Black, 01 Asian/Pacific Islander, 05 Hispanic/Latina, and 01 Native American/Native Alaskan. The male group consisted of 56 males. The racial breakdown was 42 Caucasian (non-Hispanic) and 14 minority male participants. The male minority group consisted of 10 African American/Black, 01 Asian/Pacific Islander, 01 Native American/Native Alaskan, and 02 Other. There were a total of 129 Caucasian and 57 minority participants. See Table 1 for the demographics of the sample.

Table 1

Sample Demographics by Gender and Race/Ethnicity

		Race/Ethnicity		
		Caucasian	Minorities	Total
Gender	Female	87	43	130
	Male	42	14	56
	Total	129	57	186

Instrumentation

The Online Student Engagement scale (OSE) was used to measure the overall effect of levels of student engagement (see Appendix A). The OSE was developed by Dixson (2010), who determined, ". . . the ability to effectively measure student engagement is necessary for online researchers and instructors (p. 2). Open access and permission to use the instrument was granted by the author for not-for-profit research (Dixson, personal communication, 2017). This

instrument was used to collect data for a research project meant to investigate student engagement in online instruction (Frederickson, 2015; Miller, 2012); to study the effectiveness of nonverbal immediacy behaviors in an online environment (Dixson, Greenwell, Rogers-Stacy, Weister, & Lauer, 2016); and to measure nursing students in the area of skills, emotional, participation, and performance engagement (Hampton & Pearce, 2016). The OSE was appropriate for use in the proposed study, which measures engagement in online environments (Dixson, 2015).

Development of the OSE was based upon the theoretical constructs for social learning theory and the community of inquiry model (Dixson, 2015). The framework for social learning theory is built on the supposition that learning is a result of social interaction (Bandura, Ross, & Ross, 1963). Online students may be isolated from other learners, and lack opportunities for collaboration (Chen, Lambert, & Guidry, 2009). Interventions for online learning should mimic the social interaction and presence of the professor found in face-to-face classroom instruction (Bagaka's, Badillo, Bransteter, & Rispinto, 2015). The community of inquiry theory holds that three types of communal constructs must be present for students to learn: a social presence with peers for more than just sharing facts, a teaching presence of an instructor, and a cognitive presence where new ideas develop (Dixson, 2015).

In a study of online collaboration and student engagement, Fredrickson (2015) used the OSE as a measure of students' levels of engagement during an online writing collaboration. Three subscales of skill engagement, emotional engagement, and participation engagement were used to determine student levels of engagement during the collaboration. These same subscales will be used for collecting data in the proposed study for the same reasons – the scale is specific to online learning environments.

This instrument uses a five-point Likert scale: 1 = not at all characteristic of me; 2 = not really characteristic of me; 3 = moderately characteristic of me; 4 = characteristic of me; and, 5 = very characteristic of me. Higher scores represent higher levels of engagement for this self-report survey, as scores range from 17 (very low level of engagement) to 85 (very high level of engagement). The 17-item version of the OSE, which consists of three subscales (Fredrickson, 2015), will be used for the present study. The subscales represent the factors of skill engagement, which involves learning the material, reading, and effort (six items, Cronbach's alpha = .83); emotional engagement, where students apply what they have learned into their own lives (five items, Cronbach's alpha = .82); and participation engagement, which requires students to be actively involved in discussions or other group activities (six items, Cronbach's alpha = .86). The present study used the combined total for all scores.

Additional demographic information pertinent to the research study, but not included on the OSE as published, was collected, including the participants' self-reported gender (independent variable) and self-reported ethnicity (independent variable). See Appendix B for the format of the additional demographic information.

Procedures

Institutional Review Board (IRB) ethics and procedural training was successfully accomplished by completing the Collaborative Institutional Training Initiative in the fall of 2017. With the approval of the dissertation committee, the IRB application, permission letters, recruitment materials, consent materials, and the online instrument surveys were completed and submitted through the committee chair prior to collection of data. A signed signature page representing all relevant parties and proof of permission was acquired and submitted to complete the application process. See Appendix D for the IRB approval letter.

In accordance with Qualtrics policies (Liberty University Information Services, 2019), once approval was granted by the IRB and the committee chair, the Division Administrator for the School of Education was asked to submit a helpdesk ticket in support of the online survey. The researcher was enrolled in the Qualtrics online training course and received Qualtrics training and certification allowing the researcher's access to Qualtrics. See Appendix E for the Qualtrics letter of certification.

Students who were in the dissertation phase of their online doctoral program during the survey period and were willing to provide consent (see Appendix C) were eligible to participate in the study. With the assistance of the School of Education, the graduate coordinator, and IT services, the researcher was provided with the university email addresses for students who were eligible to participate in the study. Participation in the study was solicited through their university email during the fourth week of the semester (see Appendix F). A reminder email containing the same message was sent in three consecutive weeks thereafter, for a total of four solicitations.

The OSE was presented online in a simple and inviting manner, with privacy and confidentiality concerns addressed proactively through information posted on the consent page of the survey (see Appendix C). The link to the survey was available for one month starting in the fifth week of the semester. Consent forms were completed by each participant at the beginning of the survey process. All items on the survey were required to be completed in order to submit the information; thus, only complete surveys were submitted for analysis. A warning pop-up on the participant's screen notified them if the submission of an incomplete survey was attempted, giving the participant an opportunity to complete all items before final submission. None of the participants failed to complete the survey after providing affirmative consent.

For the purposes of this study, the gender of the student was the one reported by the student on the survey instrument, which may not necessarily be the gender of record for the university. Attempts to mitigate issues related to gender identity were beyond the scope and design of the study and control of the researcher (Marine & Catalano, 2015). Participants were given the option to choose their race/ethnicity among Asian/Pacific Islander, African American/Black, Caucasian/White, Hispanic/Latino/a, Native American or Native Alaskan, or Other. Students may have identified with a race or ethnic group that was not covered by the racial or ethnic options presented in the survey and chose the Other option as a matter of convenience (Quaye, Harper, & Museus, 2015). All of the categories except Caucasian/White were combined into the category "Minorities" for analytical purposes.

Participant responses were collected and stored on a secure server administered by Qualtrics (Liberty University Information Services, 2019). The surveys were automatically formatted for data collection as they were submitted, with the data transferred to a Comma Separated Data spreadsheet along with demographic responses for analysis. Submitted surveys were inspected by the researcher for inclusion of demographic information and coding of collected data. All files were kept on the password-protected university server and accessed through a single password-protected computer used by the researcher. Data from the spreadsheet was inputted into the Statistical Package for the Social Sciences (SPSS) for ANOVA factorial analysis.

Per federal law, all surveys, collected study data, and statistical analyses will be stored in secure, password-protected computer files for a period of three years from the date of committee approval of the dissertation. To protect the identities of the participants, no personally identifiable information was collected or stored in relation to the survey data.

An incentive of a $100.00 gift card was used to encourage participation in the study. After completing the survey, participants were offered the option to enter their university email address for inclusion in a raffle for the incentive (see Appendix G). Email addresses were collected in a separate Comma Separated Data file - there was no way to connect an email address to a particular set of study data, ensuring the anonymity of the participants. The raffle email file was not considered to be part of the study data and was not retained.

A total of 165 participants chose to enter the raffle, or 88.71% of the sample. At the end of data collection, each entry was randomly assigned a number in Excel, set with equal distribution from one to 100,000. The file was sorted from highest to lowest value, and the first email at the top of the randomized list was contacted to allow the participant to collect the incentive. After the incentive was awarded, the file containing the email addresses was deleted.

Data Analysis

A Two-Way factorial Analysis of Variance (ANOVA) was conducted to determine if statistically significant differences existed between total OSE scores based on gender or race/ethnicity. A factorial ANOVA was an appropriate test because there were two fixed-factor independent variables and one dependent variable based on a continuous scale (Campbell & Stanley, 1963; Warner, 2013). Independent scores were collected based on the way the survey was presented through the online link. Results for each of the three null hypotheses will be reported separately.

For analyses purposes, the independent variable for gender was factor A and coded 1 for female and 2 for male. The independent variable for ethnicity was factor B and coded 1 for Caucasian (non-Hispanic) and 2 for Minorities. The dependent variable of total summed scores of responses on the OSE was measured on a continuous scale from 17 to 85 (Dixson, 2010).

Preliminary data was screened for errors, inconsistencies, and tenability, with outliers determined using a Box and Whisker plot (Warner, 2013). The tenability of normal distribution was determined using the Kolomogorov-Smirnov test in SPSS because $N > 50$ (Green & Salkind, 2017). Levene's Test was used to determine the tenability of the assumption of equal variance (Warner, 2013). All tests were conducted at the 95% confidence level with *F*-statistics, *p*-values and r^2 values reported.

CHAPTER FOUR: FINDINGS

Overview

Chapter Four provides a discussion of the analysis and findings of the present study, including the descriptive statistics, assumption tests, and results of the two-way factorial analysis of variation (ANOVA) for each null hypothesis. Related figures, tables, and statistical analysis are presented.

Research Questions

RQ1: Is there a difference between the student engagement scores of male and female students in online doctoral programs?

RQ2: Is there a difference between the student engagement scores of Caucasian and minority students in online doctoral programs?

RQ3: Is there an interaction among engagement scores of male and female students of various races in online doctoral programs?

Null Hypotheses

$H_0$1: There is no difference between the student engagement scores of male and female students in online doctoral programs.

$H_0$2: There is no difference between the student engagement scores of Caucasian and minority students in online doctoral programs.

$H_0$3: There is no interaction among engagement scores of male and female students of various races in online doctoral programs.

Descriptive Statistics

Descriptive statistics were obtained on the dependent variable of total Online Student Engagement (OSE) scale scores for each factor of gender and race/ethnicity. See Table 2 for the descriptive statistics.

Table 2

Descriptive Statistics

Dependent Variable: Total OSE

Gender	Race/Ethnicity	Mean	Std. Deviation	*N*
Female	Caucasian	66.13	8.81	87
	Minorities	66.58	9.12	43
	Total	66.28	8.88	130
Male	Caucasian	62.33	9.94	42
	Minorities	62.86	7.88	14
	Total	62.46	9.40	56
Total	Caucasian	64.89	9.33	129
	Minorities	65.67	8.91	57
	Total	65.13	9.19	186

Results

Data Screening

A Two-Way factorial ANOVA was performed using SPSS GLM to asses total summed engagement scores (OSE) scores between gender (A_1 = female, A_2 = male), race/ethnicity (B_1 = Caucasian, B_2 = minorities), and the interaction between gender and race/ethnicity. Data screening was conducted on the dependent variable and the factors of gender and race/ethnicity. The data was sorted on each variable and scanned for inconsistencies. The survey, which was taken online through the participants' personal devices, did not allow for incomplete

submissions. No missing or impossible values were identified. Box and whisker plots for both factors were created and inspected for outliers. Two outliers were identified in the box plot for gender – both Caucasian males. Statistical analyses were conducting with and without the outliers. As the results for significance in the tests of between-subjects effects were similar and did not change the outcomes, the decision was made to retain the outliers (Warner, 2013). See Figure 1 for the box and whisker plot for total OSE based on gender.

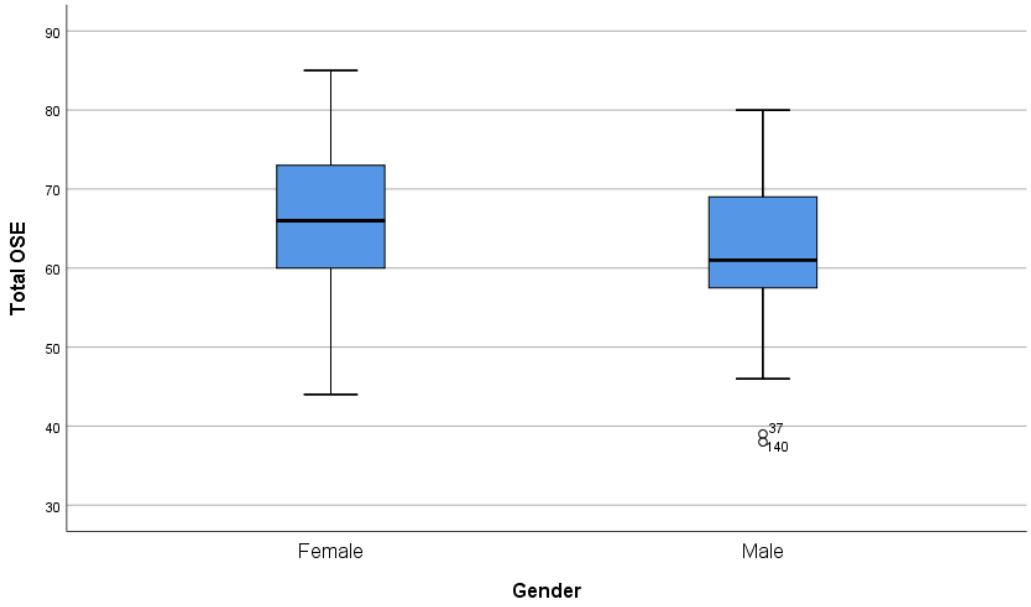

Figure 1. Box and Whisker Plot for Total OSE Based on Gender.

The same outliers were identified in the plot for the factor of Race/Ethnicity. Statistical analyses were conducting with and without the outliers. As the results for significance in the tests of between-subjects effects were similar and did not change the outcomes, the decision was made to retain the outliers (Warner, 2013). See Figure 2 for the box and whisker plot for total OSE based on race/ethnicity.

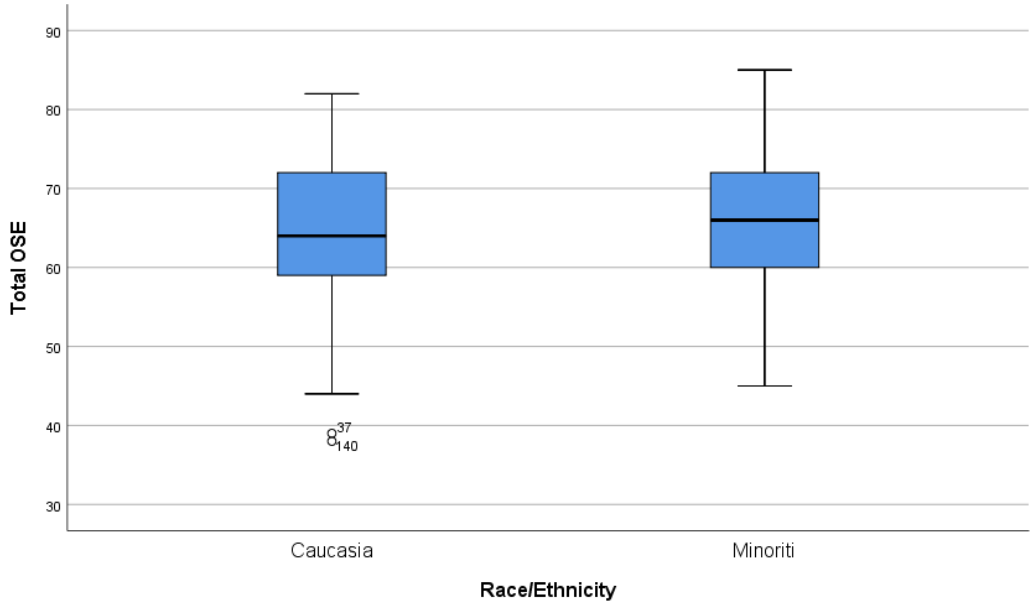

Figure 2. Box and Whisker Plot for Total OSE Based on Race/Ethnicity.

Assumption Tests

A Two-Way Analysis of Variance (ANOVA) was used to test the null hypotheses. The ANOVA required that the assumptions of normality and homogeneity of variance were met. Normality was examined using a Kolmogorov-Smirnov test ($N > 50$) as recommended by Greene and Salkind (2017). The assumptions were found tenable for both factors ($p = .200$). See Table 3 for the Kolmogorov-Smirnov test of normality for gender, and Table 4 for the Kolmogorov-Smirnov test of normality for race/ethnicity.

Table 3

Kolmogorov-Smirnov Test of Normality for Gender

		Kolmogorov-Smirnov[a]		
	Gender	Statistic	*df*	Sig.
Total OSE	Female	.040	130	.200*
	Male	.120	56	.200*

*. This is the lower bound of the true significance.

a. Lilliefors Significance Correction

Table 4

Kolmogorov-Smirnov Test of Normality for Race/Ethnicity

		Kolmogorov-Smirnov[a]		
	Race/Ethnicity	Statistic	*df*	Sig.
Total OSE	Caucasian	.059	129	.200*
	Minorities	.067	57	.200*

*. This is the lower bound of the true significance.

a. Lilliefors Significance Correction

The assumption of homogeneity of variance for OSE was examined using Levene's test of equal variances. The assumption was found tenable (p = .714). See Table 5 for results Levene's test.

Table 5

Levene's Test of Equality of Variances[a,b]

Total OSE		Levene Statistic	df1	df2	Sig.
	Based on Mean	.455	3	182	.714
	Based on Median	.383	3	182	.765
	Based on Median and with adjusted df	.383	3	172.685	.765
	Based on trim mean	.484	3	182	.694

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: Total OSE

b. Design: Intercept + RaceEthnicity + Gender*Race/Ethnicity

Results for Null Hypotheses One

A Two-Way Analysis of Variance was used to test the first null hypothesis comparing differences in summed OSE scores by gender. The null hypothesis was rejected at a 95% confidence level where $F(1, 182) = 5.26$, $p = .023$, $\eta^2_p = .028$ for a medium effect size based on partial Eta squared (Warner, 2013). A significant difference was found between female (M = 66.13, SD = 8.81) and male (M = 62.33, SD = 9.94) scores on the OSE. See Table 6 for tests of between-Subject effects.

Table 6

Tests of Between-Subjects Effects

Dependent Variable: Total OSE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	577.781[a]	3	192.594	2.332	.076	.037	6.996	.579
Intercept	511673.805	1	511673.805	6195.455	.000	.971	6195.455	1.000
Gender	434.737	1	434.737	5.264	.023	.028	5.264	.626
RaceEthnicity	7.370	1	7.370	.089	.765	.000	.089	.060
Gender*RaceEthnicity	.036	1	.036	.000	.983	.000	.000	.050
Error	15031.122	182						
Total	804582.000	186						
Corrected Total	15608.903	185						

a. R Squared = .037 (Adjusted R Squared = .021)

b. Computed using alpha = .05

Results for Null Hypothesis Two

A Two-Way Analysis of Variance was used to test the second null hypothesis comparing differences in summed OSE scores by race/ethnicity. The researcher failed to reject the null hypothesis at a 95% confidence level where $F(1, 182) = .09$, $p = .765$, $\eta^2_p < .001$. The effect size was very small based on partial Eta squared (Warner, 2013). There was no significant difference found between scores for Caucasian ($M = 64.89$, $SD = 9.33$) and minority ($M = 65.67$, SD = 8.91) participants for total OSE. See Table 6 for tests of between-Subjects effects.

Results for Null Hypothesis Three

A Two-Way Analysis of Variance was used to test the third null hypothesis regarding interaction among total OSE scores based on the main factors of gender and race/ethnicity. The researcher failed to reject the null hypothesis at a 95% confidence level where $F(1, 182)$ 0.00, $p = .983$, $\eta^2_p < .001$. The effect size was very small based on partial Eta squared (Warner, 2013).

There was no significant interaction found between the main effects for gender and race/ethnicity. See Table 6 for the tests of between-Subjects effects.

CHAPTER FIVE: CONCLUSIONS

Overview

Chapter Five includes a discussion of the analysis regarding each research question for the present study and situates the findings within the context of the theoretical framework and review of the literature. Implications for the existing body of knowledge, limitations of the study, and recommendations for further research are presented.

Discussion

The purpose of this study was to investigate whether there was a significant difference in means of engagement scores on the Online Student Engagement scale (OSE) among online doctoral students based on gender and race/ethnicity, and if there was an interaction between the two main effects. Participants were asked to rate themselves based on how characteristic they believed each item described them. The significance of the study was adding to the body of knowledge concerning how one comes to understand the roles that gender and race/ethnicity play in student engagement (SE), specifically for doctoral students in distance education programs. The study was designed to answer three research questions.

Research Question One

The first null hypothesis stated there was no difference between the OSE scores of male and female students in online doctoral programs. The findings revealed a difference between the SE scores based on gender, with females (M = 66.78) scoring significantly higher than males (M = 62.46). The median female score was 66; the median male score was 61. The partial η^2 of .028 revealed a medium effect size (Warner, 2013).

The finding that females were more engaged than males in a distance education program was not surprising. In their research on undergraduates, Kinzie, Gonyea, Kuh, Umbach, Blaich,

and Korkmaz (2007) determined undergraduate females were significantly more engaged than males—a trend which may continue into graduate and postgraduate study.

Peters, Shmerling, and Karren (2011) noted that females tended to be more engaged in asynchronous learning environments (ALE) than their male counterparts because they demonstrated more proactive behaviors in online environments. These authors wrote, "Individuals who are proactive tend to show initiative and look for opportunities, then take action until they bring about change" (p. 316). Most of the questions on the OSE are couched in proactive terms such as, *being organized*, *applying course material to my life*, and *engaging in conversations online* (Dixson, 2015). See Appendix A for the OSE.

The theoretical framework also supported the presumption that students who were more proactive would score higher on the survey. Astin (1984) determined that involvement was largely predicated on behavior, with outcomes based on effort. The findings of the present study support this assertion. According to Bandura's (1963) social learning theory, learning is social in nature, whereby social interactions with the professor and peers would lead to rewards, and lower levels of social interaction are associated with lower levels of learning (Finn & Zimmer, 2012). In ALE, students must act proactively to take advantage of opportunities for such interactions (Lawson, 2017; Rovai, 2003). Many authors have affirmed the notion that students learn better in collaborative efforts (Bagaka's et al., 2015; Chang & Hannafin, 2015; Chatham-Carpenter, 2017; Gardner & Barker, 2015; Golde, 2005; Miller, 2012; Sallee, 2014; Wikeley & Muschamp, 2004). Students in distance education programs must make deliberate, proactive choices regarding their behavior, and student agency is revealed through their efforts, interests, and involvement (Bandura, 2006; Reeves & Tseng, 2011).

Previous research in the area of engagement based on gender indicated the results of the present study were likely. Kamphorst, Hofman, Jansen, and Terlouw (2015) noted that female students in an engineering program demonstrated proactive agency before they even began the program. In their research, Harper, Carini, Bridges, and Hayek (2004) found that females were more successful in ALE programs due to the extra time allowed for introspection and reflection. The finding in the present study of differences in OSE scores based on gender is significant in establishing the role SE plays in the success of females in ALE doctoral programs. Universities should strive to establish and improve interventions which allow both females and males to act proactively to increase their effort, develop interests, and improve involvement with their learning.

Research Question Two

The second null hypothesis stated there is no difference between the OSE scores of Caucasian and minority students in online doctoral programs, and the analysis found no difference based on race/ethnicity. This finding may reflect the true condition within the population of interest, or it may reveal a problem due to the unequal group sizes (Caucasian = 129, minorities = 57).

The review of the literature was not conclusive in regard to expectations in the findings, but some researchers, such as Cole and Dezine (2002), Guardia and Evans (2008), and Tiara (2018) found little evidence to suggest there would be a significant difference. Noël (2018) reported that Asian/Pacific Islanders and multi-racial populations are more likely than Caucasians to earn a doctoral or professional degree. Interestingly, both minority genders scored slightly higher than their Caucasian counterparts, as indicated in Table 2, even though only four participants identified as Asian/Pacific Islander or Other. But Noël (2018) also noted African

Americans, Latinos and Native Americans were less likely to achieve doctoral or professional degrees.

Also intriguing was the finding among the groups that minority females had the highest scores (M = 66.58, N = 43) while Caucasian males had the lowest (M = 62.33, N = 42) even though their groups sizes were almost identical. The minority female group consisted primarily of women who identified as African American/ Black (N = 36). This ran counter to the conclusions of Du, Mingming, Jianzhong, and Sao (2016) regarding African American females participating in online settings, who found this female population less engaged in ALE. The present study found the opposite to be true, at least in regard to the 17 items surveyed. Harper et al. (2004) reported African American males were generally more engaged than African American females, also contrary to the findings of the present study, though the criteria used for measuring SE were different. As the review of the literature was inconclusive in determining levels of SE based on race/ethnicity, the finding of no difference in scores for that main effect was not unexpected.

Research Question Three

There is no interaction detected among OSE scores of female and male students of various races in online doctoral programs. As there was no significant difference found based on race/ethnicity, no significant differences were expected for the interaction using the same data. The absence of an interaction was further evidence that gender had more of an impact on OSE scores than race/ethnicity. See Figure 3 for the comparison of the score ranges based on gender.

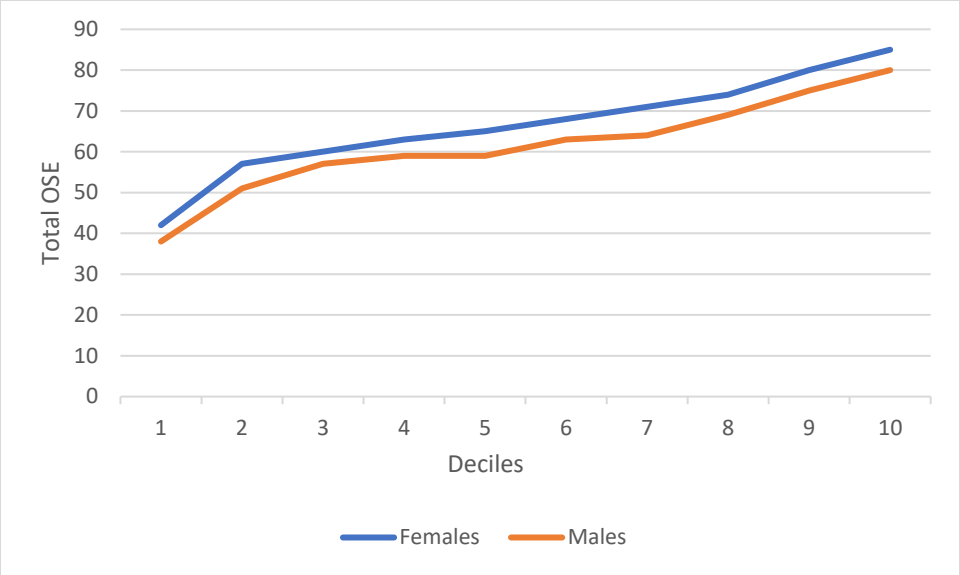

Figure 3. *OSE Score Ranges Based on Gender*

Implications

The present study adds to the body of knowledge concerning engagement based on gender, particularly for doctoral students in online programs. The literature is scarce on this subject (Harper et al., 2015; Lester & Harris, 2015), and any information garnered may inform future studies. As previously noted, the literature is full of contradictions concerning gender and SE. The results of the present study support previous findings in the literature that female students tend to be more engaged than male students in online programs but augments the understanding of doctoral students. Studies such as this that incorporate self-reporting on survey instruments such as the OSE may be cross-validated with similar studies. The findings may be used to inform future research to reconcile some of the contradictions found in the literature.

Results from the OSE are useful in determining strategies for increasing engagement. The results may be useful to college administrators and professors when designing courses and interventions in online doctoral programs meant to lower rates of attrition. Many items on the OSE relate to student-centered learning, and the findings suggest adopting student-centered

models for increasing engagement and closing the transactional distance (Schmidt & Hansson, 2018). The theoretical framework of the present study informs the call in the literature for more interventions to close the transactional distance for online learners (Moore, 1997), transform expectations based on gender, and empower program administrators and professors to meet the diverse needs of online doctoral students.

The OSE measures proactive student behaviors, and any interventions that increase such behaviors should prove beneficial. The results suggest males need to become more proactive in improving their organization, strategies for understanding of course content, and time management skills. Transactional distance theory presumes that any interventions which close the transactional distance would increase engagement. The implication here is that interventions that can improve and develop proactive behaviors in males should improve SE. These interventions should motivate males to be involved (Chen, Lambert, and Guidry, 2009), provide an alternative to the typical online modes of instruction such as reading and discussion board posts (Bowen, Chingos, Lack, & Nygren, 2012; Glenn, 2016), and increase teacher presence, as social presence is not enough (Bagaka's et al., 2015; Rockinson-Szapkiw, Spaulding, & Spaulding, 2016).

Sallee (2014) noted that student will display behaviors based on the gendered expectations of others. If the expectation for male involvement evolves in a more positive direction, males should in turn be motivated to increase their engagement behaviors. The socialization males receive in all phases of their doctoral journey should impress upon them the importance of adopting more proactive behaviors (Gardner, 2010). Mentorship should provide professional modeling and socialization into the academic culture to improve engagement (Bagaka's, Badillo, Bransteter, & Rispinto, 2015; Williams, Brown Burnett, Carroll, & Harris,

2018). Interventions targeting Latino males may be particularly difficult to develop, due to culturally-embedded expectations (Perez & Saenz, 2017).

Interventions which promote engagement and seek to change the culture regarding gender roles in online programs should be implemented by university administrators and professors (Bowen et al., 2009; Koole & Stack, 2016; Meyer, 2014; Rockinson-Szapkiw et al., 2016). This notion is bolstered by Falloon's (2011) call to connect online-learners through virtual classrooms to close the transactional distance. For students in such programs, intervention would provide alternatives to reading, watching videos, and posting on discussion boards (Bowen et al., 2009; Glenn, 2016) possibly through synchronous online sessions with professors and fellow students (Chen, Lambert, & Guidry, 2009; Watts, 2016; Yamagata-Lynch, 2014).

Finally, the low number of participants from various racial groups in the present study implies that university admissions administrators should seek out qualified candidates who identify by other races or ethnicities for enrollment in online doctoral programs as a means of improving racial diversity (Strayhorn, 2008). Such students provide alternative perspectives, differing interests for research topics, and unique insights into communities that are not well-represented in doctoral programs (Gittings, Bergman, Shuck, & Rose, 2018). The present study demonstrates such candidates possess the high levels of engagement necessary to be successful in attaining doctoral degrees.

Limitations

Several threats to the validity of the present study were noted, including population, replication, and regression to the mean. Steps taken to limit these threats included drawing from an accessible population to realistically include all of the individuals who could be included in

the sample (Gall, Gall, & Borg, 2007). In this case all students enrolled in the online doctoral program were contacted via email. As no emails bounced back as undeliverable, the attempt to reach all available members of the target satisfied this requirement, because all members of the accessible population were given an equal opportunity to participate in the study.

Population validity was threatened by the racial demographics of the sample. Caucasian/White participants made up 69.35% of the actual sample population (N = 129 of 186); Though the true demographic composition is not known, it is likely the sample population did not reflect the make-up of the target population (Gall et al., 2007). For example, there were no Latino males or females who identified as Other in the sample, though it is possible such individuals existed in the target population.

The present study looked at the levels of engagement within a single snapshot of the sample. It is not known if engagement of participants had increased over time, or if participants experienced the same levels of engagement in the dissertation phase of their program as at the beginning of their doctoral journey. Potentially, doctoral students may become less engaged once they begin writing their manuscripts. The research did not establish a timeline for the development of engagement with which to target interventions.

One final limitation comes when generalizing the results of the present study due to the sample used. The participants were drawn from a single private, mid-Atlantic, Christian university. The findings and conclusions may not apply to populations of online doctoral students from different geographical regions, from dissimilar demographic compositions, of different ages, or who attend institutions with differing world views.

Recommendations for Future Research

Based on the results of the present study, more research should be conducted to investigate levels of engagement among online doctoral programs. Though the present study found females to be more engaged, the limitations to the study need to be considered in future research. The inequality of the group sizes according to gender may have contributed to the results. Future studies should utilize a research design that allows for more equitable group sizes by gender.

The same can be said for the racial make-up of the groups being studied. Future research should examine engagement by incorporating more minority students who are Asian/Pacific Islander, Hispanic/Latino, Native American/Native Alaskan, and bi- or multiracial. Groups sizes should be more equitable to discover discrete differences based on race or ethnicity in order to generalize results. The largest discrepancy in scores in the present study were between minority women and Caucasian men, and future research should explore the relationships between those populations in regard to engagement practices and interventions. There is scant evidence of research into the intersection of gender and race/ethnicity regarding engagement of doctoral students, revealing an area of study ripe for exploration.

Another area for future inquiry is identifying differences among minority populations. For the present study, all minority participants were grouped together. Future studies should disaggregate the data among the different races/ethnicities. Another area of inquiry should compare discrete racial/ethnic group to each other, rather than using Caucasian/Whites as a standard by which all other races are measured.

Studies are needed to determine if interventions increase engagement among doctoral students, and, if so, which specific interventions produced the best results. Research should

examine which types of interventions, such as improved mentoring paradigms, collaborative projects among peers and professors, and synchronous learning opportunities are most effective in enhancing engagement over the course of a doctoral journey.

Finally, another area for consideration in research is to explore engagement among doctoral populations that are different than the present study. Populations of online doctoral students from other geographic regions, within public institutions, from specific age groups, and with differing world views should be targeted for research to mine information regarding levels of engagement among students of both genders and all racial backgrounds in online doctoral programs.

REFERENCES

Akee, R. Q., & Yazzie-Mintz, T. (2011). “Counting experience” among the least counted: The role of cultural and community engagement on educational outcomes for American Indian, Alaska native, and native Hawaiian students. *American Indian Culture & Research Journal, 35*(3), 119–150.

Alexander, M. M., Lynch, J. E., Rabinovich, T., & Knutel, P. G. (2014). Snapshot of a hybrid learning environment. *Quarterly Review of Distance Education, 15*(1), 9-21.

Allen, E. A., & Seaman, J. (2013). *Changing course: Ten years of tracking online education in the United States.* Babson Research Group/Pearson. Retrieved from http://files.eric.ed.gov/fulltext/ED541571.pdf??

Ali, A. & Kohun, F. (2007). Dealing with social isolation to minimize doctoral attrition – a four stage framework. *International Journal of Doctoral Studies, 2*, 33-49.

Appel, M. L., & Dahlgren, L. G. (2003). Swedish doctoral students' experiences on their journey towards a PhD: Obstacles and opportunities inside and outside the academic building. *Scandinavian Journal of Educational Research, 47*(1), 89-110.

Appleton, J. J., Christenson, S. L., & Furlong, M. J. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools.,* 45(5), 369–386. doi:10.1002/pits.20303

Arana, R., & Blanchard, S. (2018). Loyalty to ethnic heritage and Hispanic college student engagement. *Journal of Hispanic Higher Education, 17*(4), 332–346. doi:10.1177/1538192717699519

Astin, A. W. (1984). Student involvement: A development theory for higher education. *Journal of College Student Development,40*(5), 518-529.

Astin, A. W. (1999). Involvement in learning revisited: Lessons we have learned. *Journal of College Student Development, 40*(5), 587-598.

Axelson, R. D., & Flick, A. (2011). Defining student engagement. *Change*, 38-43.

Bagaka's, J. G., Badillo, N., Bransteter, I., & Rispinto, S. (2015). Exploring student success in a doctoral program: The power of mentorship and research engagement. *International Journal of Doctoral Studies, 10,* 323-342. Retrieved from http://ijds.org/Volume10/IJDSv10p323-342Bagaka1713.pdf.

Bair, C. R., & Hawort, J. G. (2005). Doctoral student attrition and persistence: A meta-synthesis of research. *Higher Education: Handbook of Theory and Research, 19,* 481–534.

Bandura, A. (2006). Toward a psychology of human agency. *Perspectives on Psychological Science, 1*(2), 164-180.

Bandura, A., Ross, D., & Ross, S. A. (1963). A comparative test of the status envy, social power, and secondary reinforcement theories of identificatory learning. *Journal of Abnormal and Social Psychology, 67*(6), 527-534.

Barker, M. J. (2016). The doctorate in black and white: Exploring the engagement of Black doctoral students in cross race advising relationships with White faculty. *The Western Journal of Black Studies, 40*(2), 126-140.

Bird, K. D. (2017). A vision to serve the community: A grounded theory approach examining educational persistence among American Indian graduate students. Available from *ProQuest Dissertations & Theses Global* (1926761620).

Blackboard (2019). Higher education technology and solutions. Retrieved from https://www.blackboard.com/higher-education/index.html

Bowen, W. G., Chingos, M. M., Lack, K. A., & Nygren, T. I. (2012). *Interactive learning online at public universities: Evidence from randomized trials* (Research report from S+R Ithaka). Retrieved from http://www.sr.ithaka.org/wp-content/uploads/2015/08/sr-ithaka-interactive-learning-online-at-public-universities.pdf.

Bridges, B. K., Cambridge, B., Kuh, G. D., & Leegwater, L. H. (2005). Student engagement at minority-serving institutions: Emerging lessons from the BEAMS project. *New Directions for Institutional Research, 2005*(125), 25–43. doi:10.1002/ir.137

Brubaker, R. (2014) Beyond ethnicity. *Ethnic and Racial studies, 37*(5), 804-808. doi:10.1080/01419870.2013.871311

Bryan, B., & Guccione, K. (2018) Was it worth it? A qualitative exploration into graduate perceptions of doctoral value. *Higher Education Research & Development, 37*(6), 1124-1140, doi:10.1080/07294360.2018.1479378

Burch, G. F., Heller, N. A., Burch, J. J., Freed, R., & Steed, S. A. (2015) Student engagement: Developing a conceptual framework and survey instrument. *Journal of Education for Business, 90*(4), 224-229. doi:10.1080/08832323.2015.1019821

Buskist, W., Busler, J. N., & Kirby, L. A. (2018). Rules of (Student) Engagement. *Teaching and Learning, 2018*(154), 55-63. doi:10.1002/tl.20291

Butz, N. T., & Stupnisky, R. H. (2015). A mixed methods study of graduate students' self-determined motivation in synchronous hybrid learning environments. *Internet and Higher Education 28*(2016), 85-95. doi:10.1016/j.iheduc.2015.10.003

Campbell, D. T., & Stanley, J. C. (1963). *Experimental and quasi-experimental designs for research*. Belmont, CA: Wadsworth, Cengage Learning.

Cantwell, R. H., Bourke, S. F., Scevak, J. J., Holbrook, A.P., & Budd, J. (2017). Doctoral candidates as learners: A study of individual differences in responses to learning and its management. *Studies in Higher Education, 42*(1), 47-64. doi:10.1080/03075079.2015.1034263

Cassuto, L. (2013). Ph.D. attrition: How much is too much? *The Chronical of Higher Education.* Retrieved from http://www.chronicle.com/article/PhD-Attrition-How-Much-Is/140045/

Chakraborty, M., & Nafukho, F. M. (2014) Strengthening student engagement: What do students want in online courses? *European Journal of Training and Development*, *38*(9), pp.782-802. doi:10.1108/EJTD-11-2013-0123

Chang, Y., & Hannafin, M. J. (2015). The uses (and misuses) of collaborative distance education technologies: Implications for the debate on transience in technology. *Quarterly Review of Distance Education*, *16*(2), 77-92, 148-149.

Chatham-Carpenter, A. (2017). The future online: Instructional communication scholars taking the lead. *Communication Education, 66*(4), 492-494. doi:10.1080/03634523.2017.1349916

Chen, E. W., & Hune, S. (2011). Asian American Pacific Islander Women from Ph.D. to Campus President: Gains and Leaks in the Pipeline. *Women of Color in Higher Education: Changing Directions and New Perspectives* (10), 163-190. doi:10.1108/S1479-3644(2011)0000010012

Christenson, S. L., Reschly, A. L., & Wylie, C. (Eds.). (2012*). Handbook of research on student engagement*. Boston, MA: Springer.

Coates, H. (2007). A model of online and general campus-based student engagement. *Assessment & Evaluation in Higher Education, 32*(2), 121-141. doi:10.1080/02602930600801878

Cole, J., & Denzine, G. (2002). Comparing the academic engagement of American Indian and white college students. *Journal of American Indian Education, 41*(1), 19-34.

Dennen, V.P., Darabi, A.A., & Smith, L.J. (2007). Instructor-learner interaction in online courses: The relative perceived importance of particular instructor actions on performance and satisfaction. *Distance Education, 28*(1), 65-79. doi:10.1080/01587910701305319

Deschaine, M. E., & Whale, D. E. (2017). Increasing student engagement in online educational leadership courses. *Journal of Educators Online, 14*(1), 36-47.

de Souza, E. M., Brewis, J., & Rumens, N. (2016). Gender, the body and organization studies: Que(e)rying empirical research. *Gender, Work & Organization, 23*, 600–613. doi:10.1111/gwao.12145

Dixson, M. D. (2010). Creating effective student engagement in online courses: What do students find engaging? *The Journal of Scholarship of Teaching and Learning, 10*(2), 1-13.

Dixson, M. D. (2015). Measuring the engagement in the online course: The Online Student Engagement scale (OSE). *Online Learning*, *19*(4), 1-13.

Dixson, M. D., Greenwell, M. R., Rogers-Stacy, C., Weister, T., & Lauer, S. (2017). Nonverbal immediacy behaviors and online student engagement: Bringing past instructional research into the present virtual classroom. *Communication Education, 66*(1), 37-53. doi:10.1080/03634523.2016.1209222

Du, J., Mingming, Z., Jianzhong, X., & Sao, S. L. (2016). African American female students in online collaborative learning activities: The role of identity, emotion, and peer support. *Computers in Human Behavior, 63*, 948-958. doi:10.1016/j.chb.2016.06.021

Dunstan, S. B., Eads, A., Jaeger, A. J., & Wolfram, W. (2018). The importance of graduate student engagement in a campus language diversity initiative. *Journal of English Linguistics, 46*(3), 215–228. doi:10.1177/0075424218783446

Dupont, S., Meert, G., Galand, B., & Nils, F. (2013). Postponement in the completion of the final dissertation: An underexplored dimension of achievement in higher education. *European Journal of Psychology of Education, 28*(3), 619-639. doi:10.1007/s10212-012-0132-7

Falloon, G. (2011). Making the connection: Moore's theory of transactional distance and its relevance to the use of a virtual classroom in postgraduate online teacher education. *Journal of Research on Technology in Education, 43*(3), 187-209. Retrieved from http://www.anitacrawley.net/Articles/Falloon2011.pdf.

Federal Register (2016). Standards for maintaining, collecting, and presenting federal data on race and ethnicity: A notice by the Management and Budget Office on 09/30/2016. Retrieved from https://www.federalregister.gov/documents/2016/09/30/2016-23672/standards-for-maintaining-collecting-and-presenting-federal-data-on-race-and-ethnicity.

Finn, J., & Zimmer, K. S. (2012). Student engagement: What is it? Why does it matter? In S.L. Christenson, A.L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 99-131). New York, NY: Springer.

Flynn, D. (2014). Baccalaureate attainment of college students at 4-year institutions as a function of student engagement behaviors: Social and academic student engagement behaviors matter. *Research in Higher Education, 55*(5), 467-493.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*(1), 59-109. doi:10.3102/00346543074001059

Fredricks, J. A., Filsecker, M., & Lawson, M. A. (2016). Student engagement, context, and adjustment: Addressing definitional, measurement, and methodological issues. *Learning and Instruction, 43,* 1-4. doi:10.1016/j.learninstruc.2016.02.002

Fredricks, J. A. & McCloskey, W. (2012). The measurement of student engagement: A comparative analysis of various methods and student self-report instruments. In S.L. Christenson, A.L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 763-782). New York, NY: Springer.

Fredrickson, J. (2015). Online learning and student engagement: assessing the impact of a collaborative writing requirement. *Academy of Educational Leadership Journal, 19*(3), 127-140.

Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational Research: An introduction* (8th ed.). Boston, MA: Pearson Education, Inc.

Gallup, Inc. (2014). *The 2014 Gallup-Purdue index report*. Retrieved from https://www.gallup.com/services/176768/2014-gallup-purdue-index-report.aspx

Gardner, S. K. (2009). Student and faculty attributions of attrition in high and low-completing doctoral programs in the United States. *Higher Education, 58*(1), 97-112.

Gardner, S. K. (2010). Faculty perspectives on doctoral student socialization in five disciplines. *International Journal of Doctoral Studies, 5,* 39-53. doi:10.28945/1310

Gardner, S. K., & Barker, M. J. (2015). Engaging graduate and professional students. In S. Quaye, & S. Harper (Eds.). *Student engagement in higher education: Theoretical*

perspectives and practical approaches for diverse populations (2nd ed.) (pp. 339-354). New York, NY: Routledge.

Gittings, G., Bergman, M., Shuck, B. & Rose, K. (2018). The impact of student attributes and program characteristics on doctoral degree completion. *New Horizons in Adult Education and Human Resource Development, 30,* 3-22. doi:10.1002/nha3.20220

Glenn, C. W. (2016). Adding the human touch to asynchronous online learning. *Journal of College Student Retention: Research, Theory, & Practice, 0*(0), 1-13. doi:10.1177/1521025116634104

Golde, C., M. (2005). The role of the department and discipline in doctoral student attrition: Lessons from four departments. *The Journal of Higher Education, 76*(6), 669-700. doi:10.1080/00221546.2005.11772304

Gorsky, P., & Caspi, A. (2005). A critical analysis of transactional distance theory. *Quarterly Review of Distance Education, 6*(1), 1-11, 85.

Gourlay, L. (2015). 'Student engagement' and the tyranny of participation. *Teaching in Higher Education,* 20(4), 402-411. doi:10.1080/13562517.2015.1020784

Gray, J. A., & DiLoreto, M. (2016). The effects of student engagement, student satisfaction, and perceived learning in online learning environments. *NCPEA International Journal of Educational Leadership Preparation, 11*(1), 1-20.

Greene, S. B., & Salkind, N., J. (2017). *Using SPSS for windows and macintosh* (8th ed.). Hoboken, NJ: Pearson.

Guardia, J. R., & Evans, N. J. (2008). Student development in tribal colleges and universities. *NASPA Journal (National Association of Student Personnel Administrators, Inc.), 45*(2), 237–264

Hampton, D., & Pearce, P. F. (2016). Student engagement in online nursing programs. *Nurse Educator, 41*(6), 294-298. doi:10.1097/NNE.0000000000000275

Harper, S. R. (2006). Enhancing African American male student outcomes through leadership and active involvement. In M. J. Cuyjet (Ed.) *African American men in college* (pp. 68-94). San Francisco, CA: Jossey-Bass.

Harper, S. R., Berhanu, J., Davis, C. H. F., & McGuire, K. M. (2015). Engaging college men of color. In S. Quaye, & S. Harper (Eds.). *Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations* (2nd ed.) (pp. 55-74). New York, NY: Routledge.

Harper, S. R., Carini, R. M., Bridges, B. K., & Hayek, J. C. (2004). Gender differences in student engagement among African American undergraduates at historically black colleges and universities. *Journal of College Student Development, 45*(3), 271-284.

Harper, S. R., & Quaye, S. J. (2015). Making engagement equitable for students in U.S. higher education. In S. Quaye & S. Harper (Eds.), *Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations* (2nd ed.), (pp. 1-14). New York, NY: Routledge.

Harvey, H. L., Parahoo, S., & Santally, M. (2017). Should gender differences be considered when assessing student satisfaction in the online learning environment for millennials? *Higher Education Quarterly, 71*(2), 141–158. doi: 10.1111/hequ.12116

Henrie, C. R., Halverson, L. R., & Graham, C. R. (2015). Measuring student engagement in technology-mediated learning: A review. *Computers & Education, 90*(1), 36-53. doi:10.1016/j.compedu.2015.09.005

Hu, S., & Kuh, G. D. (2002). Being (Dis)engaged in Educationally Purposeful Activities: The Influences of Student and Institutional Characteristics. *Research in Higher Education, 43*(5), 555-575.

Hu, C., Thomas, K. M., & Lance, C. E. (2008). Intentions to initiate mentoring relationships: Understanding the impact of race, proactivity, feelings of deprivation, and relationship roles. *The Journal of Social Psychology, 148*(6), 727-744.

Huang, X., Chandra, A., DePaolo, C. A., & Simmons, L. L. (2016), Transactional distance in web-based learning environments. *British Journal of Educational Technology, 47*(4), 734-747. doi:10.1111/bjet.12263

Jacobs, J. A. (1996). Gender inequality and higher education. *Annual Review of Sociology, 22*, 153-185.

Kahn, P. E. (2014). Theorising student engagement in higher education. *British Educational Research Journal, 40*(6), 1005-1018. doi:10.1002/berj.3121

Kahn, P., Everington, L., Kelm, K., Reid I., & Watkins, F. (2017). Understanding student engagement in online learning environments: the role of reflexivity. *Educational Technology Research and Development, (65)*1, 203-218. doi:10.1007/s11423-016-9484-z

Kahu, E. R. (2013). Framing student engagement in higher education. *Studies in Higher Education, 38*(5), 758-773. doi:10.1080/03075079.2011.598505

Kamphorst, J. C., Hofman, W. H., Jansen, E. A., & Terlouw, C. (2015). Explaining Academic Success in Engineering Degree Programs: Do Female and Male Students Differ? *Journal of Engineering Education, 104*(2), 189-211. doi:10.1002/jee.20071

Kattner, T. (2011). Recognizing the importance of student engagement. *Faculty Focus.* Retrieved from https://www.facultyfocus.com/articles/academic-leadership/recognizing-the-importance-of-student-engagement/

Kao, C. I. (2019). Asian American student engagement on college campuses (Doctoral dissertation). Available from ProQuest Dissertations & Theses Global. (2135381014).

Kinzie, J., Gonyea, R., Kuh, G. D., Umbach, P., Blaich, C., & Korkmaz, A. (2007, November). The relationship between gender and student engagement in college. In *32nd annual conference of the Association for the Study of Higher Education, Louisville, KY*.

Koole, M., & Stack, S. (2016). Doctoral students' identity positioning in networked learning environments. *Distance Education, 37*(1), 41-59. doi:10.1080/01587919.2016.1153961

Kuh, G.D. (2007). How to help students achieve. *Chronicle of Higher Education*. 53 (41), B12–B13.

Kuh, G. D. (2009). The national survey of student engagement: Conceptual and empirical foundations. *New Directions for Institutional Research, 2009*(141), 5-20. doi:10.1002/ir.283

Kuh, G.D., Cruce, T.M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the Effects of Student Engagement on First-Year College Grades and Persistence. *The Journal of Higher Education, Vol.79*, 540-563. doi:10.1353/jhe.0.0019

Lake, E. D., Koper, J., Balayan, A., & Lynch, L. (2016). Cohorts and connections. *Journal of College Student Retention: Research, Theory & Practice, 20*(2), 197-214. doi:10.1177/1521025116656386

Lawson, M., & Lawson, H. (2013). New conceptual frameworks for student engagement research, policy, and practice. *Review of Educational Research, 83*(3), 432–479. doi:10.3102/0034654313480891

Lawson, M. A. (2017). Commentary: Bridging student engagement research and practice. *School Psychology International, 38*(3), 221-239.

Lee, J. J. (2015). Engaging International students. In S. Quaye, & S. Harper (Eds.). *Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations* (2nd ed.) (pp. 105-120). New York, NY: Routledge.

Lester, J., & Harris, F. (2015). Engaging undergraduate men and women. In S. Quaye, & S. Harper (Eds.). *Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations* (2nd ed.) (pp. 149-170). New York, NY: Routledge.

Larbi-Siaw, O., & Owusu-Agyeman, Y. (2017). Miscellany of students' satisfaction in an asynchronous learning environment. *Journal of Educational Technology Systems, 45*(4), 456-475.

Liberty University Information Services (2019). Qualtrics surveys. Retrieved from http://www.liberty.edu/informationservices/index.cfm?PID=30651

Lietaert, S., Roorda, D., Laevers, F., Verschueren, K., & De Fraine, B. (2015). The gender gap in student engagement: The role of teachers' autonomy support, structure, and involvement. *British Journal of Educational Psychology, 85*(4), 498–518. doi:10.1111/bjep.12095

Lin, E.S. & Chiu, S-Y. (2016). Does holding a postdoctoral position bring benefits for advancing to academia? *Research in Higher Education, 57*(3), 335–362. doi:10.1007/s11162-015-9388-5

Lundberg, C. A. (2014). Institutional support and interpersonal climate as predictors of learning for Native American students. *Journal of College Student Development, 55*(3), 263-277.

Lundberg, C. A., & Schreiner, L. A. (2004). Quality and frequency of faculty–student interaction as predictors of learning: An analysis by student race/ethnicity. *Journal of College Student Development, 45*, 549-565.

Main, J. B. (2014). Gender homophily, ph.d. completion, and time to degree in the humanities and humanistic social sciences. *The Review of Higher Education, 37*(3), 349–375. doi:10.1353/rhe.2014.0019

Maisto, M., & Kahn, S. (2016). No adjunct left behind? *Academe, 102*(3), 47-50.

Malmberg, E. D. (2000). Retention and attrition of doctoral candidates in higher education (Doctoral dissertation). ProQuest Dissertations & Theses Global. (304610806).

Mann, S. J. (2001). Alternative perspectives on the student experience: Alienation and engagement. *Studies in Higher Education. 26* (1), pp. 7–19.

Marine, S. B. & Catalano, D. C. J. (2015). Engaging trans* students on college and university campuses. In S. Quaye, & S. Harper (Eds.). *Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations* (2nd ed.) (pp. 135-148). New York, NY: Routledge.

Martin. F., & Parker, M. A. (2014). Use of synchronous virtual classrooms: Why, who, and how? *MERLOT Journal of Online Learning and Teaching,10*(2), 192-210.

Mastekaasa, A. (2005). Gender differences in educational attainment: The case of doctoral degrees in Norway. *British Journal of Sociology of Education 26*(3), 375-394. doi:10.1080/01425690500128908

McBrien, J. L., Jones, P., & Cheng, R. (2009). Virtual spaces: Employing a synchronous online classroom to facilitate student engagement in online learning. *International Review of Research in Open and Distance Learning, 10*(3), 1-17. doi:10.19173/irrodl.v10i3.605

Meyer, K. A. (2014). Student engagement in online learning: What works and why. *ASHE Higher Education Report, 40*(6), 1–14.

Milburn-Shaw, H., & Walker, D. (2016). The politics of student engagement. *Politics, 37*(1), 52-66. doi:10.1177/0263395715626157

Miller, J. M. (2012). Finding what works online: Online course features that encourage engagement, completion and success (Doctoral dissertation). Retrieved from http://hdl.handle.net/10211.2/1062

Miller, R. A. (2017). "My voice is definitely strongest in online communities": Students using social media for queer and disability identity-making. *Journal of College Student Development, 58*(4), 509-525. doi:10.1353/csd.2017.0040

Moore, M. (1983). The individual adult learner. In M. Tight (Ed.), *Education for adults,* (pp. 153-168). London & Canberra: Croom Helm.

Moore, M. (1997). Theory of transactional distance. In D. Keegan (Ed.) *Theoretical Principles of Distance Education* (pp. 22-38). London: Routledge.

Moore, M. (2013). The theory of transactional distance. In M. G. Moore (Ed.) *Handbook of Distance Education* (pp. 66-85). London: Routledge.

National Survey of Student Engagement (NSSE) (2018). About NSSE [online]. National Student Survey. Retrieved from nsse.indiana.edu/html/about.cfm

Noël, R. A. (2018). Race, economics, and social status. *Spotlight on Statistics.* U.S. Bureau of Labor and Statistics. Retrieved from https://www.bls.gov/spotlight/2018/race-economics-and-social-status/pdf/race-economics-and-social-status.pdf

Nyquist, J. D. (2002). The PhD: A tapestry of change for the 21st century. *Change, 34*(6), 12-20. doi:10.1080/00091380209605564

Nyquist, J. D., & Woodford, B. J. (2000). *Re-envisioning the ph.d: What concerns do we have?* Seattle, Washington: Center for Instructional Development and Research and University of Washington. Retrieved from http://www.grad.washington.edu/envision/project_resources/concerns.html

O'Brien, K. E., Biga, A., Kessler, S. R., & Allen, T. D. (2010). A meta-analytic investigation of gender differences in mentoring. *Journal of Management*, *36*(2), 537–554. https://doi.org/10.1177/0149206308318619

O'Meara, K. (2008). Graduate education and community engagement. *New directions for teaching and learning, 2008*(113), p.27-42. doi:10.1002/tl.306

Pace, C. R. (1990). *The Undergraduates: A Report of Their Activities and Progress in College in the 1980s.* Los Angeles, CA: The Center for the Study of Evaluation, Graduate School of Education, University of California.

Pace, C. R., & McFee, A. (1960). The college environment. *Review of Educational Research*, *30*(4), 311-320.

Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students; volume 2: A third decade of research.* San Francisco, CA: Jossey-Bass.

Patton, L. D., Harris, J. C., Ranero-Ramirez, J., Villacampa, I., & Lui, J. (2015). Engaging undergraduate women of color. In S. Quaye, & S. Harper (Eds.). *Student engagement in*

higher education: Theoretical perspectives and practical approaches for diverse populations (2nd ed.) (pp. 37-54). New York, NY: Routledge.

Peters, L., Shmerling, S., & Karren, R. (2011). Constructionist pedagogy in asynchronous online education: Examining proactive behavior and the impact on student engagement levels. *International Journal on E-learning, 10*(3), 311-330. Chesapeake, VA: Association for the Advancement of Computing in Education (AACE).

Pontius, J. L., & Harper, S. R. (2006). Principles for good practice in graduate and professional student engagement. *New Directions for Student Services, 2006*(115), 47-58.

Pyhältö, K., & Keskinen, J. (2012). Doctoral students' sense of relational agency in their scholarly communities. *International Journal of Higher Education, 1*(2), 136–149. doi:10.5430/ijhe.v1n2p136

Pyhältö, K., Toom, A., Stubb, J., & Lonka, K. (2012). Challenges of becoming a scholar: A study of doctoral students' problems and well-being. *International Scholarly Research Notices, 2012,* Article ID 934941, 1-12. doi:10.5402/2012/934941

Quaye, S. R., Griffin, K. A., & Museus, S. D. (2015). Engaging students of color. In S. Quaye, & S. Harper (Eds.). *Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations* (2nd ed.) (pp. 15-36). New York, NY: Routledge.

Quaye, S. J., & Harper, S. R. (Eds.). (2015). *Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations* (2nd ed.). New York, NY: Routledge.

Rabourn, K. E., BrckaLorenz, A., & Shoup, R. (2018). Reimagining student engagement: How nontraditional adult learners engage in traditional postsecondary environments. *The*

Journal of Continuing Higher Education, 66(1), 22-33. doi:10.1080/07377363.2018.1415635

Ray, J., & Marken, S. (2014). Life in college matters for life after college: New Gallup-Purdue study looks at links among college, work, and well-being. *Gallup.News*. Retrieved from https://news.gallup.com/poll/168848/life-college-matters-life-college.aspx

Raymond, A., Jacob, E., Jacob, D., & Lyons, J. (2016). Peer learning - a pedagogical approach to enhance online learning: A qualitative exploration. *Nurse Education Today, 44,*165-169.

Rayner, S., Lord, J., Parr, E., & Sharkey, R. (2015). 'Why has my world become more confusing than it used to be?' Professional doctoral students reflect on the development of their identity. *Management in Education, 29*(4), 158–163. doi:10.1177/0892020614567247

Reason, R. D. (2015). Engaging white students on multiracial campuses. In S. Quaye, & S. Harper (Eds.). *Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations* (2nd ed.) (pp. 75-90). New York, NY: Routledge.

Reeve, J. & Tseng, C-M (2011). Agency as a fourth aspect of students' engagement during learning activities. *Contemporary Educational Psychology, 36*(4), 257-267. doi:10.1016/j.cedpsych.2011.05.002

Rockinson-Szapkiw, A., Spaulding, L. S., & Lunde, R. (2017). Women in distance doctoral programs: how they negotiate their identities as mothers, professionals, and academics in order to persist. *International Journal of Doctoral Studies,12*, 49-72. doi:10.28945/3671

Rockinson-Szapkiw, A. J., Spaulding, L. S., & Spaulding, M. T. (2016). Identifying significant integration and institutional factors that predict online doctoral persistence. *The Internet and Higher Education, 31*, 101-112. doi:0.3102/00028312020001087

Rockinson-Szapkiw, A., Wendt, J., Whighting, M., & Nisbet, D. (2016). The predictive relationship among the community of inquiry framework, perceived learning and online, and graduate students' course grades in online synchronous and asynchronous courses. *International Review of Research in Open and Distance Learning, 17*(3), 18-34.

Rovai, A. P. (2003). In search of higher persistence rates in distance education online programs. *The Internet and Higher Education*, 6(1), 1-16. doi:10.1016/S1096-7516(02)00158-6

Saenz, V. B., & Ponjuan, L. (2009). The vanishing Latino male in higher education. *Journal of Hispanic Higher Education*, *8*(1), 54–89.

Sakurai, Y., Vekkaila, J., & Pyhältö, K. (2017). More or less engaged in doctoral studies? Domestic and international students' satisfaction and motivation for doctoral studies in Finland. *Research in Comparative and International Education, 12*(2), 143–159. doi:10.1177/1745499917711543

Sallee, M. W. (2014). Performing masculinity: Considering gender in doctoral student socialization. *International Journal for Researcher Development*, *5*(2),99-122. doi:10.1108/IJRD-10-2014-0034

Schmidt, M., & Hansson, E. (2018). Doctoral students' well-being: A literature review. *International Journal of Qualitative Studies on Health and Well-being, 13*(1), 1-14.

Spaulding, L. S., & Rockinson-Szapkiw, A. J. (2012). Hearing their voices: Factors doctoral candidates attribute to their persistence. *International Journal of Doctoral Studies, 7*, 199-219.

Stavredes, T., & Herder, T. (2014). *A guide to online course design: Strategies for student success*. San Francisco, CA: Jossey-Bass.

Strayhorn, T. L. (2008). How college students' engagement affects personal and social learning outcomes. *Journal of College & Character, 10(2),* 1-16. doi:10.2202/1940-1639.1071

Strayhorn, T. L. (2010). When race and gender collide: Social and cultural capital's influence on the academic achievement of African American and Latino males. *Review of Higher Education, 33*(3), 307-332.

Taira, D. (2018). Embracing education and contesting Americanization: A reexamination of native Hawaiian student engagement in territorial Hawai'i's public schools, 1920–1940. *History of education quarterly, 58*(3), p.361-391. doi:10.1017/heq.2018.15

Thomas, S. P., Drake-Clark, D., Grasso, M., & Banta, T. (2014). Enhancing doctoral completion in women: Evidence from a qualitative study of a unique federally funded program. *Journal about Women in Higher Education, 7*(1), 73-95. doi:10.1515/njawhe-2014-0005

Tinto, V. (1999). Taking retention seriously: Rethinking the first year of college. *NACADA Journal, 19*(2), 5-9.

Tinto, V. (2012). *Leaving college: Rethinking the causes and cures of student attrition.* Chicago, IL: University of Chicago Press.

Tison, E., B., Bateman, T., & Culver, S. M. (2011). Examination of the gender–student engagement relationship at one university. *Assessment & Evaluation in Higher Education,* 36(1), 27-49. doi:10.1080/02602930903197875

Torpey, E. (2018). Measuring the value of education. *Career Outlook,* U.S. Bureau of Labor Statistics. Retrieved from https://www.bls.gov/careeroutlook/2018/article/social-workers.htm?view_full

Trowler, V. (2010). *Student Engagement Literature Review*. York, England: The Higher Education Academy.

Tyler, R. W. (1949). *Basic Principles of Curriculum and Instruction*. Chicago: University of Chicago Press.

Vekkaila, J., Pyhältö, K., & Lonka, K. (2013). Experiences of disengagement – A study of doctoral students in the behavioral sciences. *International Journal of Doctoral Studies, 8,* 61-80.

Virtanen, V., Taina., J., & Pyhältö, K. (2017). What disengages doctoral students in the biological and environmental sciences from their doctoral studies? *Studies in Continuing Education, 39*(1), 71-86. doi:10.1080/0158037X.2016.1250737

Wagner, E., Enders, J., Pirie, M., & Thomas, D. (2016). Supporting academic integrity in a fully-online degree completion program through the use of synchronous video conferences. *Journal of Information Systems Education, 27*(3), 159-173.

Wang, M.-T., & Degol, J. (2014). Staying engaged: Knowledge and research needs in student engagement. *Child Development Perspectives, 8*(3), 137–143. doi:10.1111/cdep.12073

Wang, M., Willett, J. B., & Eccles, J. S. (2011). The assessment of school engagement: Examining dimensionality and measurement invariance by gender and race/ethnicity. *Journal of School Psychology, 49*(4), 465-480. doi:10.1016/j.jsp.2011.04.001

Warner, R. M. (2013). *Applied statistics: From bivariate through multivariate techniques* (2nd ed.). Thousand Oaks, CA: Sage.

Weber, A., Hiers, W., & Flesken, A. (2016). *Perspectives in Comparative Politics.* Palgrave MacMillan: New York.

Welsh, E. T., & Diehn, E. W. (2018). Mentoring and gender: Perception is not reality. *Career Development International, 23*(4), 346-359. doi:10.1108/CDI-11-2017-0198

Whillans, A. V., Hope, S. E., Wylie, L. J., Zhao, B., & Souza, M. J. (2018). A program to improve student engagement at research-focused universities. *Teaching of Psychology, 45*(2), 172–178. https://doi.org/ 10.1177/0098628318762905

Wikeley, F., & Muschamp, Y. (2004). Pedagogical implications of working with doctoral students at a distance. *Distance Education, 25*(1), 125-142. doi:10.1080/0158791042000212495

Williams, M. S., Brown Burnett, T. J., Carroll, T. K., & Harris, C. J. (2018). Mentoring, managing, and helping: A critical race analysis of socialization in doctoral education. *Journal of College Student Retention: Research, Theory & Practice, 20*(2), 253–278. https://doi.org/10.1177/1521025116657834

Wollast, R., Boudrenghien, G., Linden, N. V., Galand, B., Roland, N., Devos, C., . . . & Frenay, M. (2018). Who are the doctoral students who drop out? Factors associated with the rate of doctoral degree completion in universities. *International Journal of Higher Education, 7*(4), 143-156. doi:10.5430/ijhe.v7n4p143

Yamagata-Lynch, L. (2014). Blending online asynchronous and synchronous learning. *International Review of Research in Open and Distance Learning, 15*(2), 189-212.

Zepke, N. (2015). Student engagement research: Thinking beyond the mainstream. *Higher Education Research & Development, 34*(6), 1311-1323. doi:10.1080/07294360.2015.1024635

APPENDIX A: Online Student Engagement Scale (OSE)

Within that course, how well do the following behaviors, thoughts, and feelings describe you? Please answer using the following scale:

1. not at all characteristic of me

2. not really characteristic of me

3. moderately characteristic of me

4. characteristic of me

5. very characteristic of me

1. Making sure to study on a regular basis
2. Putting forth effort
3. Staying up on the readings
4. Looking over class notes between getting online to make sure I understand the material
5. Being organized
6. Taking good notes over readings, PowerPoints, or video lectures
7. Listening/reading carefully
8. Finding ways to make the course material relevant to my life
9. Applying course material to my life
10. Finding ways to make the course interesting to me
11. Really desiring to learn the material
12. Having fun in online chats, discussions or via email with the instructor or other students
13. Participating actively in small-group discussion forums
14. Helping fellow students
15. Engaging in conversations online (chat, discussions, email)

16. Posting in the discussion forum regularly

17. Getting to know other students in the class

APPENDIX B: Additional Demographic Information Collected for Data Analysis

What is your gender ?

Female [ ]

Male [ ]

What is your Race/Ethnicity?

African American or Black [ ]*

Asian or Pacific Islander [ ]*

Caucasian or White (non-Hispanic) [ ]

Hispanic or Latino/a [ ]*

Native American or Native Alaskan [ ]*

Other [ ]*

* Analyzed collectively as “Minorities”

.

APPENDIX C: Consent Form

Consent Form

DIFFERENCES IN ENGAGEMENT OF ONLINE DOCTORAL STUDENTS BASED ON GENDER AND RACE

James Kuczero

Liberty University

School of Education

You are invited to be in a research study of Liberty University doctoral program students and their levels of engagement. You were selected as a potential participant because you meet criteria for the research population of interest, which are doctoral students enrolled in an online program. Please read this form and ask any questions you may have before agreeing to be in the study.

James Kuczero, a doctoral candidate in the School of Education at Liberty University, is conducting this research study.

Purpose of the Study: You are being asked to participate in a study examining doctoral students' levels of engagement based on the demographics of gender and race.

Procedures: If you agree to take part in this study, you will be asked to:

- Provide both your gender and race/ethnicity, and;
- Complete a survey. The 17 survey questions employ a standard five-point Likert scale format. Total time for completing the survey is less than 15 minutes.

Foreseeable Risks: The potential risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life. Some people may initially feel nervous, but there are no "right" or "wrong" answers. All responses are valuable. Should you experience undue anxiety, you may contact the Liberty University Student Counseling Services at (434) 582-2651, or access the self-help anxiety guide at http://www.liberty.edu/index.cfm?PID=25936.

The Liberty University Institutional

Review Board has approved

this document for use from

4/26/2019 to --

Protocol # 3783.042619

Benefits of being in the Study: Participants should not expect to receive a direct benefit from taking part in this study. Participation in this study may help to inform curriculum and instruction structures for online doctoral programs.

Compensation: Participants may be compensated for participating in this study. A raffle will be held among participants completing the survey for a $100.00 gift card. Email addresses will be requested for compensation purposes; however, they will be separate from the survey responses to maintain anonymity.

Confidentiality: All participants will remain anonymous. For the research survey, no personally identifiable information of any kind will be collected or recorded. All collected data will be encoded and stored on a secure, encrypted, password-protected server; only the researcher will have access to the records. Per Federal law, after three years all data will be deleted.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether to participate in the study or not will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time, prior to submitting the survey, without affecting those relationships.

How to Withdraw from the Study: If you choose to withdraw from the study, please exit the survey and close your internet browser. Your responses will not be recorded or included in the study.

Contacts and Questions: The researcher conducting this study is James Kuczero. You may ask any questions you have now. If you have questions later, you are encouraged to contact the researcher, who may be contacted at jkuczero@liberty.edu. Mr. Kuczero's advisor is Dr. Kurt Michael, who can be reached at kmichael9@liberty.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd, Green Hall Suite 2845, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information to keep for your records.

Statement of Consent: I have read and understood the above information. I have had the opportunity to ask and have questions answered. I consent to participate in the study described above.

[yes]

[no]

APPENDIX D: Institutional Review Board Approval Letter

Dear James Kuczero,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under exemption category 46.101(b)(2), which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:101(b):

> (2) Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:
>
> > (i) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects;

Please retain this letter for your records. Also, if you are conducting research as part of the requirements for a master's thesis or doctoral dissertation, this approval letter should be included as an appendix to your completed thesis or dissertation.

Your IRB-approved, stamped consent form is also attached. This form should be copied and used to gain the consent of your research participants. If you plan to provide your consent information electronically, the contents of the attached consent document should be made available without alteration.

Please note that this exemption only applies to your current research application, and any changes to your protocol must be reported to the Liberty IRB for verification of continued exemption status. You may report these changes by submitting a change in protocol form or a new application to the IRB and referencing the above IRB Exemption number.

If you have any questions about this exemption or need assistance in determining whether possible changes to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,

[redacted]
Administrative Chair of Institutional Research
Research Ethics Office

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APPENDIX E: Qualtrics Letter of Certification

Qualtrics Course Completed!

[redacted] (IT Communications)

Mon 5/13/2019 10:22 AM

To: Kuczero, James <jkuczero@liberty.edu>;

You Have Completed Qualtrics Training

Good Afternoon,

You have successfully completed the Qualtrics Online Training Course. **TKT2052734** has been submitted to grant you access to the program. Please allow 2-3 business days for permissions to be granted. If you have not already done so, please create an account via https://liberty.co1.qualtrics.com.

For additional training material you may visit Qualtrics Support page.

Thank you,

Technology Education Center

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Non-discrimination Statement

APPENDIX F: Solicitation Notice Sent via Email Accounts

Summer 2019

Dear Doctoral student,

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a Doctor of Education degree (Ed.D). The purpose of my research is to measure levels of student engagement, and I am writing to invite you to participate in my study.

If you are 18 years of age or older, currently enrolled in a doctoral-level course in an online program within the School of Education at Liberty University, and are willing to participate, you will be asked to complete an online survey. It should take approximately 15 minutes for you to complete the procedure listed. Your participation will be completely anonymous, and no personally identifiable information will be collected as a part of data collection.

After you click on the survey link you will see the consent page. The consent document contains additional information about my research. Select “yes" at the end of the consent information to indicate that you have read the consent information and would like to take part in the survey.

To participate, click on this survey link:

https://liberty.co1.qualtrics.com/jfe/form/SV_8H9PECGvZE3Fpfn

If you choose to participate, you will have the option to be entered in a raffle to receive a $100 gift card.

Sincerely,

James Kuczero
Researcher

APPENDIX G: Raffle Survey

Please provide your Liberty University email to be entered into a raffle for a $100.00 gift card. The winner will be notified at the end of the data collection period, after which all collected email addresses will be deleted.

Liberty email address [ ]