

INVESTIGATING THE RELATIONSHIP BETWEEN STUDENTS' RELIGIOSITY AND
THEIR SENSE OF COMMUNITY IN ONLINE COURSES

by

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Liberty University

A Dissertation Presented in Partial Fulfillment

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ABSTRACT

The introduction of the internet has had a profound effect on the way in which students learn. Students are no longer bound by the four walls of traditional classrooms because they can now receive their education through online courses. However, one of the largest hurdles that universities face with teaching online courses is keeping students enrolled. Many researchers have investigated why there is such a large drop-out rate for online courses, and several have found that a relationship between drop-out rates and sense of community in online course. Researchers have typically found that as sense of community increases the drop-out rate decreases. Therefore, it is imperative to study what causes sense of community to rise. This quantitative correlational study has investigated the relationship between sense of community and another factor, religiosity, to see if they are related. The purpose of this study was to add to the current research base on religiosity and sense of community. This study is important because its findings helped to shed light on why online, undergraduate level students drop out of their online college courses. A convenience sample of 95 online, undergraduate level students from a Southeastern United States University participated in the study. In this study, two separate instruments were used to measure the variables of religiosity and sense of community. Pearson's r and Spearman's r were calculated, and it was discovered that a relationship exists between religiosity and sense of community. It was concluded that universities should try to utilize students' religiosity in the online classroom to help promote a sense of community. Future research should focus on the effect that religiosity has in both secular and religious universities.

Keywords: religiosity, sense of community, online undergraduate students

Dedication

The dissertation is dedicated to my parents and my husband. Mom and Dad, you have supported me since I was little girl. I would not have made it this far without your love and guidance. Words can not adequately describe what you mean to me. I love you both very much. Nick, you have been my constant companion on this journey with me. You have comforted me at three in the morning when I believed I could not continue, and you have celebrated with me through all of my milestones and successes. I could not have picked a better partner. I love you more than you will ever know.

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List of Abbreviations

Bring Your Own Device (BYOD)

Bring Your Own Technology (BYOT)

Classroom Community Scale (CCS)

English as a Foreign Language (EFL)

Institutional Review board (IRB)

Lesbian Gay Bisexual and Transgender (LGBT)

Sense of Classroom Community Index (SCCI)

Sense of Community (SoC)

CHAPTER ONE: INTRODUCTION

Overview

Chapter One details the background and purpose of this correlational, quantitative study. The chapter begins with a review of background information that is relevant to the study, including the positive and negative features of online learning, religiosity, and sense of community. The next section of Chapter One discusses the problem and purpose statements, which will guide the research towards discovering whether or not there is a relationship between students' religiosity and their sense of community in online, undergraduate level courses. The significance of the study is also explained in this chapter. The significance of the study focuses on why it is important to study religiosity and sense of community and how they relate to each other. Lastly, the chapter covers the research question, the null hypotheses, and the definitions that are involved in the study. The research question establishes the goal of the study, which is to discover if there is a relationship between the two variables, religiosity and sense of community. The three null hypotheses specify what will be investigated during the course of the study, and the definitions help to clarify terms that will be used throughout the study.

Background

Many students in today's society are attracted to online learning at the university level because of the perks associated with taking online courses; however, these perks often overshadow the negative aspects, which may be more detrimental than students and schools realize. Some of the perks include learning at one's own pace (Barbour, Grzebyk, & Eye, 2014), enhancing learning for gifted students (Barbour et al., 2014), and earning course recovery credits (Carr, 2014). The drawbacks include the following: less face-to-face interaction time with peers and instructors (Masino, 2015), an intense requirement for self-discipline (Gaytan, 2013), and

lower levels of connectedness to the school (Bolliger & Inan, 2012). However, the most distressing drawback is the high dropout rates (Moore, 2014), which tend to be 10-20% higher among online students enrolled in college level courses than they are in traditional students enrolled at the same level (Randolph & Kangas, 2008). The research that supports these higher dropout rates in online courses investigated students enrolled in bachelor to doctoral level college programs including education, leadership, technology, and health science (Randolph & Kangas, 2008). The researchers looked to see whether there was a difference in dropout rates between the online students and the traditional classroom students, and found that there was a significant difference (Randolph & Kangas, 2008). Randolph and Kangas' study shows that this problem has been around for a while, but more recent studies highlight that it is still an ongoing issue.

Another study reported that the online dropout rate had reached as high as 50% among higher education online learners (Lee, Pate, & Cozart, 2015). Current online learning data has shown that as course enrollment continues to grow so does the rate at which students drop out (Lee et al., 2015). This problem has caused researchers to ponder why students are dropping out of online courses at such an alarming rate.

To address this issue, many researchers began to look at the differences between distance learning and traditional learning courses. Historically, distance education has been around for a long time. In fact, Penn State began offering courses through the radio in 1922, but it was not until the late 1980s and early 1990s that entire online programs were being offered (Dumbauld, 2014). Once large numbers of students began enrolling in online courses, it became apparent to universities that one of the largest demographic groups of students enrolled were adults trying to balance family obligations and the demands of a full-time job (McCall, 2013). One survey

report found that adults were three times more likely to enroll in an entirely online class than a traditional face-to-face class (McCall, 2013). Even with the flexibility of online courses, adult students still drop out of their online programs to take care of other areas in their lives.

Due to the fact that this problem affects so many people in society at large, many universities and institutions are in the process of putting certain supports in place to help both faculty teaching online students and the students themselves to be more successful (Almpanis, 2015; Hillard, 2015; Islam, Beer, & Slack, 2015; Mallison & Krull, 2013). Some support systems, such as having technology experts and 24-hour help desks, are geared towards faculty members that have to teach in online environments (Gosselin, Northcote, & Reynauld, 2016). In order to successfully support these instructors in online settings, the first goal of the support system must be to identify the technological needs of the instructors (Gosselin et al., 2016). For example, some instructors may feel confident teaching in an online setting while other instructors may doubt their capability to successfully teach in a fully online classroom because they are unfamiliar with the required technology (Gosselin et al., 2016).

Instructors are not the only ones who need help. Other supports, such as synchronous web tools like Wikis, are aimed at students and help them connect with others at the same time but from different locations (Kear, Donelan, & Williams, 2014). These are useful because they allow students to reach out to other students for help outside the “classroom” environment. Another type of support happens within the online classroom by building a strong sense of community, which can help to lower dropout rates (Moore, 2014). According to Moore (2014), students with a stronger sense of community are more likely to stay enrolled in their program. The problem with this statement is that sense of community tends to be higher in traditional classrooms than online classrooms (Delahunty, Verenikina, & Jones, 2014). This problem has

been the driving force behind many research studies that have investigated sense of community in online courses (Lewis, McVay-Dyche, & Chen, 2015; Randolph & Crawford, 2013; Shackleford & Maxwell, 2012; Terosky & Heasley, 2015). Past researchers have focused on why sense of community is lower in online courses. The current research study will investigate sense of community in online, undergraduate level courses, but from a different angle. It will seek to see how students' sense of community is related to their level of religiosity in undergraduate-level online courses. It is important to study these two topics, religiosity and sense of community, together because it has been found that religiosity is closely related to school connectedness, which is similar to sense of community (Azagba, Asbridge, & Langille, 2014). Another study has also shown that religiosity can be used as a bridge to bring people together, which may help to increase sense of community and lower dropout rates (Reichard, 2014). However, the two variables, sense of community and religiosity, have not been studied together specifically in online courses at the undergraduate level.

The literature base does include some information on religiosity and sense of community, but the two are not typically presented together. One of the cornerstone studies to look at religion and sense of community together was Rovai, Baker, & Cox's (2008) study, which investigated the differences in sense of community that was reported by students at both a Christian university and a non-Christian university. This was not the first time that Rovai has studied sense of community. He had previously studied it in many other contexts including: sense of community (SoC) in graduate online courses (Rovai, 2001a), SoC in distance classes taught through the television (Rovai, 2003), SoC in blended and traditional classes (Rovai & Jordan, 2004), and differences in SoC between different races and genders (Rovai & Baker, 2005). Rovai's time and efforts into studying sense of community have made him the premier

researcher in sense of community in online courses. Other researchers often cite Rovai's studies and use the instrument he developed to measure sense of community (Randolph & Crawford, 2013). The current study will also use Rovai's (2002b) instrument as a measurement of sense of community.

In addition to understanding the historical contexts surrounding sense of community in online classes, it is also important to discuss the social contexts surrounding it. Society is increasingly using technology in every sector of life, and education is definitely one of those sectors. The classroom environment has especially been affected by society's acceptance of technology. The classroom has had to change in order to fit society's needs (Furió, Juan, & Seguí, 2015). As a result, there are now multiple versions of "classrooms" that students can attend, such as traditional, fully online, or hybrid/blended (Roscoe, 2012). Since some of these types of classrooms are relatively new, instructors are finding that they need help to ensure their students are successful in their classes (Lange, 2013). Universities are looking for ways to help instructors support their students to maintain success and enrollment. By looking at the theories behind why students drop out, professors and universities can get a better idea of how to help students.

Theoretically, the current study was based in two different theories: Bandura's (1977) social cognitive theory and Ryan and Deci's (2009) self-determination theory. A part of Bandura's social cognitive theory is the idea of self-efficacy. Simply put, self-efficacy is a person's belief in his or her ability to accomplish a task (Bandura, 1986). Having a strong sense of self-efficacy is essential to a student's success in an online program. If the student does not believe that he or she can pass the course, then they are more likely to drop out of the program. Students enrolled in online courses tend to drop out at rate that is 10-20% higher than their

cohorts taking traditional style classes (Randolph & Kangas, 2008), which has lead researchers to wonder whether or not self-efficacy plays a role in being successful in online programs (Kirmizi, 2015). Researchers have pointed out that programs with a stronger sense of community foster an increase in self-efficacy, which underlines the importance of studying sense of community (Countryman & Zinck, 2013).

The second major theory of the current study was developed by Ryan and Deci (2009) and is called the theory of self-determination. Self-determination theory emphasizes an individual's motivations and needs as well as what motivates people to be unwavering in their need to succeed (Hartnett, 2015). Self-determination theory also looks at types of motivators, such as intrinsic versus extrinsic motivators and how they affect self-determination (Hartnett, 2015). Researchers have studied how religion as a motivator might affect certain attributions such as locus of control and stability (Sutantoputri & Watt, 2013). These researchers also found that religion can impact a person's academic performance and motivational goals (Sutantoputri & Watt, 2013).

Since sense of community affects self-efficacy and religion affects motivation, it is important to study both sense of community and religion. It is also important to study the relationship between these two factors to see whether or not they are linked to one another. Evidence has been shown that they are related to one another, but they have only been studied at the high school level (Azagba et al., 2014). One of the limitations from the Azagba et al. (2014) study was that the participants were not online students. Therefore, the literature calls for a need to investigate them further in online courses. By studying them in online settings, an explanation as to why they are connected may present itself. For example, perhaps students with high levels of religiosity do not feel the need to be connected in their online courses because they already

feel connected to their church community, and therefore, they report low levels of sense of community in their online classroom. If this is true, then this group would need to be targeted for support by universities since the research says that low levels of sense of community is related to high dropout rates (Moore, 2014).

Problem Statement

Few studies have investigated how religion is related to sense of community (Azagba et al., 2014; Rennick, Smedley, Fisher, Wallace, & Kim, 2013), but those studies did not investigate religiosity and sense of community in online, undergraduate-level students. The studies that have been done previously on religiosity and sense of community looked at either online students at a level other than undergraduate (high school or graduate) or traditional students at the undergraduate level. None of the studies have looked specifically at online, undergraduate level students. For example, Wighting and Liu (2009) investigated the relationship between religiosity and sense of community, but they did so at a Christian high school instead of a college or university at the undergraduate level. Bohus, Woods, and Chan (2005) did study undergraduate students, but they looked at students enrolled in traditional courses taking place on campus rather than online courses. Ferrari, Bottom, and Matteo (2014) also studied religiosity and sense of community, but once again in traditional courses rather than online courses. Rovai et al. (2008) studied the differences in sense of community in online and traditional classes between students at an all-Christian university versus students at a state university, but the students were all at the graduate level.

Even though these studies were not conducted within the parameters of the current study, their results are still important to review. Wighting and Liu's (2009) study found that a positive correlation exists between sense of community and religious commitment in a Christian high

school. The Bohus et al. (2005) study found that students with higher levels of spiritual well-being had higher levels of sense of community. The researchers also found that minority students had lower levels of sense of community when compared to non-minority students (Bohus et al., 2005). Interestingly, Ferrari et al. (2014) found that there was a significant interaction for school sense of community when the participants were grouped by religious affiliation, but not when the participants were grouped by racial identification. Lastly, the Rovai et al. (2008) study found that students who attended Christian schools scored significantly higher on social community than their peers who attended secular schools. Rovai et al. (2008) also found that on-campus students scored significantly higher on social community than their peers who took classes online.

Other studies have investigated religiosity and sense of community, but they were looking at the connection between the two factors in populations other than undergraduate level programs, such as church congregations (Obst & Tham, 2009), university administrators and staff (Ferrari, Cowman, Milner, Guitierrez, & Drake, 2009), and high school students in traditional classrooms (Azagba et al., 2014). Azagba et al. (2014) found that religiosity is closely related to school connectedness, which is similar to sense of community. However, in their study, they investigated religiosity at the high school level and not at the undergraduate level. The relationship between religiosity and sense of community should be studied because there is evidence that found that religiosity is closely related to school connectedness (Azabga et al., 2014), but it has not been investigated with undergraduate online students. Therefore, the problem is the research literature has not investigated the relationship between religiosity and sense of community in online (Ferrari et al., 2014), undergraduate-level (Rovai, 2008) students (Ferrari et al., 2009).

Purpose Statement

The purpose of this quantitative, correlational study will be to investigate the gap in the literature concerning the relationship between online, undergraduate students' religiosity and their reported level of sense of community. The problem statement is addressed by the purpose of the study, which is to address the gap in the literature by examining whether or not a relationship exists between the two variables in question, religiosity and sense of community. In the current study, the researcher will examine students' level of religiosity and their sense of community. Religiosity can be categorized as either intrinsic or extrinsic. Intrinsic religiosity can be described as an individual's depth of belief whereas extrinsic religiosity are the parts of religious life that can be quantified, such as how often a person attends church or how much money they donate to a church (Thorson & Powell, 1990). Sense of community is essentially the feeling of belonging to a group (McMillan & Chavis, 1986). These two variables, religiosity and sense of community, will be investigated within a small sample from a population of undergraduate level students taking online courses to see if there is a relationship between the two factors.

Significance of the Study

This study will help to add to the existing body of literature on religiosity and sense of community. There are few studies that address religiosity and sense of community, and those that do need further study. Bottom, Ferrari, Matteo, and Todd (2013) looked at sense of community and religious pluralism, but they did not investigate religiosity specifically. Ferrari, Bottom, and Mateo (2014) studied sense of community and found that a significant interaction existed between religious affiliation and sense of community, but once again they did not study students' religiosity. Other researchers have studied religiosity and its effect on connectedness,

which closely resembles sense of community (Azagba et al., 2014). Azagba et al. (2014) found that religiosity is closely related to school connectedness, but they investigated religiosity at the secondary level and not at the post-secondary undergraduate level. These studies show a definite gap in the literature because none of the previous studies attempted to investigate the relationship of religiosity and sense of community for undergraduate level students enrolled in online courses.

The current study will address the gap in the literature in regard to religion and sense of community. This study will help universities to address students' sense of community in relation to their religiosity. This is especially important for Christian universities or universities with large Christian populations. Schools with large Christian populations may wish to ask their students to volunteer demographic information to determine their religion so that the school can better serve them.

This study will also add to the literature base that studies sense of community in online courses. Many of the studies that have looked at sense of community have only sampled graduate level students (Rovai, 2001a; & Rovai & Jordan, 2004). Rovai's findings from 2001 found that females report stronger feelings of sense of community and that students who interacted more in the class had higher levels of sense of community. The findings from Rovai and Jordan's 2004 study indicated that sense of community is strongest in blended courses that offer instruction in both an online and in person setting. One major difference between these studies and the current one is the group that was sampled. This study will sample undergraduate level students, which makes it a significant addition to the literature.

Research Questions

The current study will have only one research question, which focuses on the relationship between religiosity and sense of community in online learners at the undergraduate level. The variables in the research question are students' religiosity and students' sense of community. The research question will drive the need to have a correlational research design.

RQ1: Is there a relationship between online, undergraduate students' religiosity and their sense of community?

Definitions

1. *Religiosity*- Religiosity has two main components: intrinsic religiosity and extrinsic religiosity. Intrinsic religiosity can be defined as a person's depth of belief whereas extrinsic religiosity can be described as the parts of religious life that are outside oneself, such as how often a person attends church (Thorson & Powell, 1990).
2. *Community*- Community can be defined as "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (McMillan & Chavis, 1986, p. 9).

CHAPTER TWO: LITERATURE REVIEW

Overview

Chapter Two is presented in four main parts: an overview, a theoretical framework, a review of related literature, and a summary. The four parts of the chapter all tie back into the purpose of the study, which is to investigate whether a relationship exists between religiosity and sense of community in online, undergraduate students. The theoretical framework section examines the theories that were related to the study, which includes theories on self-efficacy and self-determination. The related literature section discusses the history of online learning, the dichotomy of digital immigrants and digital natives, and the drawbacks to online learning. The related literature also presents a thorough background of information on the two variables, sense of community and religiosity. The last part of Chapter Two is the summary, which concludes the chapter by tying everything to the purpose of the study.

Theoretical Framework

The theories that will support and guide this study are Bandura's (1977) social cognitive theory and Ryan and Deci's (2009) self-determination theory. The theory that is at the core of the study is self-efficacy, which is embedded in Bandura's social cognitive theory (Bandura, 2012). According to Bandura's social cognitive theory, behavior is motivated and regulated by the ability to control one's own actions (Bandura, 1991). In other words, people are able to control their actions by addressing what motivates them and being able to adequately self-monitor (Bandura, 1991). Several things can influence self-control, such as level of self-efficacy, ability to self-regulate, and motivational factors (Bandura, 1991). Being able to control one's actions and being able to believe in oneself is very important to being successful in college, especially in an online course. Hannon (2014) found that self-efficacy plays a major

role in students' grade point average and relative success in college. Hannon's study found that the three largest factors that impact academic success are high-knowledge integration, epistemic belief of learning, and self-efficacy. The results from Hannon's study are important to educators who wish to improve their students' academic success. If an educator hopes to improve a student's academic success, one of the best places to start is by raising that student's level of self-efficacy (Hannon, 2014). This information is not only valuable to instructors, but it is also important to colleges and universities who are trying to minimize dropout rates. In order to shed light on why students drop out of college, it is important to consider what motivates students to persist in their online courses. One of the most important keys to controlling one's actions is having a strong sense of self-efficacy. Whether or not a person believes he or she can affect the things around them is the essence of the theory of self-efficacy (Bandura, 2010).

Self-Efficacy

Bandura developed the theory of self-efficacy in order to study why people's behaviors change, and much of Bandura's career has been spent exploring this theory. Bandura (1986) described self-efficacy as a person's belief in his or her ability to accomplish a task. Students' self-efficacy levels can affect their ability to finalize or even start a task (Bandura, 1986). If students believe they can accomplish a task, then they are more likely to finish the task than if they believed the task was too difficult for them (Bandura, 1986). This statement is very important for online learning because if students do not believe they can complete an online course, then most likely they will not complete it. Self-efficacy is closely related to theories on intelligence (Martin, 2015). When discussing theories on intelligence, most researchers' opinions fall into one of two views, entity or incremental (Martin, 2015). The entity view occurs when an individual believes that their intelligence is fixed and it cannot be improved upon or

worsened (Martin, 2015). The opposite of this is the incremental view in which individuals believe that they can change their level of intelligence (Martin, 2015). The theory of self-efficacy stems from an incremental view because it promotes the idea that if a student believes he or she can accomplish a goal, then they are more likely to accomplish that goal (Bandura, 1986).

Motivation. In regards to self-efficacy and motivation, Bandura (2012) stated that “self-efficacy beliefs influence how well people motivate themselves and persevere in the face of difficulties through the goals they set for themselves, their outcome expectations, and causal attributions for their successes and failures,” (p. 13). According to this statement, a person’s self-efficacy beliefs can affect how motivated he or she is to accomplish a task.

Research has shown higher levels of motivation are found in students who complete distance education programs rather than students who do not complete their programs (Sultan & Hagger, 2013). The same study also found interesting characteristics for both the students who completed their programs and those that did not. For students who completed their programs, the study found the following: females performed better than males, non-disabled better than disabled, unemployed better than employed, unmarried better than married, and students aged 26-35 better than students aged 36-45 (Sultan & Hagger, 2013). However, the most crucial elements for students to be successful were that they believed they were competent and that they displayed motivation to achieve (Sultan & Hagger, 2013). The researchers did point out that these two elements, competence and motivation, are not the only factors that determine whether or not a student is successful; they also emphasize that other factors, such as computer anxiety or personality traits, play a role in a student’s success (Sultan & Hagger, 2013).

Sense of Community. In addition to motivation, sense of community has also been linked to a person's level of self-efficacy (Countryman & Zinck, 2013; Baturay, 2011; Hampden-Thompson, Jeffes, Lord Bramley, Tsouroufli, & Sundaram, 2015; Phillips, 2011). Building a strong sense of community can help a students' level of self-efficacy (Countryman & Zinck, 2013). When a student is a part of a community, he or she brings a unique set of skills to offer to better the group (Countryman & Zinck, 2013). It is important to remind students that they have something important to offer to the community of learners (Countryman & Zinck, 2013). Countryman and Zinck (2013) further explained that "reminding students of the specific expertise that brought them to the program appeared to boost self-efficacy beliefs for some, and at least began the process of self-reflection for others," (Countryman & Zinck, 2013, p. 8). Reminding students about what they bring to the table is just one way that schools can help to boost self-efficacy levels in students.

Finding solutions that are as simple as the one above seem obvious, but teachers report that schools are not prioritizing these types of pragmatic activities to develop students' self-efficacy levels (Hampden-Thompson et al., 2015). Instead, many schools focus on theoretical ideas that are intended to support students' ideas on citizenship and community (Hampden-Thompson et al., 2015). In fact, one of the best places to find examples of good citizenship, community building, and instilling self-efficacy is not inside the school but rather outside the school in extra-curricular activities (Hampden-Thompson et al., 2015). Extra-curricular activities such as sports or music groups provide an environment where students can improve their self-efficacy while learning about their role in the community (Hampden-Thompson et al., 2015). While it is a good thing that extracurricular activities are promoting self-efficacy, it is

also important that schools do everything they can to help teachers instill self-efficacy beliefs within the classroom as well (Hampden-Thompson et al., 2015).

Self-Determination

Similar to self-efficacy is the theory of self-determination. While self-efficacy focuses on the individual's belief that they can accomplish a task (Bandura, 1986), self-determination on the other hand focuses on an individual's motivations and needs (Hartnett, 2015). The theory of self-determination "argues that all humans have an intrinsic need to be self-determining or autonomous, as well as to feel competent, and to experience a sense of connectedness to others," (Hartnett, 2015, p. 87). Hartnett (2015) went on further to explain that self-determination is related to the two different types of motivation. Intrinsic motivation, which occurs when a person chooses to do something volitionally, is considered the more self-determined type of motivation out of the two (Hartnett, 2015). The opposite of intrinsic motivation is extrinsic motivation, which occurs when a person chooses to do something to gain a reward (Hartnett, 2015). For instance, a student may be intrinsically motivated to do well in class because he or she genuinely wants to learn the material and gain knowledge, or a student may be extrinsically motivated to do well in order to gain things like grades, scholarships, or admission into other programs. The intrinsic motivator is more related to self-determination than the extrinsic motivator because the person is doing something for no other reason than because they want to do it.

Besides offering students extrinsic motivators, university instructors can use other techniques to increase motivation and self-determination. For example, finding activities for students that are adequately challenging, not too hard or too easy, can help raise the students' self-determination level needed to complete a task (Hartnett, 2015). This may mean that instructors have to individualize activities for students so that they are appropriately matched to

the task at hand (Hartnett, 2015). If the students encounter tasks that are too difficult, then the results may be detrimental to their self-determination causing them to give up on the program (Hartnett, 2015). A student's level of self-determination can be affected by what the teacher chooses to do.

Ryan and Deci (2009) studied how self-determination can be affected. They looked at how self-determination could be affected by a change in the following psychological needs: competence, autonomy, and relatedness. If these needs were altered, then a person's level of self-determination would be affected. If a person's level of autonomy or independence changed, then he or she might believe that a task was unachievable. For example, when people are severely injured, they are no longer as autonomous as they once were. After their injury, they often suffer from a lack of self-determination because their normal level of autonomy has been altered.

Typically, if a person's level of determination is higher, then they are more likely to succeed. Self-determination can also be tied to theories on motivation. Students who are intrinsically motivated will pursue learning of their own volition (Deci, 1995). While extrinsic motivators like grades, praise, or candy can affect students' level of motivation, it is believed that the superior type of motivation is intrinsic motivation (Khan, 1997). Therefore, it is important to study sense of community because it can foster a feeling of belonging, and wanting to belong is a strong intrinsic motivator (Soria & Stebleton, 2013).

There have been recent significant advances in these theories. One study used an algorithm to determine the three best indicators for identifying potential dropouts (Yukselturk, Ozekes, & Turel, 2014). The researchers found that self-efficacy, online learning readiness, and previous experience with online courses were the three best indicators (Yukselturk et al., 2014).

By using their algorithm, the researchers believed they could potentially help universities pinpoint at-risk groups and reach out to those individuals before they made the decision to drop out (Yukselturk et al., 2014).

In many of the more recent studies, developing a stronger sense of community seems to be the key to keeping students enrolled, which is why it will be at the center of the current study. The current study will examine how students' religiosity is related to their sense of community in online, undergraduate courses.

Related Literature

History of Distance Learning

Distance learning has been around for a very long time. One of the first documented examples of distance learning took place in 1728 in Boston when lessons were sent by mail to students (Dumbauld, 2014). In the 20th Century, distance learning upgraded its method of delivery from mail to radio, and in 1965, the University of Wisconsin offered a telephone-based education (Dumbauld, 2014). Distance learning as it is known today did not start until the Electronic University Network, which was founded in 1984, began offering online courses in 1986 (Finkle & Masters, 2014). The following decade witnessed the birth of the first fully online university, Jones International University, which was founded in 1993 (Finkle & Masters, 2014). At first, online courses were developed so that students could merely access the material; however, over time students have gained a greater level of interaction within the course with their instructors, other students, and even the material (Finkle & Masters, 2014).

Types of online learning. There are two main types of online learning, fully online courses and hybrid courses. In the first type, students take their course completely online. Fully online courses can be offered asynchronous or synchronous. Both types of delivery method,

asynchronous and synchronous, offer unique benefits. Online synchronous learning gives students the opportunity to interact with their peers and instructors in a real-time environment rather than waiting hours or even days for a response. However, with online asynchronous learning, the students are given the flexibility to learn and interact at times, which is convenient for them. This can be especially helpful when students are living in different time zones. Another type of delivery method is blended learning. In hybrid or blended courses, the student completes the majority of the class online, but also attends portions of the class in person.

The early 21st century saw even more ways for students to interact in their online classes; students began using Web 2.0 tools to make the online classroom more interactive for users (Finkle & Masters, 2014). Web 2.0 tools include online social media applications that allow students to interact with each other despite the distance that separates them (Mbatia, 2013).

Students attracted to online learning. Even though these tools are being implemented in online classrooms, the dropout rate in online classes is still higher than in traditional classrooms (Rovai, 2002a). Researchers have reported that the online dropout rate is as high as 50% (Lee et al., 2015; Gravel, 2012). Even with this high dropout rate, students are still attracted to online learning. Researchers have found that online learners are more likely to be: female, older, married, and have other responsibilities such as working full time or raising a family (Waldis, Conway, & Hachey, 2016). They may also display other non-traditional characteristics such as not having acquired a high school diploma, delayed college enrollment, part-time enrollment, and financial independence (Waldis et al., 2016).

Some students are drawn to online learning because it is more accessible to them than a traditional classroom. For instance, students with disabilities who are physically unable to attend class in person can take an online class instead (Hashey & Stahl, 2014), and students who

struggle to communicate verbally can take online classes where they can type what they wish to say instead of having to physically say it (Grace, Raghavendra, Newman, Wood, & Connell, 2014). For other students, it is a chance to earn credits that they may have missed previously in the school year (Carr, 2014). One perk to online learning that appeals to many students is that taking courses online can be cheaper than taking them in person (Casement, 2013). All of these pros make online learning sound like the perfect match for many students; however, many students either give up on the process or are forced to drop out because of their circumstances.

Transitioning from Digital Immigrant to Digital Native

Marc Prensky first coined the terms *digital native* and *digital immigrant* in 2001. Prensky used the term digital native to describe 21st Century students born after 1980 (Kivunja, 2014). Anyone who did not grow up with access to computers, video games, cell phones, or other similar technology is considered a digital immigrant (Prensky, 2001). Over the past two to three decades, students have started transitioning from being almost entirely digital immigrants to digital natives as the population of students who grew up in the digital age has entered the classroom.

The contrast between the two groups can be stark at times. Digital immigrants are “hesitant when it comes to change and technology and, as a result, are behind the times when it comes to learning, teaching, and being,” (Smith, 2013, p. 30). Some groups of digital immigrants are unable to adapt to the learning format that is required of online learning (Fedynich, 2013). If students are not digital natives or at least willing to learn new technological skills, then their computer illiteracy will become a barrier to their success (Fedynich, 2013).

On the other hand, digital natives are students who have grown up engulfed in a world of technology and are comfortable using it (Comer, Lenaghan, & Sengupta, 2015). These students

have been exposed to technology for the majority of their lives and as a result they naturally acclimate to online classes (Comer et al., 2015). Assignments infused with technology do not have to be explained to digital natives because they already understand them; however, digital immigrants often have double the workload because instead of just doing the assignment, they first have to figure out the technology component of the assignment (Comer et al., 2015). Many online students are older students who are considered digital immigrants, and as such they often struggle to overcome this handicap. It is also interesting to note that many digital immigrants may be experiencing challenges that are similar to the challenges faced by first-generation college students and students for whom English is not their first language. For all three types of students, they are facing a new environment where they have to step out of their comfort zone. If digital immigrants are to succeed, they must embrace digital technology as the path to their success (Comer et al., 2015).

Bring your own device initiatives. Some school districts and universities have been quick to support digital natives by allowing programs such as Bring Your Own Technology (BYOT) or Bring Your Own Device (BYOD), which allow students to use their own technological devices at school (Rose, Gosman, & Shoemaker, 2014). There are many benefits to allowing students to bring their own devices. For example, students who have cellular phones with calculators on them can use them in their math classes that may not have enough calculators for all students (Thomas & O'Bannon, 2013). Other teachers use BYOD to have students respond to survey-style questions where they text their response to their teacher (Imazeki, 2014). However, many teachers who allow cellular phones in the classroom also have to deal with problems such as maintaining consistent internet service (Imazeki, 2014) and classroom disruptions including cheating (Thomas & O'Bannon, 2013). It is up to the parents and the

school districts to weigh the positive and negative aspects of programs that utilize BYOD and determine whether implementing such a system is worth it in the long run.

Virtual reality classrooms. Programs similar to BYOD and BYOT have placed pressure on instructors to create lessons in which their students can use their devices to improve their learning. For example, one new trend allows students to learn using alternate reality gaming devices (Engdahl, 2014). In 2008, the Smithsonian Art Museum hosted the first alternate reality game called *Ghosts of a Chance*, in which students could participate in virtual reality activities that made it seem as if they were actually in the museum (Engdahl, 2014). These types of learning experiences present new challenges to not only digital immigrants, but also to the instructors who are tasked with keeping up with these new methods of teaching. For the students, they simply log into the game and start playing, but for the instructors, they have to prepare the game, ensure it works, check its appropriateness, and that it actually teaches the students the objective. This is a lot to expect of any teacher, but it is an even larger expectation for teachers who are themselves digital immigrants.

While learning in the world of virtual reality may seem like something out of a science fiction novel, there are other experiences and expectations that are more attainable to digital immigrants. For instance, many universities are requiring students to use electronic books rather than printed materials (Cumaoglu, Sacici, & Torun, 2013). This may not seem like a big deal to some, but to older students who are used to being able to physically touch their textbooks and highlight in them it can be quite a change of pace that requires them to adjust their reading habits (Cumaoglu et al., 2013).

Hurdles of digital learning. Whether they are overcoming small changes like going from printed to electronic books or large ones like learning in virtual realities, digital immigrants

have to face many hurdles that digital natives easily jump over. However, just because a person was not born into the digital age does not mean there is no hope that they can succeed in an online course. Hachey, Wladis, & Conway (2014) found that previous experience in an online course significantly influences whether students are successful in their future online courses. According to this concept, if students try an online course and gain experience in how they are operated, then they are more likely to be successful in future online courses (Hachey, Wladis, & Conway, 2014). So even if they are not successful in their first attempt at an online course, they are still gaining knowledge of what to do differently the next time in order to be successful.

Digital immigrants are not the only ones to struggle with technology. Even though many millennials are considered digital natives, research reveals that many students in the millennial generation are actually not as experienced with technology as one would expect them to be (Kuban & Mulligan, 2014). Researchers point out that just because a student has grown up using search engines does not mean that he or she is equipped to critique and evaluate the sources that they find (Kuban & Mulligan, 2014). Many instructors make the mistake of assuming that digital natives know how to gather and analyze data over the internet only to find out that their students are not proficient in using the internet appropriately inside the classroom (Kuban & Mulligan, 2014). Ultimately, it is the job of the instructor to determine the students' level of capability and scaffold their needs until they are able to use technology appropriately in the online classroom (Wang, Hsu, & Campbell, 2014).

Attrition Rates and Obstacles to Online Learning

Online courses experience attrition rates that are 10-20% higher than traditional programs delivered in person (Marshall, Greenberg, & Machun, 2012; Bart, 2012). Some researchers have reported that the online dropout rate is as high as 50% (Lee et al., 2015; Gravel, 2012). Many

studies have been conducted to ask students why they are dropping out of the online programs. Some of the reasons include: taking breaks from their programs, which turn into dropping out of school completely (Grau-Valldosera & Mingullión, 2014; Park, Perry, & Edwards, 2011), lack of support and feedback from the program (Baxter, 2012), unsuitable elements of online culture (Botton & Gregory, 2015), and lack of student engagement (Lee et al., 2015). Even though many studies have been conducted on attrition rates in online programs, researchers are still trying to find ways to keep students enrolled in their courses.

For those students who are or can become computer literate, there may still be other obstacles that they have to overcome, such as having constant access to a computer and a reliable internet source (Fedynich, 2013). Even when students are computer literate and they have reliable resources, other events in their lives may still prevent them from achieving success (Fedynich, 2013; Comer et al., 2015).

For universities, the worst drawback to offering online courses is the fact that the dropout rate is so high (Lee et al., 2015; Gravel, 2012). Students often feel unconnected to their classmates and their university. The most often reported reason why learners feel unconnected is that they have little interaction with their fellow peers and their instructors (Yuan & Kim, 2014). This lack of face-to-face interaction leaves many students feeling isolated and disconnected from their class and university (Bollinger & Inan, 2012). To combat this feeling amongst students, many universities are employing new strategies. For instance, instructors may have their students create online profiles so that their classmates can view them and get a better sense of who is enrolled in the class (Kelly & Claus, 2015). Creating online profiles also helps students to feel that they have an online presence (Kear, Chetwynd, & Jefferis, 2014). Instructors can also create an online presence to show students that they are involved in the class. One way that

instructors can create an online presence is through the use of videos (Han, 2013). Research has shown that videos have a significant positive effect on the students' perceptions of the instructor's online presence (Han, 2013).

Many universities also require students to complete team assignments; students could be grouped together alphabetically, by time zone, by previous performance, or even by their personality (Olson, Ringhand, Kalinski, & Ziegler, 2015). While some schools require students to complete group assignments, other schools prefer using social media sites like Twitter to allow their students to better connect (Munoz, Pellegrini-Lafont, & Cramer, 2014).

All of these implementations by instructors and universities also come with a downside. When students are forced to repeatedly communicate in different modes of interaction such as discussion boards, group projects, and social media, they often experience high levels of frustration with their online programs (Capdeferro & Romero, 2012). It seems that forcing social collaboration can often lead to feelings of annoyance and resentment (Capdeferro & Romero, 2012). Additionally, researchers have found that the more students are forced to interact, the less enjoyment they receive from the interaction, which causes sense of community to decrease over time (Castano-Munoz, Sancho-Vinuesa, & Duarte, 2013). Forced interaction over time creates a diminishing return on student satisfaction and consequently sense of community (Castano-Munoz et al., 2013). Therefore, establishing a sense of community while not forcing unnatural interactions is a challenge facing online instructors and their institutions.

Sense of Community

To find this balance, one needs to investigate sense of community in the online classroom. Sense of community is a feeling that members have of belonging (McMillan & Chavis, 1986). In this context, members of the community are students taking an online course.

Going by this simplified definition, students must feel that they belong to the group, which in this case is their cohort of fellow students. Students in online courses often report feeling a weaker sense of community and belonging in their online course than in their on-campus classes (Said, Kirgis, Verkamp, & Johnson, 2015; Rovai, Wighting, & Liu, 2009). The research literature has shown that a common factor that affects the dropout rate is sense of community (Rovai, 2002c). It is important to note that students do not report any significant differences in perceived learning between online and traditional students (Cavanaugh & Jacquemin, 2015; Rovai et al., 2005). In other words, even though students feel less connected when they learn online, they still report that they are indeed learning. These reports by students are also backed up by research data that show there is no statistical difference between students' grades for on-campus and online courses (Cavanaugh & Jacquemin, 2015; VanPatten, Trego, & Hopkins, 2015).

Even though there is no difference in the perceived amount of learning (Rovai et al., 2005), some researchers have been concerned that the quality of instruction may decline if it is delivered in an online format (Ice, Diaz, & Swan, 2012; Ouzts, 2006). To help maintain a high quality of instruction and promote a higher level of sense of community, some researchers have investigated the different types of online interactions to see which ones elicit the highest levels of sense of community (Shackelford & Maxwell, 2012). Researchers found that the best interactions for producing a stronger sense of community are introductions, group projects, sharing individual experiences, whole class discussions, and the exchanging of resources (Shackelford & Maxwell, 2012). Instructors who wish to nurture a strong sense of community would be wise to include these types of interactions in their online classrooms. In addition to

studying these types of interactions, researchers also looked at other aspects that may have an effect upon a student's sense of community.

There are two major trends that researchers have been focusing on recently when it comes to studying sense of community. The first trend is studying characteristics of sense of community, such as how it develops over time, what types of students display it more strongly, and what type of formats make it stronger. The second trend in the research is studying ways that sense of community can be manipulated to make students' sense of community stronger.

Characteristics of sense of community. One of the first things that researchers noted about sense of community was that it is much weaker online courses than it is in traditional, face-to-face classrooms (Said et al., 2015; Wighting & Liu, 2009; Rovai, 2003; Rovai, Wighting, & Liu, 2005). In a 2016 qualitative study, students reported that their online courses seemed mechanical in nature and that they developed fewer friendships as a result (Mays, 2016). The students who participated in this study explained that in the face-to-face classroom interactions were more spontaneous (Mays, 2016). It seems that being in the same physical room allows students more chances to interact and form relationships that foster a stronger sense of community. The conclusions from this qualitative study were also supported with data from quantitative studies. One quantitative study measured sense of community by having participants complete the Classroom Community Scale before and after they completed collaborative activities in either the control group or the experimental group. The control group utilized a face-to-face learning environment, and the experimental group employed an educational online program called Edmodo (Wendt & Rockinson-Szapkiw, 2015). The researchers of this study found that the control group who had taken part in the face-to-face

interactions had stronger overall scores on the Classroom Community Scale than the online group.

Besides discovering a greater sense of community in face-to-face courses, researchers also found some other interesting characteristics. For example, they found that students' sense of community grows stronger throughout the duration of a course (Rovai, 2001b), and they discovered that sense of community tends to be stronger in female students (Rovai, 2001a; Rovai & Baker, 2005). This information could be useful to instructors who are planning their courses. For example, they may wish to place teambuilding exercises early on into the course so that students build their sense of community faster. They may also wish to disperse their female students evenly for group projects to have a better chance of creating a sense of community. Instructors might also find it helpful to survey their students' sense of community before beginning group projects. One study found that sense of community could be used as a predictor of success in teamwork (Erdem Aydim & Gumus, 2016). The researchers found that groups whose scores were low on the Sense of Classroom Community Scale tended to be less successful than groups who scored higher (Erdem Aydim & Gumus, 2016). This could be useful to instructors who are planning to incorporate group projects that last a significant portion of the course. The researchers also noted that groups that had problems in the early stages of projects tended to pass those problems on to later stages (Erdem Aydim & Gumus, 2016). Therefore, it seems it is best to catch problems in group dynamics and sense of community early and before they have a chance to cause a larger problem later on in the course. Solving the problem might be as easy as switching one person from the group with another person from a different group.

It is interesting to note that researchers have not found a significant difference in sense of community between different ethnicities (Rovai, 2002b; Rovai & Gallien, 2005). However,

researchers are still studying students who have learned English as a foreign language to see how it affects their sense of community in online environments. One study found that English as a Foreign Language (EFL) students who were engaged in online activities with other students did ultimately establish a sense of belonging (Razak & Saeed, 2015). It is not really a surprise to learn that EFL students struggle to establish a sense of community considering the language barrier, but what is important to note is that EFL students need to feel included in the classroom. If they do not feel included, they may begin to show signs of alienation, which could lead to them dropping out of the program. Researchers have learned that low levels of sense of community are linked to feelings of alienation (Rovai & Wighting, 2005). So it is important for instructors to make sure that all students feel included in the course.

Manipulating sense of community. The second trend in the research on sense of community focuses on ways to manipulate and impact students' sense of community. One way that the research has found that sense of community can be manipulated is through the type of interactions that students experience throughout the course (Shackelford & Maxwell, 2012). Some assignments such as quizzes and tests do not give students a chance to interact, but other assignments such as discussion boards and group projects allow students to connect to one another. In order for students to build meaningful relationships with each other, they must have chances to interact. According to research, the best types of interactions include introductions, small group projects, sharing experiences, whole classroom debates, and the process of exchanging of information (Shackelford & Maxwell, 2012). Most of these interactions take place in online forums, which allow students to exchange ideas and build a stronger sense of community (Mohamad & Shaharuddin, 2014; Tucker, YoungGonzaga, & Krause, 2014). However, another more recent study found that there is not a significant impact on sense of

community when using different types of interactions such as introductions and group projects (Trespacios & Perkins, 2016). In Trespacios and Perkins (2016) study, it is important to note that their findings were based off of a small sample size ($N = 21$), and their findings should be utilized with caution by future researchers. This is one area of the research on sense of community where there is a gap in the literature, and future research on this topic would help tremendously.

While these studies show the importance of peer interactions, it is also important to discuss the impact that the instructor's presence can have on students' sense of community. The task of facilitating online discussions, which foster a stronger sense of community, usually falls on the shoulders of the instructor (Rovai, 2007). study collected information on close to 2,000 graduate level students using the following sources of data: Rovai's 2002 Classroom Community Scale, electronic information from their online courses, and interviews from students (Phirangee, Epp, & Hewitt, 2016). The researchers found that students reported higher levels of sense of community when their instructors were more heavily involved (Phirangee et al., 2016). When the instructors rather than peers were the ones to offer feedback and communication, the students had higher levels of sense of community (Phirangee et al., 2016). It appears from this study that instructor-facilitated courses rather than peer-facilitated courses tend to be the better option if increasing sense of community is the goal.

Not only does instructor presence stimulate higher levels of sense of community, it is also seems to garner higher performance levels in online courses (Kennette & Reed, 2015).

Researchers discovered that when students took a course with lower online instructor presence their final grade on average was around 67.54%, but when the students were participating in a course with a higher online instructor presence their final grade on average was around 76.81%

(Kennette & Reed, 2015). Although this difference was not statistically significant due to the sample sizes for the low instructor presence ($N = 33$) and for the high instructor presence ($N = 25$), it is quite a large difference and it shows the importance of studying this finding further (Kennette & Reed, 2015). The Phirangee et al. study and the Kennette and Reed study both show the importance of having a strong instructor presence in online courses. However, if instructors find that they are unable to offer a strong online presence, then there is an option that research indicates may be helpful instead.

Student-enthusiasts. In cases where instructors are not always available, students may benefit from the help of student-enthusiasts (Toom, 2015). Student-enthusiasts act as models for others, and they provide support for their classmates and the professor (Toom, 2015). Toom (2015) described student-enthusiasts in the following way: “in spite of their competence, they still looked at the learning environment through the students’ eyes and might understand other students’ difficulties better than instructors,” (p. 137). In essence, these are students that other students feel comfortable turning to when they cannot access their instructor. They help to build a positive atmosphere especially in discussion forums so that their classmates can build a sense of community (Toom, 2015). These are the students that every instructor hopes to have in their class, and if they are encouraged and utilized in the correct way, they can help instructors raise the sense of community within their course.

Student-enthusiasts are best used when the delivery method of the course is asynchronous, meaning that not all students and/or the instructor are online simultaneously. If the course is delivered in a synchronous method, then all the students and the instructor have to be online at the same time. When everyone is online in the same “classroom,” the instructor can facilitate the class and answer questions that students may have, and there is no need for student-

enthusiasts. However, when the course is offered asynchronously, then the professor is not always present to answer questions and must rely on student-enthusiasts to offer help to struggling students.

Delivery methods. Even though the synchronous delivery method does not foster the growth of student-enthusiasts, it does seem to be good for promoting sense of community in online classrooms. One phenomenological study suggested that students who take part in synchronous workshops have an increased feeling of community that they did not experience in their asynchronous online programs (Gauvreau & Hurst, 2016). Participants in the study expressed feelings such as being in a “real” classroom rather than simply participating in a forum (Gauvreau & Hurst, 2016). They also emphasized the fact that they would receive feedback right away (Gauvreau & Hurst, 2016).

Another study attempted a quantitative approach to see if there were any significant differences in sense of community or academic achievement in an online course taught in both a synchronous and asynchronous manner (Olson & McCracken, 2015). The researchers found that there were no significant differences between the two sections of the course (Olson & McCracken, 2015). These results should be interpreted with caution because the researchers’ synchronous section was only required to “meet” weekly for their synchronous sessions (Olson & McCracken, 2015). Perhaps, if the course had offered more frequent synchronous sessions, then they might have had different results. Further research in this area would shed more light on the subject matter, but for now it is a gap in the literature.

Blended or hybrid programs. Researchers have found that students who take online courses have higher levels of intrinsic motivation when compared to students in traditional courses (Wighting, Liu, & Rovai, 2008). This finding suggests that students must be self-

motivated in order to be successful in an online course. However, it leads researchers to ponder ways that they could help unmotivated students become motivated enough to take an online course. Many students may wish to take an online course, but they may feel they need the support offered by an instructor and classmates who are physically present.

While some students may not be affected by the delivery method, other students may need the level of help offered by taking a synchronous class while also needing the flexibility of the asynchronous delivery method. In order to find a way around this problem, researchers started to think of ways to increase help and sense of community while giving students the flexibility of taking an online course. One of the suggested solutions to help increase sense of community while maintaining enrollment in online courses is to offer a blended program (Rovai & Jordan, 2004). In blended or hybrid programs, students take an online course or group of online courses, but they are still required to occasionally meet in person (Harrison & West, 2014). By meeting in person from time to time, the students gain more access to their teachers and peers which allows them to form the important bonds that are required to build a strong sense of community; however, given the fact that they are not required to meet regularly, they are still able to have more flexibility in their schedules by conducting the rest of the course remotely. Another study found that not only did the blended learning environment help to increase sense of community, but it also helped with students' levels of academic achievement and levels of satisfaction within the course (Yapici, 2016).

Web 2.0 tools. Lastly, researchers are studying Web 2.0 tools as a way impact sense of community in online classes (Deng & Tavares, 2015; Shafie, Yaacob, & Singh, 2016; Abdelmalak, 2015; Rohr & Costello, 2015). Web 2.0 tools include things such as social media outlets like Twitter or Facebook and other methods of communication such as Google Docs,

Skype, blogs, and wikis (Abdelmalak, 2015). According to Abdelmalak (2015), Google Docs and wikis had the largest positive impact on sense of community. Other studies have investigated these Web 2.0 tools as well. Ross, Banow, and Yu (2015) studied the social media outlet of Twitter and found that when used appropriately it can improve students' sense of community. Rohr and Costello (2015) also found that Twitter is an effective way to help students feel more connected to their classmates and the course material.

Facebook, similar to Twitter, has also seen positive results from researchers. Deng and Tavares (2015) conducted a study that showed how Facebook could be used to foster interactions between classmates and increase sense of community in online courses. In fact, many studies showcase how a variety of Web 2.0 tools can be used to increase sense of community. Mobile apps (Hsu & Ching, 2013), wikis (Rockinson-Szapkiw, Pritchard, & McComb-Beverage, 2013), Google sites (Deng & Tavares, 2015), and blogging (Kiliç & Gökdas, 2014) have all been found to be beneficial tools in increasing sense of community in online courses.

Impact of religion. The focus of all of these studies has been on trying to increase sense of community, but one area that has not been thoroughly studied in relation to sense of community is religiosity. Few studies have looked at how a person's level of religion can affect his or her sense of community. Within those studies, there has been only one study that looked at religiosity and its impact on sense of community within the online classroom. Even though this study was conducted in 2008, it is considered the most recent research on the subject area. The study explored whether there were any differences in sense of community in online and traditional classes between students at an all-Christian university ($N = 168$) versus students at a state university ($N = 182$) (Rovai et al., 2008). The researchers used the Classroom and School Community Inventory as an instrument to measure sense of community. The results indicated

sense of community was stronger among the Christian university students than the state university students, and that between the traditional and online, traditional students had the stronger sense of community (Rovai et al., 2008). This study makes researchers wonder what is different about Christian students that give them a stronger sense of community. It also leads to further inquiries as to whether this generalization applies only to Christians or to anyone with religious affiliations. This line of thinking leads researchers into studying students' levels of religiosity or spirituality.

Religiosity

Spirituality and religiosity can be difficult to distinguish (Kress, Newgent, Whitlock, & Mease, 2015). Kress et al. (2015) elaborated by explaining that spirituality is an overall faith in a higher power or an experience beyond the awareness of humans, whereas religiosity is basically the formal belief structures and participation in religious organizations, such as churches and synagogues. Essentially, an instrument measuring religiosity seeks to examine a person's intrinsic beliefs and extrinsic practices concerning his or her religion (Harrawood, 2010).

Types of religiosity. Religiosity can further be studied in two parts: intrinsic and extrinsic (Harrawood, 2010). Intrinsic religion could be defined as a person's depth of belief, whereas factors of extrinsic religion could be things such as frequency of attendance or denomination (Harrawood, 2010). These two aspects of religiosity are important to note because they can have different affects on how people act. Studying these two different types of religiosity has become one recent trend in the study of religiosity.

For instance, one study found that youth with high levels of extrinsic religiosity were less likely to have problems with substance abuse, violence, and delinquency (Salas-Wright, Vaughn, & Hodge, 2012). However, this same study found that youth with a combination of high levels

intrinsic and extrinsic religiosity were even less likely to display these problem behaviors (Salas-Wright et al., 2012). Additionally, sex education (Heller & Johnson, 2013) is negatively correlated to extrinsic religiosity. Heller and Johnson (2013) found that as attendance at religious services went up parents tended to support school sex education less. Attending church services is an aspect that is most closely related to extrinsic religiosity and not intrinsic religiosity. It is important to consider these two types of religiosity separately because each of them can have a profound impact on an individual while the other type of religiosity remains constant.

Effects of religiosity. Another recent trend in religiosity is investigating the effect that religiosity has on peoples' attitudes towards the Lesbian, Gay, Bisexual, and Transgender (LGBT) community. One study analyzed data from 78 female and 95 male undergraduate level students taking courses to become physical education teachers and found that a positive relationship existed between the students' religiosity level and their negative attitudes towards gay men and lesbian women (Sarac, 2012). While this study points out that higher levels of religiosity may instigate negative feelings towards the LGBT community, another study explored how religiosity when combined with attending LGBT alliance programs might mediate attitudes towards LGBT individuals (Worthen, 2014). In this study, the researcher found that participants with higher levels of religiosity who had also taken part in LGBT alliance programs had lower levels of negative attitudes towards the LGBT community (Worthen, 2014). It is not very surprising that participants with higher levels of religiosity would be less accepting of LGBT individuals as most religions teach that same-sex relationships are sinful. However, it is reassuring to know that LGBT alliance programs are establishing awareness and understanding

of the LGBT community, which can help to temper some of the harmful attitudes towards individuals in the LGBT community.

Other studies have also explored how religiosity affects a person's attitudes towards gay men. Chonody, Woodford, and Brennan (2014) studied faculty in a social work department at a United States university to see whether there was a relationship between religiosity and sexual prejudice. The researchers found that sexual prejudice was higher among participants with higher levels of religiosity (Chonody et al., 2014). Essentially, these results showed that faculty members with higher levels of religiosity displayed more prejudiced attitudes towards gay men. There was a gap in the research as to whether or not the delivery method of instruction (online or in person) could affect the prejudice that some instructors have on LGBT students. Perhaps, if there were no direct person-to-person interactions through an online course, then it could be argued that the level of prejudice would most likely be lower. Even though religiosity was negatively associated with the LGBT community in the previously mentioned studies, there are plenty of studies that show the positive side effects that high levels of religiosity can have on a person.

Researchers have spent a lot of time exploring the positive side effects of religiosity. Researchers have found that religiosity can positively affect the value of life that participants report (Randall & Bishop, 2013). Studies have also shown that a sense of meaning in life (Stroope, Draper, & Whitehead, 2013) and life satisfaction (Park, Roh, & Yeo, 2012) can be affected by a person's religiosity. A 2013 study by Anye, Gallien, Bian, and Moulton measured two factors, religiosity and health quality of life. The researchers measured the religiosity factor by using the Spiritual Well-Being Scale, and they measured health quality of life by using questions from the Health-Related Quality of Life scale developed by the Center for Disease

Control and Prevention (Anye et al., 2013). The researchers found that participants ($N = 225$) who scored high on the Spiritual Well-Being Scale tended to have higher levels on the Health-Related Quality of Life (Anye et al., 2013). In other words, participants with higher religiosity levels displayed a higher quality of health. The results from this study could be used on college campuses to increase awareness around spirituality and health. Value of life, sense of meaning, and life satisfaction are all related to how a person perceives his or her quality of life. Therefore, it is not surprising that these are all closely linked to religiosity as most religions seek to help people find meaning and happiness in their lives.

The more surprising studies are the ones that look at how religiosity can affect a person's actions. For example, Bailey and Yocum (2015) investigated how an increase in religiosity helped a student with an auditory learning disability recover from a near-fatal suicide attempt. For the participant of their study, the increase in religiosity was a way to moderate the extremely detrimental effect that the auditory learning disability had on the participant's ability to function psychosocially (Bailey and Yocum, 2015). Their study shows just how strongly religiosity can impact just one individual.

Another positive side effect of religiosity is that it serves as a coping mechanism to help participants with stressful life events (Koenig, 2001). In Hertz, Addad, and Ronel's (2012) qualitative phenomenological study, the researchers looked at spiritual well-being as one of the key factors that make the 12-step program, Overeaters Anonymous, successful. Through personal narratives, the researchers discovered that two of the essential tools that make the program successful centered on spiritual and emotional work (Hertz et al., 2012). The researchers found that if participants were going to be successful in losing weight, then they had to confront their spiritual and emotional issues that were causing them to overeat (Hertz et al.,

2012). This study showcases the affect that spiritual or religious well-being can have on everyday life issues, even ones as simple as eating. In addition to helping with everyday issues, religiosity can also help individuals discuss major life issues such as planning end-of-life care for older members of their family (Ko, Roh, & Higgins, 2013).

Other than studying the effect of religiosity on people's attitudes towards the LGBT community and the positive side effects of religiosity, one of the most explored trends in the literature surrounding religiosity is its effect on moral decision-making. Often in difficult situations in life, people feel forced to make decisions that may be illegal or immoral. These types of decisions could range from underage drinking and substance abuse to ethical misconduct in schools. A person's level of religion can have an effect on his or her ability to make legal and moral decisions.

A study conducted in 2015 found that religiosity affects teachers' preference for whistleblowing in a positive way (Gökçe, 2015). Specifically, religiosity had a stronger impact on the teachers preferred method of whistleblowing. Teachers with higher levels of religiosity preferred to report the misconduct to officials within the school rather than to officials outside the school (Gökçe, 2015). Another study that sampled 323 teachers in Turkey looked at the issue of whistleblowing from a different perspective (Toker Gokce, 2016). In this study, the researcher was looking at the relationship between religiosity and two different modes of whistleblowing, anonymous and identified. The researcher found that there was a strong relationship between religiosity and both types of whistleblowing (Toker Gokce, 2016). However, one of the limitations to this study is that the religion being studied was Islam. Future researchers may want to study this issue and see if similar results are found in other religions.

The practice of illegally downloading music is also considered by many to be unethical. One study examined 706 Canadian Baptist teenagers between the ages of 14 and 18 years old to determine what their opinions were on illegally downloading music (Fawcett, Francis, & Henderson, 2013). The researchers found that only 26% of the participants thought that downloading copyrighted music without paying for it was wrong (Fawcett et al., 2013). However, the results indicated that as the teenagers church attendance increased and as they became more familiar with Biblical teachings they tended to take a stronger stand against music theft (Fawcett et al., 2013). This study shows that the level of religiosity in an individual has an impact on the moral choices they make.

Substance abuse is another area where religiosity plays a strong role. While many religions allow participants to drink alcohol, almost all religions are against abusing it especially in children and young adults. Therefore, it is not really much of a surprise to learn that individuals who are actively religious are also less likely to binge drink and take part in risky behaviors (Isralowitz & Reznik, 2015).

Furthermore, researchers have found that religiosity is a better predictor of alcohol abuse for boys than it is for girls (French, Purwono, & Rodkin, 2014). In other words, this means that religiosity can be used to predict whether a child is likely to abuse alcohol, but the indicator (religiosity) is stronger in boys than girls. The researchers also discovered that religiosity was more strongly predicative of alcohol abuse than tobacco abuse (French et al., 2014). This result was not truly surprising given the participants. The researchers' participants were Muslim adolescents; their religion, Islam, discourages the use of tobacco but generally forbids drinking alcohol (French et al., 2014). It would be interesting to see if these results were consistent across different religions.

Another study did offer some insight into what the results might appear to be with a more diverse pool of participants. Klassen, Smith, and Grekin (2013) surveyed 643 participants who were 45.5% Caucasian, 18.8% African-American, 11.7% Arab, 14.4% Asian, 4.5% Hispanic/Latino, and 5.1% other. They found that there was a negative correlation between religiosity and cigarette smoking. Interestingly, they did not find a significant correlation between religiosity and waterpipe use. As waterpipes or vapes are a relatively new type of substance, many religious communities may not be prepared to offer any guidance on their usage.

Lastly, it may be beneficial to look at how different types of religiosity may have different effects on drug use. Mason, Schmidt, and Mennis (2012) looked at three different dimensions of religiosity and how they affected youth drug use. The three dimensions of religiosity included social religiosity, perceived religious support, and private religiosity. The first dimension, social religiosity, was used to refer to religious practices such as church attendance and other religious activities done with others (Mason et al., 2012). The second dimension was coined perceived religious support and was used to describe the level of general support reported by a single member of a congregation (Mason et al., 2012). The third and final dimension of religiosity was private religiosity. The term private religiosity describes intrapersonal aspects of religious practice such as prayer (Mason et al., 2012). They researchers found that when social religiosity and perceived religious support were high, marijuana and tobacco use decreased (Mason et al., 2012). They also found that being near a religious institution also had an impact on alcohol use. The results indicated that the further a person's home was from a religious institution, the more likely that person was to use alcohol (Mason et al., 2012). Interestingly though, they found no correlation between private religiosity and any

type of substance use (Mason et al., 2012). Their study shows why it is important to study the different types of religiosity.

Religiosity in correlational studies. In correlational studies, religiosity is often used as a factor to study the level of religion of participants in a variety of religions, such as Islam (Isralowitz & Reznik, 2015) and Christianity (Francis, ap Siôn, & Village, 2014). Much of the research on the topic of religiosity focused on identifying relationships between religiosity and other factors. Those studies were important because they funneled the research into studying the beneficial areas of religiosity. For example, studies have been conducted and found that religiosity is not correlated to the following: grade point average (Zubairu & Sakariyau, 2016), performance in the chemistry classroom (Oloyede & Mercy, 2016), or youth activism (Spellings, Barber, & Olsen, 2012). However, other studies have found that religiosity is correlated to the following: marital satisfaction (Homaei, Bozorgi, & Ghahfarokhi, 2016), non-suicidal self-injury (Kress et al., 2015), aggression levels in boys (French, Purwono, & Rodkin, 2012), and transformational leadership (Mehdinezhad & Nouri, 2016). These types of correlational studies help researchers know what specific areas of religiosity to investigate further.

All of the studies mentioned in this section used religion or spirituality in some way as a major part of the study, and they each demonstrated that religion powerfully affects the lives of participants. This dissertation will also use religiosity as a variable in a correlational design that will investigate the relationship between students' sense of community as measured by Rovai's 2002 Classroom Community Scale and their religiosity as measured by the Spiritual Well-Being Scale. All of the literature presented in this chapter highlights how important both of these variables are in participants' lives, especially those of participants who are students.

Summary

Online education has evolved greatly over the last few decades. From the Electronic University Network's founding of online learning classes in 1984 (Finkle & Masters, 2014) to the first fully online university in the 1990s (Finkle & Masters, 2014), distance learning has gone through many transitions. In today's technological world, students have more access and opportunities than ever to learn in an online environment. However, the research literature indicates that the biggest challenge for universities offering online programs is simply keeping students enrolled. Online learning suffers from extremely high dropout rates when compared to traditional programs (Lee et al., 2015). Even though many students continue to drop out, there is also a constant flow of new students who are attracted to the perks of online learning. For some students, the perks include the following: credit recovery, flexibility of time, and fewer location restraints (Carr, 2014). Other students may not have a choice but to take part in an online course because a physical or mental disability will not allow them to attend their classes in person (Hashey & Stahl, 2014).

For whatever the reason, students continue to enroll in online courses despite the fact that the online dropout rate is reported to be as high as 50% (Lee et al., 2015). Of the students that choose to enroll, many of those students struggle because they were not brought up using technology and it does not come naturally to them. These digital immigrants are forced to overcome their trepidations if they are to be successful in an online learning environment (Prensky, 2001). It does not help their self-confidence to be placed in the same class as digital natives that seem to take to technology like a fish to water (Prensky, 2001). However, digital natives often have the opposite problem when their instructors assume because they are younger that they will automatically understand how to appropriately use technology. Some digital

natives may know how to do an internet search, but they may not have the necessary tools to sufficiently judge whether a source is credible or not. It is up to the instructors to assess what their students' needs are and plan their assignments accordingly.

Due to the demand for online course offerings, universities have had to find ways to ensure that student enrollment numbers remain high. Universities and educational researchers have investigated why students decide to drop out so that they might be able to prevent future students from dropping out also. Much of the research pinpoints low levels of sense of community as one reason why students drop out (Phirangee, 2016; Rovai, 2001b). Without a strong sense of community, students' self-efficacy begins to drop and as a result students are unable to successfully complete the task of finishing an online course. In addition to sense of community, religiosity also seems to be linked to students' success. Studying these two variables, sense of community and religiosity, in correlation to one another may be the key to unlocking information that can help with attrition problems in online courses.

All of the research studies presented in this chapter have shown that there is a gap in the literature surrounding sense of community and religiosity. The gap exists in the fact that there are no studies that investigate the relationship between sense of community and religiosity in undergraduate level online courses. The purpose of the current study will be to explore this gap in the literature and discover if a relationship exists at all between those two variables. Hopefully, the findings of the current study will shed some light on this gap, and will help future researchers to explore the issues even further.

CHAPTER THREE: METHODS

Overview

Chapter Three covers the methods that were used in this quantitative, correlational study. Pearson's r was utilized in this study to analyze the data because it best fits the needs of the research question. Spearman's r was also used as a nonparametric test because not all of the assumptions were met to use Pearson's r . The research question, "Is there a relationship between online undergraduate students' religiosity and their sense of community?" is restated in this chapter along with the three hypotheses. The participants were obtained through a convenience sample of at least 100 students from a Southeastern United States university. Two instruments were used in this study. The first instrument that was used is Paloutzian and Ellison's (1982) Spiritual Well-Being Scale, and the second instrument was Rovai's (2002) Classroom Community Scale. Lastly, the chapter details the specific procedures that were used in the study along with statistical analysis that were used to analyze the data.

Design

A correlational design utilizing Pearson's r was originally intended for use in this study. This type of design was the most appropriate for this study because it fits the demands of the research question, which focuses on the relationship between religiosity and sense of community. Gall, Gall, and Borg (2007) emphasized its appropriateness by explaining "correlational research refers to studies in which the purpose is to discover relationships between variables through the use of correlational statistics," (p. 332). They also explained that there are two purposes for using correlational research designs, which are "(1) to explore causal relationships between variables and (2) to predict score on one variable from research participants' scores on other variables," (Gall et al., 2007, p. 337). However, after running the assumption testing needed in

order to use Pearson's r , it was determined that not all of the assumptions were met for Pearson's r to be reported. Instead, Spearman's r was performed because it is a nonparametric test. Other types of correlations, such as Spearman's r , may be used when the assumptions for Pearson's r are violated (Warner, 2013, p. 27).

When defining religiosity there are two main parts that one has to keep in mind, intrinsic religiosity and extrinsic religiosity. Intrinsic religiosity is defined as a person's depth of belief, whereas extrinsic religiosity is described as the parts of religious life that are outside oneself, such as how often a person attends church (Thorson & Powell, 1990). Religiosity was measured by the Spiritual Well-Being Scale's subscale, Religious Well-Being, which provides a self-assessment of an individual's relationship with God (Paloutzian & Ellison, 1982). The scores reported for religiosity reflected intrinsic religiosity since the Religious Well-Being subscale focuses on a person's relationship with God. The variables examined in relationship to religiosity were sense of community, as measured by the Classroom Community Scale and subscales, Connectedness and Learning (Rovai, 2002b).

Research Question

RQ1: Is there a relationship between online undergraduate students' religiosity and their sense of community?

Null Hypotheses

H₀1: There is no statistically significant relationship between online undergraduate students' *sense of community* scores as shown by the Classroom Community Scale (Rovai, 2002b) and the students' religiosity scores as shown by Spiritual Well-Being Scale's subscale, Religious Well-Being (Paloutzian & Ellison, 1982).

H₀2: There is no statistically significant relationship between online undergraduate students' *classroom connectedness* scores as shown by the Classroom Community Scale's subscale, Connectedness (Rovai, 2002b) and the students' religiosity scores as shown by Spiritual Well-Being Scale's subscale, Religious Well-Being (Paloutzian & Ellison, 1982).

H₀3: There is no statistically significant relationship between online undergraduate students' *learning* scores as shown by the Classroom Community Scale's subscale, Learning (Rovai, 2002b) and the students' religiosity scores as shown by Spiritual Well-Being Scale's subscale, Religious Well-Being (Paloutzian & Ellison, 1982).

Participants and Setting

The participants for the correlational study were taken from a convenience sample of undergraduate level students enrolled in online courses in the Department of Education at a Christian faith-based, Southeastern United States university during the summer semester of the 2018 school year. As of summer 2018, 43 professors offered online courses in the Education Department.

For this study, 90 participants were studied, which is over the amount of participants required for a medium effect size. According to Gall et al. (2007), 66 is the required minimum number of participants for a medium effect size with statistical power of .7 and an alpha level of .05. The sampling method that was used in this study was a convenience sample, which is defined as a group of participants that are chosen because they are available and easy to access (Gall et al., 2007). The rationale behind using a convenience sample is that it was the best way to sample the population given the restriction of time and monetary funding. The targeted population for this study included undergraduate level, online students at a Christian university on the East Coast of the United States.

The researcher reached out to online instructors teaching in the Department of Education at the university and ask if they would like their classes to participate in the study. The study was then introduced to the sample participants first through their course instructor who emailed them a copy of the recruitment. Some of the professors chose to post an online recruitment letter in the announcement section of their course rather than emailing their students. Participants could then take the survey by clicking on a link to the survey that was found in the recruitment letter. Once they clicked on the link to the survey, they first had to read the consent letter and then acknowledge that they were at least 18 years of age or older before they could take the survey. The researcher used the survey tool Qualtrics as the survey platform. The 43 professors who were sent recruitment letters were combined teaching 12 different online courses. Some professors taught multiple classes of the same course, other professors taught different courses, and some professors taught only one class.

Instrumentation

The instrument that was used to measure the variable, religiosity, was Paloutzian and Ellison's (1982) survey on Spiritual Well-Being. The Spiritual Well-Being Scale was administered in its entirety, but the whole survey was not analyzed for data. Instead, only the subscale on Religious Well-Being was used when analyzing the data (Paloutzian & Ellison, 1982). The reliability for the subscale is high with a Cronbach alpha level of .92 (Harrawood, 2010). Validity for the Religious Well-Being Scale has been established by correlating the RWB scores with Intrinsic Religious Orientation ($r = .79$) (Harrawood, 2010). This instrument has been reviewed by multiple other researchers who have found it to be reliable and valid (Bufford, Paloutzian, & Ellison, 1991; D'Costa, 1995; Ledbetter, Smith, Fisher, & Vostler Hunter, 1991; & Schoenrade, 1995). The instrument consists of 20 items that can be scored using a six-point,

Likert-style scale ranging from strongly agree (5) to strongly disagree (0) (Paloutzian & Ellison, 1982). Some of the questions were worded negatively and had to be reverse coded and scored.

The combined possible score on the Spiritual Well Being Scale ranged from 0 to 100. A score of 0 points was the lowest possible score meaning that the person answered strongly disagree to all questions. A score of 100 points was the highest possible score meaning that the person answered strongly agree to all questions. The survey took approximately 10-15 minutes to complete, and participants were able to take the survey digitally through Qualtrics. The answers that were selected by the participants were then stored in Qualtrics until 90 participants had taken part in the survey. The researcher then exported the data into SPSS and sent it to a statistician to be analyzed. Permission to use the scale for the study was acquired, and a copy of the request to use the scale can be found in the appendix.

History of the Religious Well-Being Scale

The Religious Well-Being Scale was developed over time by Dr. Paloutzian and Dr. Ellison who first met in during the 1970s (Life Advance, 2009). Their quest to develop the scale began when they pondered whether or not it was possible to measure the spiritual dimension of the human mind (Life Advance, 2009). As both doctors were trained social psychologists, they knew that any instrument that truly measured a person's religiosity would have to be both reliable and valid; they knew it also had to be able to be used by people of different religions (Life Advance, 2009). The researchers interviewed participants early on to see how they described their spiritual well-being in their own terms (Life Advance, 2009). They also pulled information from the literature on the topic to help them develop the scale (Life Advance, 2009). After creating a large initial group of questions, the researchers were able to narrow their set of questions down to fifteen (Life Advance, 2009). That set of 15 questions was then revised,

retested, and presented in 1979 to the American Psychological Association and consequently published in 1982 (Life Advance, 2009). Since then, many researchers (Liaquat, Sultan, & Hussain, 2013; Robert, Young, & Kelly, 2006; Geertsma & Cummings, 2004) have utilized the scale in their studies (Life Advance, 2009).

Classroom Community Scale

The instrument that was used to measure Sense of Community is Rovai's (2002b) Classroom Community Scale. Reliability testing for the Classroom Community Scale overall and for each of the two subscales has been conducted. The overall Classroom Community Scale's Cronbach alpha level was .93, the Connectedness subscale's alpha level was .92, and the Learning subscale's alpha level was .87 (Rovai, 2002b). The scale was also tested for validity, and was found by three university professors to be valid (Rovai, 2002b). Additionally, the scale was previously tested and found to have a score of 68.4 on the Flesch Reading Ease instrument, which not only shows that it scored high and in the acceptable range of 60-70, but it also indicates that it is an easy document to understand (Rovai, 2002b). Rovai's Classroom Community Scale has been cited in over 600 studies, and has been used as a measurement instrument in many others (Smilyanski, Boyd, Perry, Rothman, & Jenkins, 2015; Pollard, Minor, & Swanson, 2014; Porterfield & Isaac-Savage, 2013). The instrument used a Likert-style response scale. Responses were as follows: strongly agree = 4, agree = 3, neutral = 2, disagree = 1, and strongly disagree = 0 (Rovai, 2002b). Reverse ordering was also required for some questions. This survey took approximately 10-15 minutes to complete, and participants were able to take the survey digitally through Qualtrics. The answers that were selected by the participants were then stored in Qualtrics until 90 participants had taken part in the survey. The researcher then exported the data into SPSS and sent it to a statistician to be analyzed.

Permission to use the scale for the study was acquired, of the author's permission to use the scale can be found in the appendix.

History of the Classroom Community Scale

In 2002 Rovai began the developing the Classroom Community Scale (CCS), which is the scale being used in the current study (Rovai, 2002b). The participants in Rovai's 2002` study included 375 students who were enrolled in graduate level online courses (Rovai, 2002b). The students were approximately 34% male and 66% female; they represented ethnicity groups of about 62% Caucasian, 24% African-American, and 14% other (Rovai, 2002b). The participants were on average 39-40 years old (Rovai, 2002b). Rovai initially developed two sets of items. The first set of twenty items tested for sense of community in the actual classroom, while the second set of twenty items tested for sense of community in the virtual classroom (Rovai, 2002b). All of the items consisted of five-point Likert type responses of strongly agree, agree, neutral, disagree, and strongly disagree (Rovai, 2002b). Half of the items were worded negatively, and they had to be reversely scored (Rovai, 2002b). The most favorable choices were assigned a 4 on the scale and the least favorable choices were assigned a 0 (Rovai, 2002b). A group of experts consisting of three professors who taught at the university level were given the initial set of 40 items to review for content validity (Rovai, 2002b). This review narrowed the scale down to 20 items total with 10 for the actual classroom and 10 for the virtual classroom (Rovai, 2002b). Rovai then used the 20 item scale in his study, which showed the scale to be both valid and reliable (Rovai, 2002b).

Procedures

The researcher acquired Institutional Review Board (IRB) approval from Liberty University before collecting any data for the study. The researcher was also careful to adhere to

any and all rules and guidelines set forth by the Institutional Review Board. After IRB approval to conduct the study was obtained, emails will be sent to 43 professors in the Department of Education at the university selected to participate in the study. Permission to contact the professors was obtained from the Dean of the Department of Education. Consenting professors will then be sent a recruitment letter to give to their students. A link to the survey was placed in the recruitment letter. The professors either emailed their students the recruitment letter or posted it to the announcement section of their online course. The surveys were given through Qualtrics, an online survey apparatus that offers tools to give and collect survey data.

To guarantee that students gave their consent before proceeding to the survey questions, they were first required to confirm they had given their permission to take the survey and that they were at least 18 years of age or older. Over the course of the summer of 2018, the data from students filling out the surveys was collected. Follow up emails were sent to professors who did not respond from the initial round of the email recruitment letters. Once the data was collected from 90 participants, it was then analyzed for statistical significance. Copies of permission to use the surveys, participant consent forms, and recruitment letters can be found in the appendices.

Data Analysis

Once the data was recorded, they were then analyzed for statistical significance using Pearson's r . Pearson's r is the most appropriate statistical analysis because it analyzes the correlational relationship between two variables (Gall, Gall, & Borg, 2007), which were sense of community and religiosity. This type of statistical analysis also best fits the demands of the research question, which investigates whether a relationship exists between the two variables.

Before running tests of statistical significance, the data were screened and certain assumptions were verified. First, the data was screened, by using a box-and-whisker plot between the variables Religiosity and Sense of Community to look for outliers. Next the data was checked to ensure that all assumptions met before proceeding. This included verifying that both variables were at least at the interval/ratio levels of measurement and that both variables were independent of each other. The data was also checked for normality by using the Kolmogorov-Smirnov because the sample size was greater than 50 (Warner, 2013). Additionally, scatterplots were run while adding a line of fit to check for linearity; the scatterplots were also checked for a bivariate normal distribution by looking for a classic cigar shape (Warner, 2013).

Typically once the assumptions are all met, the data would be analyzed for statistical significance. However, not all of the assumptions were met for Pearson's r , and therefore, Spearman's r was also conducted because it is a nonparametric test.

Both descriptive and inferential statistics were run on the data. The means and standard deviations were reported. Next, Spearman's r was calculated for each hypothesis, and the strength and direction will be noted. Even though Pearson's r is the most appropriate test of statistical analysis based off of the fact that the study will be trying to determine if a relationship existed between two variables (Gall, Gall, & Borg, 2007), the study used Spearman's r because not all of the assumptions were met to use Pearson's r . Other types of correlations, such as Spearman's r , may be used when the assumptions for Pearson's r are violated (Warner, 2013, p. 27). To see if the correlation for each hypothesis was significant, the Bonferroni correction was used to calculate the appropriate level of significance. The Bonferroni correction requires that the significance level be lowered to $p < .02$ (Warner, 2013). This correction will be utilized to

protect from Type I error (Warner, 2013). Observed r value (r) and significance levels (p) for each null hypothesis were reported along with degrees of freedom (df), number (N), power, and effect size. Lastly, the researcher determined whether to reject the null hypotheses or fail to reject the null hypotheses based off of the significance levels that were acquired.

CHAPTER FOUR: FINDINGS

Overview

Chapter Four will present the descriptive statistics, the data screening, and the assumptions testing conducted in order to test the three correlations. The results for the null hypotheses are also discussed, which include the Pearson's r and Spearman rank-order test for each of the three hypotheses.

Research Question

RQ1: Is there a relationship between online undergraduate students' religiosity and their sense of community?

Null Hypotheses

H₀₁: There is no statistically significant relationship between online undergraduate students' *sense of community* scores as shown by the Classroom Community Scale (Rovai, 2002b) and the students' religiosity scores as shown by Spiritual Well-Being Scale's subscale, Religious Well-Being (Paloutzian & Ellison, 1982).

H₀₂: There is no statistically significant relationship between online undergraduate students' *classroom connectedness* scores as shown by the Classroom Community Scale's subscale, Connectedness (Rovai, 2002b) and the students' religiosity scores as shown by Spiritual Well-Being Scale's subscale, Religious Well-Being (Paloutzian & Ellison, 1982).

H₀₃: There is no statistically significant relationship between online undergraduate students' *learning* scores as shown by the Classroom Community Scale's subscale, Learning (Rovai, 2002b) and the students' religiosity scores as shown by Spiritual Well-Being Scale's subscale, Religious Well-Being (Paloutzian & Ellison, 1982).

Descriptive Statistics

Mean and standard deviation scores reported for the variable Religious Well-Being (RWB) can be found in Table 1. Means and standard deviations scores for the Sense of Community (Classroom Community Scale overall score, Classroom Community Scale subscale Learning, and Classroom Community Scale subscale Connectedness) can be found in Table 2.

Table 1

Descriptive Statistics: Religiosity

Variables	<i>N</i>	Mean	<i>S.D.</i>
RWB	85	53.60	7.308

Table 2

Descriptive Statistics: Sense of Community

Variables	<i>N</i>	Mean	<i>S.D.</i>
CCS Overall	85	54.04	12.479
Connectedness	85	23.60	7.963
Learning	85	30.44	5.596

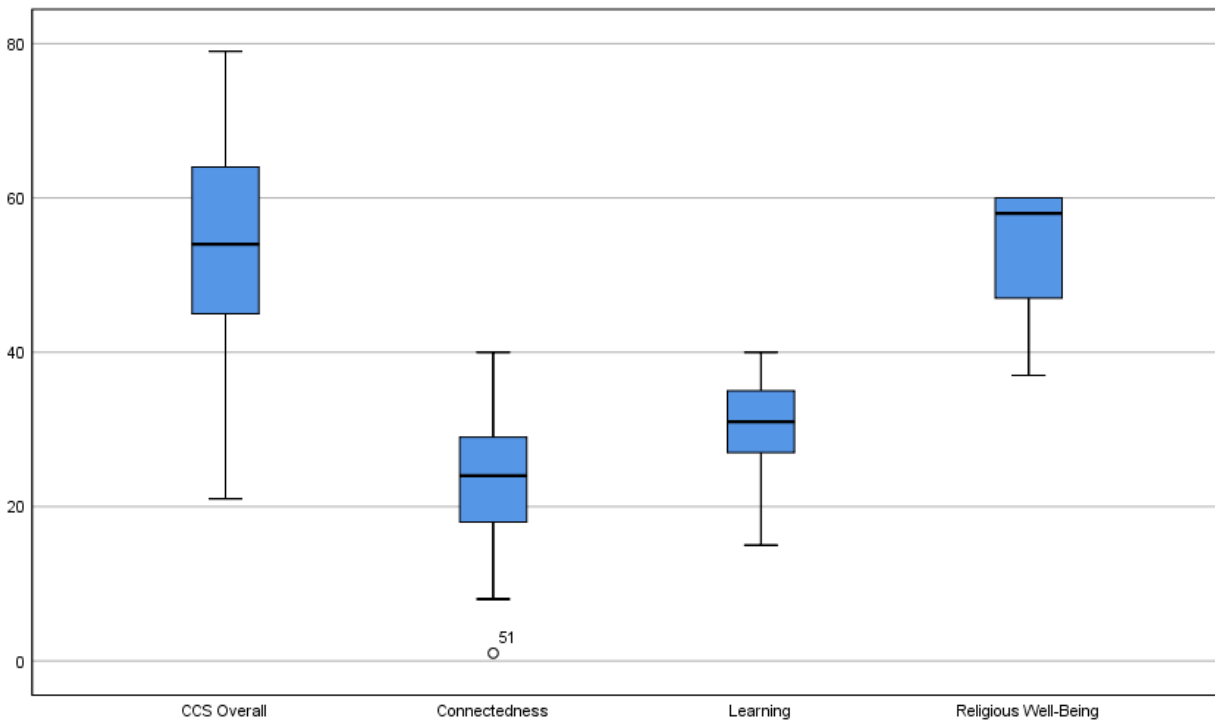
Results

Data Screening

All of the data were screened to check for missing data and outliers. In total, five participants (68, 73, 74, 76, & 79) failed to answer all survey questions from both instruments. This resulted in a large amount of missing data for the five participants. These participants' data were thus discarded and removed from the data set (Warner, 2013, p. 134). Box plots were used

to identify any outliers for both variables (Warner, 2013, p. 153-157) (see Figure 1 for box plots). No additional data were removed due to outliers.

Figure 1. Box Plots



Assumption Tests

The Kolmogorov-Smirnov test was then used to determine whether or not each variable passed the normality assumption test (Warner, 2013, p. 153). The assumption for normality was found acceptable at the .05 alpha level for the Classroom Community Scale overall ($p = .200$) and the subscale Connectedness ($p = .200$). However, the assumption for normality was not found tenable at the .05 alpha level for the Religious Well-Being variable ($p = .000$) or the Classroom Community Scale's subscale Learning ($p = .035$). The assumption of homogeneity of variance was examined using the Levene's test. No violations were found ($p = .013$ for Classroom Community scale overall, $p = .184$ for Connectedness, $p = .028$ for Learning) so the assumption of homogeneity was met. Scatterplots were also ran for each correlation to test for

linearity. The linearity assumption was met for each correlation (see Figures 2, 3, & 4 for scatterplots). The researcher ran histograms on the two variables that did not meet the Kolmogorov-Smirnov assumption test. After inspecting the graphs, the researcher determined that the non-parametric test, Spearman's r , would be needed for statistical analysis in addition to Pearson's r .

Spearman's r was used to test all three null hypotheses in addition to Pearson's r . Other types of correlations, such as Spearman's r , may be used when the assumptions for Pearson's r are violated (Warner, 2013, p. 27). As it is a nonparametric test, Spearman's r does not require any assumptions to be met. Spearman's r can be "applied when scores come in the form of ranks, or are converted into ranks, to get rid of problems such as outliers and extremely nonnormal distribution shapes," (Warner, 2013, p. 1116). Since most of the assumption testing was met for Pearson's r , it has been reported in addition to Spearman's r .

Statistical Analysis

Spearman correlations were used to test the three null hypotheses at the .05 alpha level. In order to protect against Type I error, a Bonferroni correction was used. The per-comparison alpha level (PC_{α}) was calculated by taking the experiment wise alpha (EW_{α}) and dividing it by the number of significance tests performed in the study ($k = 3$) (Warner, 2013, p. 98). Therefore, the PC_{α} was .0167.

Null Hypothesis One

For the first hypothesis, the researcher looked to see if a relationship existed between online undergraduate students' *sense of community* scores as shown by the Classroom

Community Scale (Rovai, 2002b) and the students' religiosity scores as shown by Spiritual Well-Being Scale's subscale, Religious Well-Being (Paloutzian & Ellison, 1982).

The researcher did find a statistically significant relationship between students' sense of community scores overall and their religiosity scores. Therefore, the researcher rejected the null where Spearman's $r(83) = .476, p = .000$. The effect size, where $r = .476$, was very large based on Cohen's effect size index (Warner, 2013, p. 208). The results for Pearson's r were $r(83) = .391, p = .000$. See Figure 2 for scatter plot for sense of community overall scores and religiosity.

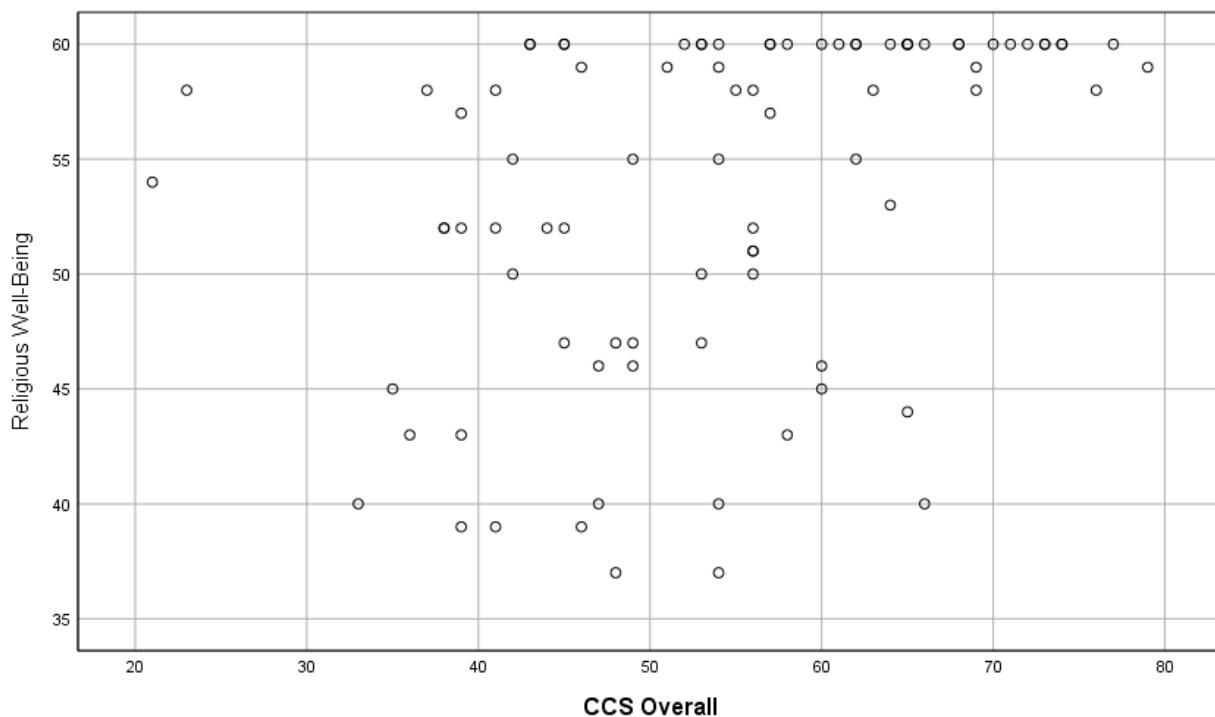


Figure 2. Scatterplot between Classroom Community Scale Overall score and Religious Well-Being.

Null Hypothesis Two

For hypothesis two, the researcher examined the data to see if there was a relationship between online undergraduate students' *classroom connectedness* scores as shown by the Classroom Community Scale's subscale, Connectedness (Rovai, 2002b) and the students' religiosity scores as shown by Spiritual Well-Being Scale's subscale, Religious Well-Being (Paloutzian & Ellison, 1982). The researcher did find a statistically significant relationship between students' classroom connectedness scores and their religiosity scores. Therefore, the researcher rejected the null $r(83) = .417, p = .000$. The effect size, where $r = .417$, was very large based on Cohen's effect-size index (Warner, 2013, p. 208). The results for Pearson's r were $r(83) = .307, p = .001$. See Figure 3 for a scatterplot of students' classroom connectedness scores and their religiosity scores.

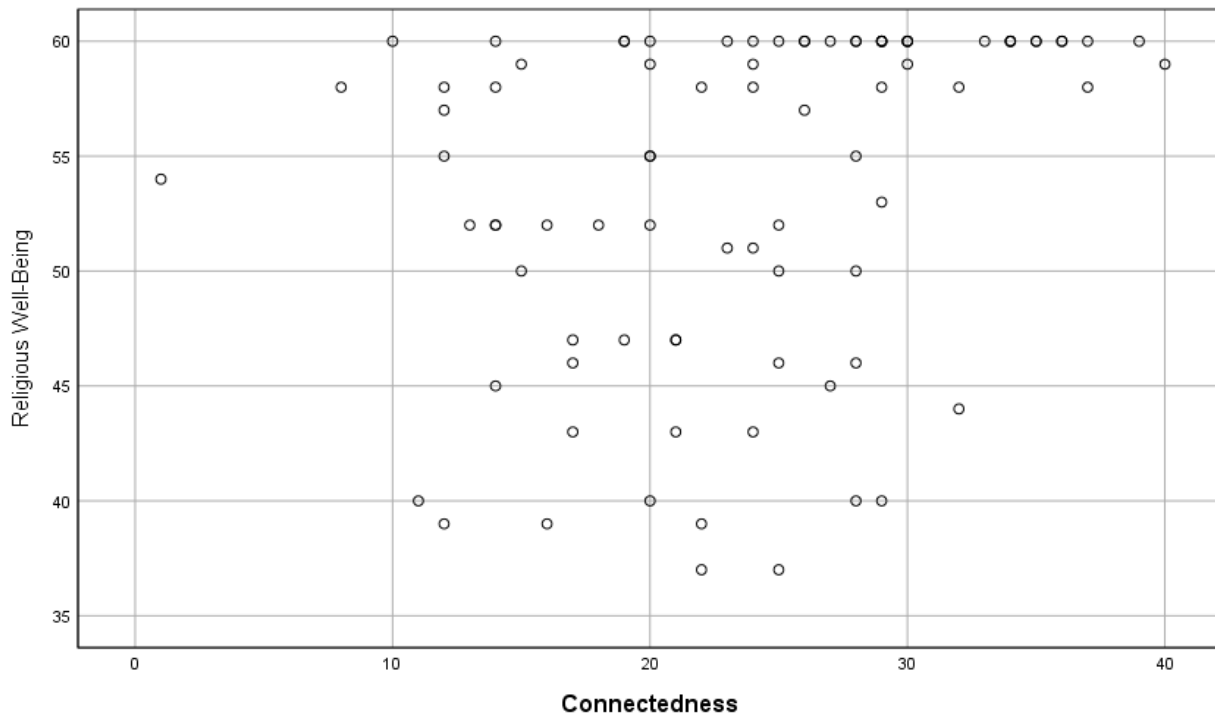


Figure 3. Scatterplot between Classroom Community Scale's subscale Connectedness and Religious Well-Being.

Null Hypothesis Three

For null hypothesis three, the researcher inspected the data to see if there was a relationship between online undergraduate students' *learning* scores as shown by the Classroom Community Scale's subscale, Learning (Rovai, 2002b) and the students' religiosity scores as shown by Spiritual Well-Being Scale's subscale, Religious Well-Being (Paloutzian & Ellison, 1982). The researcher did find a statistically significant relationship between students' learning scores and their religiosity scores. Therefore, the researcher rejected the null $r(83) = .492, p = .000$. The effect size, where $r = .492$, was very large according to Cohen's effect size index (Warner, 2013, p. 208). The results for Pearson's r were $r(83) = .435, p = .000$. See Figure 4 for a scatterplot of students' learning scores and their religiosity scores.

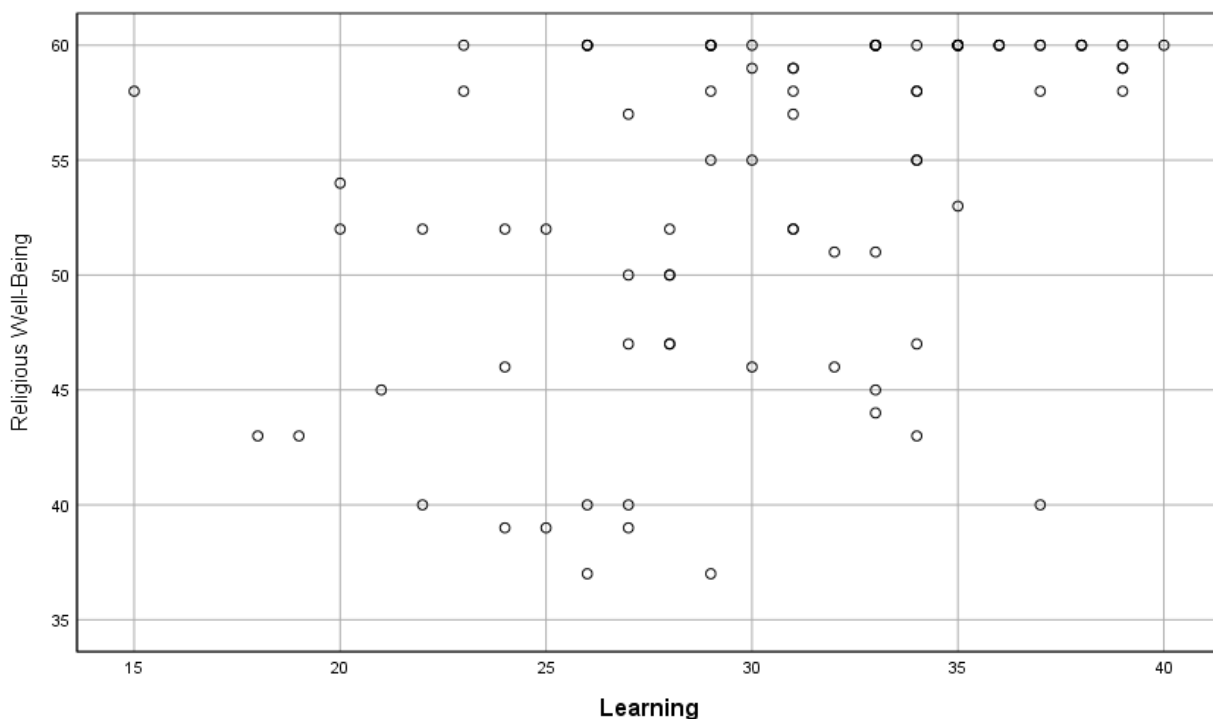


Figure 4. Scatterplot between Classroom Community Scale's subscale Learning and Religious Well-Being.

CHAPTER FIVE: CONCLUSIONS

Overview

In this chapter, the results from the statistical analyses that were conducted are discussed and the implications of these findings are considered in light of the literature. Additionally, the limitations of the study and suggestions for future research are offered.

Discussion

While the literature on Sense on Community in online classrooms has been covered quite thoroughly, there has been a gap in the literature on whether or not religiosity has an effect on students' levels of Sense of Community (Azagba et al., 2014; Bottom et al., 2013). The purpose of this quantitative, correlational study was to investigate the gap in the literature concerning the relationship between online, undergraduate students' religiosity and their reported level of sense of community.

This study used two instruments to quantitatively measure the two variables, Sense of Community and Religiosity. The Classroom Community Scale, developed by Rovai (2002), was used to measure Sense of Community. Rovai's instrument provided the researcher with a valid and reliable instrument to measure online students' levels of sense of community. The Spiritual Well-Being Scale's subscale, Religious Well-Being, developed by Paloutzian and Ellison (1982), was used to measure the variable Religiosity. Their instrument provided the researcher with a valid and reliable instrument to measure participants' level of religiosity. These two data gathering instruments were used to answer the study's research question: Is there a relationship between online undergraduate students' religiosity and their sense of community?

Spearman's correlation was used in this study to examine the correlation of the variable religiosity and the variables associated with sense of community as the variable. Spearman's

correlation was run, in addition to Pearson's r , since the assumptions required to use Pearson's correlation were violated. This nonparametric correlation was the most appropriate statistical analysis to use for this study since it can assess the strength of relationship between two ordinal variables (Warner, 2013, p. 1116).

Null Hypothesis One

For the first null hypothesis, a significant relationship was found between students' overall Classroom Community Scale score and their level of Religiosity. Randall and Bishop (2013) found that religiosity played a role in value of life that was reported by participants in their study. Conversely, other researchers have shown that sense of meaning in life (Stroope, Draper, & Whitehead, 2013) and life satisfaction (Park, Roh, & Yeo, 2012) can affect a person's religiosity. Anye et al. (2013) studied religiosity and health-related quality of life. The researchers found that participants ($N = 225$) who scored high on the Spiritual Well-Being Scale tended to have higher levels on the Health-Related Quality of Life (Anye et al., 2013). In other words, participants with higher religiosity levels displayed a higher quality of health. These studies imply there is a relationship between the factors studied (value of life, sense of meaning, life satisfaction, and health-related quality of life) and religiosity. However, in these studies the researchers did not specifically investigate a sense of community. They were focused on the participant's satisfaction with themselves as an individual.

The current study instead looked at how religiosity might be related to a student's sense of community in their online classroom. Only one other study has specifically investigated students' religiosity and their sense of community in online courses (Rovai et al., 2008). Rovai et al. (2008) found that sense of community was stronger among students who were enrolled at a Christian university than students who were enrolled at a state university. These results suggest

that religion had a significant impact on the students' level of sense of community in their online courses. However, in Rovai's study, the researcher was only looking at graduate level students.

The present study, which looked at undergraduate level students, found that there was a statistically significant relationship, where Spearman's $r = .476$, between online students' sense of community and their level of religiosity. Based on the aforementioned studies of Stroope, Draper, & Whitehead (2013), Park, Roh, & Yeo (2012), and Rovai et al. (2008), the very large effect size was deemed reasonable (Warner, 2013).

Null Hypothesis Two

For null hypothesis two, there was a significant relationship found between classroom connectedness and religiosity. Rennick et al. (2013) studied the effects of spiritual and religious engagement on students' college outcomes. They included the following categories as student college outcomes: leadership skills, interpersonal skills, social satisfaction, sense of belonging, and psychological well-being (Rennick et al., 2013). Since for the purposes of this study, sense of community has been defined as a feeling that members have of belonging (McMillan & Chavis, 1986), then it is reasonable to look at the Rennick et al. (2013) study, which uses "sense of belonging" for comparison to the present study which is investigating "sense of community."

Rennick et al. (2013) found that spiritual and religious engagement had a positive impact on sense of belonging in African-American, Asian, and White students, but not Latino students. While they did not find a positive impact between the two variables for Latino students, it is still impressive that there was a positive connection for so many races of students. In the present study, a significant relationship was found between classroom connectedness as measured by the Classroom Community Scale's subscale, connectedness and Religiosity as measured by the Spiritual Well-Being Scale's subscale, religious well-being. In the present study, the relationship

between these two variables was measured by Spearman's correlation where $r = 4.17$. Based on the Rennick et al. (2013) study, the very large effect size was deemed reasonable (Warner, 2013).

It is also important to note that researchers have found that students' sense of community grows stronger throughout the duration of a course (Rovai, 2001b). Since the present study collected data from students mainly during the first three weeks of their online courses, it would be interesting to see if the results from the study were to significantly change if the survey was given out towards the end of the course. Therefore, in future research, it would be advisable to collect data during the tail-end of the online course to see if there was significant change between level of sense of community and its relationship to religiosity. Researchers might be able to get a stronger correlation between the two variables if they were to collect their data at the end of the course.

Also, it has been discovered that sense of community tends to be stronger in female students (Rovai, 2001a; Rovai & Baker, 2005). For future studies, researchers might want to see if gender plays a role in determining the relationship between sense of community and religiosity.

Null Hypothesis Three

For null hypothesis three, there was a significant relationship found between students' learning as measured by the Classroom Community Scale's subscale, learning and their level of religiosity. One phenomenological study found that many students described their faith as a "starting point" on which they could build their relationships with their classmates (Byrd, 2016). In that study the students explained that their relationships that were strengthened by their faith also had a stronger impact on their learning throughout the course (Byrd, 2016). In many

instances, the students would ask their religious classmates to pray for them whenever they might be struggling over the coursework or things going on in their lives (Byrd, 2016). They believed this type of encouragement had a positive impact on their learning.

Once students start to connect with their classmates, they typically are more willing to share with each other and support one another (Chang, 2012). They may even begin to feel responsible for the learning environment (Chang, 2012). However, in order for students to connect with each other, they must be given opportunities to interact. Researchers have found that certain interactions produce a stronger sense of community than other types (Shackelford & Maxwell, 2012). The interactions that produce the strongest sense of community are introductions, group projects, sharing individual experiences, whole class discussions, and the exchanging of resources (Shackelford & Maxwell, 2012). Course instructors who hope to build a strong sense of community should try to include these types of interactions in their online classrooms.

The results from the present study support the findings from Byrd's 2016 phenomenological study. The present study found a very large relationship between religiosity and learning with Spearman's $r = .492$ (Warner, 2013). This suggests students with stronger levels of religiosity have higher levels of learning throughout their online course. However, unlike Byrd's study, the present study did not ask participants if they interact with other students in regards to their religion. Byrd may have seen those effects because the students in that study discussed their religion openly with their classmates. The present study only ask students about their own religiosity and their own sense of community. It is important to note for future research that when students openly support each other through their faith in their religion that

they tend to have a stronger sense of community and that they also perform better in their online courses (Byrd, 2016).

Conclusions

At the beginning of the present study, the researcher predicted that there would be a significant relationship between online, undergraduate students' level of religiosity and their sense of community. After collecting and analyzing data, it was determined that there was a significant relationship between religiosity and the three variables (sense of community overall, connectedness, and learning). The researcher also corrected for Type I error by using the Bonferroni correction. It is important to note that while these conservative correlations all came back significant they do not therefore imply causation. Warner (2013) clarifies that "Correlation does not imply causation," (p. 265). Even though it can not be said that higher levels of religion cause stronger levels of sense of community, these results still give clear and valuable insight into the fact that the two variables are indeed related. What is unclear, however, is exactly how they are related. For example, perhaps those participants with stronger levels of religiosity also happen to be more extroverted and therefore tend to build relationship and a stronger sense of community faster than other students. It can not be determined from a correlation why two variables are related. For this to be determined, further research into the topic would have to be conducted.

According to researchers, one of the most common factors that affects the dropout rate is sense of community (Rovai, 2002c). It is important to note that students do not report any significant differences in perceived learning between online and traditional students (Cavanaugh & Jacquemin, 2015; Rovai et al., 2005). So, even though students feel less connected when they learn online, they still report that they are indeed learning. These feelings reported by students

can also be backed up by research data that show there is no statistical difference between students' grades for on-campus and online courses (Cavanaugh & Jacquemin, 2015; VanPatten, Trego, & Hopkins, 2015). Therefore, if students are learning at the same rate as in traditional courses, it must be something else that is causing them to drop out of their online classes. Many researchers, such as Rovai, believe this cause to be a low sense of community.

Since sense of community greatly affects the chances of online students staying enrolled in their online courses, it is not surprising that many studies have investigated different factors to see how they might be related to sense of community in online courses. For example Bottom, et al. (2013) looked at sense of community and religious pluralism, the belief that there can be many religions, but they did not investigate religiosity specifically. Ferrari et al. (2014) studied sense of community and found that a significant interaction existed between religious affiliation and sense of community, but once again they did not study students' religiosity.

It is also important to note that many of the studies that have looked at sense of community have not sampled participants at the undergraduate level. For example Rovai (2001a) and Rovai (2004) only sampled graduate level students. Azagba et al. (2014) found that religiosity is closely related to school connectedness, which is similar to sense of community, but they investigated religiosity at the high school level and not at the post-secondary undergraduate level. However, according to the present study, religiosity shows a statistically significant relationship with sense of community for online, undergraduate level students.

Implications

Since the present study found that religiosity was positively related to overall sense of community, connectedness, and learning, it may therefore be implied that students' religion should be encouraged in online courses in order to build a stronger sense of community. It is

important to note that the Religious Well-Being scale does not narrow its focus to only one specific religion. For example, none of the questions specifically refer to Jesus Christ, Muhammad, Buddha, or any other specific religious figures. In other words, anyone who believes in a Monotheistic religion could take the Religious Well-Being survey and get a religiosity score. Since the participants were all enrolled in online, undergraduate level courses at a Christian, faith-based university, it is reasonable to assume that they were taking the Religious Well-Being survey from a Christian perspective.

If the findings from this study were to be applied to secular universities, professors may want to encourage acceptance of all faiths rather than singling out one faith. Singling out one faith might have the opposite effect as the present study. In secular universities, where the student religious demographic varies, having students with strong levels of religion might cause friction in the online classroom and therefore a lower sense of community. Professors and universities should proceed with caution when applying the results from this study to their own online courses. It might be helpful for professors to ask students to volunteer information regarding their religious background. If it seems that all or the majority of students are from the same religious background, then it may improve the sense of community in the class by encouraging the students to express their religious beliefs in a positive manner. For example, students could keep a prayer journal or prayer circle to pray for each other as they are going through hard times while they are enrolled in the course. This might cause them to depend upon each other for other things such as study groups, which could improve their course grades and their likelihood of staying enrolled in the program.

Limitations

There were many limitations in the present study. The largest limitation was the study's sample size ($N = 85$). Professors who were teaching online, undergraduate level Summer session courses in the School of Education at a Southern, Christian university were asked whether or not they would like for their students to take part in the study. Emails were sent to 43 professors and 22 professors responded by giving their consent for their students to take part in the study. The number of professors who gave their consent might have been larger had the survey been administered in the Spring or Fall semester. However, the 22 professors were able to encourage their students to take the survey, and in total 90 students participated. Five students' scores were removed because they did not answer the entire survey. In addition to the sample's size, other limitations regarding the sample include the fact that only students attending a faith-based university were surveyed and only students who were enrolled in School of Education courses were permitted to take the survey.

Another limitation of the study was the fact that it was only offered in English. This may have prevented some students from taking the survey who would have if it had been offered in their native language. It can create problems for researchers when an instrument that was intended to be used by one group of people is used by another (Phillips, 1960). For instance, questions can use phrases that one group of people (native English speakers) might automatically know, while another group might be confused by the phrasing of the question. This confusion can cause the results of the study to be flawed. It is important to note that the researchers who developed the Spiritual Well-Being Scale have offered a Spanish version of it, and they are developing versions of it in other languages (Life Advance, 2009). However, since it was understood that the population of the study were all online undergraduate level students, it was

assumed that they all were proficient in academic English and therefore the survey was only offered in English.

One other limitation of the study was that the researcher did not collect any demographic information such as the age or gender of the participants. The main reason behind this was to ensure that the participants remained anonymous. However, it would have been interesting to see whether or not participants in different age groups had a stronger relationship between their variables when compared with their classmates in another age bracket. Also, it would have been interesting to find out whether gender affects the relationship between the variables for undergraduate level students.

Recommendations for Future Research

There are several areas in this study where future research is recommended. These areas include the following recommendations:

(a) It is recommended that a follow-up study be conducted with a larger sample size and the sample should include participants from two different types of universities: secular and non-secular. In this type of study, it would also be interesting to see if there was a significant difference in the dropout rates between the two groups.

(b) It is recommended that for use in a Christian university that a survey instrument be used that specifically targets a participant's level of Christianity and not just Religiosity as a whole.

(c) Future researchers should also try to incorporate a variety of languages in which participants can take the survey.

(d) Researchers may want to see if collecting the data at the end of the course instead of the beginning of the course has a significant impact on the relationship between religiosity and sense of community.

(e) Future researchers should look to see whether or not gender plays a significant role in the relationship between religiosity and sense of community in online, undergraduate students.

(f) Lastly, future researchers might have different results depending upon the time of year (Spring, Summer, or Fall semester) they are administering the survey.

REFERENCES

- Abdelmalak, M. M. M. (2015). Web 2.0 technologies and building online learning communities: students' perspectives. *Online Learning, 19*(2), 87-106.
- Almpanis, T. (2015). Staff development and institutional support for technology enhanced learning in UK universities. *Electronic Journal of E-Learning, 13*(5), 366-375.
- Anye, E. T., Gallien, T. L., Bian, H., & Moulton, M. (2013). The relationship between spiritual well-being and health-related quality of life in college students. *Journal of American College Health, 61*(7), 414-421. doi: 10.1080/07448481.2013.824454
- Azagba, S., Asbridge, M., & Langille, D. (2014). Is religiosity positively associated with school connectedness: Evidence from high school students in Atlantic Canada? *Journal of Primary Prevention, 35*(6), 417-427. doi: 10.1007/s10935-014-0367-y
- Bailey, F. S. & Yocum, R. G. (2015). Auditory processing learning disability, suicidal ideation, and transformational faith. *Journal of Research on Christian Education, 24*(1), 3-24. doi: 10.1080/10656219.2015.1008084
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes, 50*(2), 248-247. doi:10.1016/0749-5978(91)90022-L
- Bandura, A. (2010). *Corsini Encyclopedia of Psychology*. doi: 10.1002/9780470479216.corpsy0836
- Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *Journal of*

- Management*, 38(1), 9-44. doi: 10.1177/0149206311410606
- Barbour, M. K., Grezbyk, T. Q., & Eye, J. (2014). Any time, any place, any pace-really? Examining mobile learning in a virtual school environment. *Turkish Online Journal of Distance Education*, 15(1), 114-127.
- Bart, M. (2012). *Online student engagement tools and strategies*. Madison, WI: Magna Publications.
- Baturay, M. H. (2011). Relationships among sense of community, perceived cognitive learning and satisfaction of students at an e-learning course. *Interactive Learning Environments*, 19(5), 563-575. doi: 10.1080/10494821003644029
- Baxter, J. (2012). Who am i and what keeps me going? Profiling the distance learning student in higher education. *International Review of Research in Open and Distance Learning*, 13(4), 107-129.
- Bohus, S., Woods, R. H., & Chan, K. C. (2005). Psychological sense of community among students on religious collegiate campuses in the Christian evangelical tradition. *Christian Higher Education*, 4(1), 19-40. doi: 10.1080/153637590507423
- Bolliger, D. & Inan, F. (2012). Development and validation of the online student connectedness survey. *International Review of Research in Open and Distance Learning*, 13(3), 41-65.
- Boton, E. C. & Gregory, S. (2015). Minimizing attrition in online degree courses. *Journal of Educators Online*, 12(1), 1-29.
- Bottom, T. L., Ferrari, J. R., Matteo, E., & Todd, N. R. (2013). Predicting sense of community: Student's perceptions at two Catholic universities. *Journal of Prevention & Intervention in the Community*, 14(1), 4-14. doi: 10.1080/10852352.2012.718595
- Buford, R. K., Paloutzian, R. F., & Ellison, C. W. (1991). Norms for the spiritual well being

- scale. *Journal of Psychology and Theology*, 19(1), 56-70.
- Byrd, J. C. (2016). Understanding the online doctoral learning experience: Factors that contribute to students sense of community. *The Journal of Educators Online*, 13(2), 102-135.
- Capdeferro, N. & Romero, M. (2012). Are online learners frustrated with collaborative learning experiences? *International Review of Research in Open and Distance Learning*, 13(2), 26-44.
- Carr, S. (2014). Credit recovery hits the mainstream. *Education Next*, 14(3), 30-36.
- Casement, W. (2013). Will online learning lower the price of college? *Journal of College Admission*, 220, 14-18.
- Castano-Munoz, J., Sancho-Vinuesa, T., & Duarte, J. M. (2013). Online interaction in higher education: Is there evidence of diminishing returns? *International Review of Research in Open and Distance Learning*, 14(5), 240-257.
- Cavanaugh, J. K. & Jacquemin, S. J. (2015). A large sample comparison of grade based student learning outcomes in online vs. face-to-face courses. *Online Learning*, 19(2), 1-8.
- Chang, H. (2012). The development of a learning community in an e-learning environment. *International Journal of Pedagogies & Learning*, 7(2), 154-161.
- Chonody, J. M., Woodford, M. R. & Brennan, D. J. (2014). Attitudes toward gay men and lesbian women among heterosexual social work faculty. *Journal of Social Work Education*, 50(1), 136-152. doi: 10.1080/10437797.2014.856239
- Comer, D. R., Lenaghan, J. A., & Sengupta, K. (2015). Factors that affect students' capacity to fulfill the role of online learner. *Journal of Education for Business*, 90(3), 145-155. doi: 10.1080/08832323.2015.1007906
- Countryman, J. & Zinck, A. (2013). Building connections in the first-year undergraduate

- experience. *Canadian Journal for the Scholarship of Teaching and Learning*, 4(2), 1-20.
- Cumaoglu, G., Sacici, E., & Torun, K. (2013). E-book versus printed materials: Preferences of university students. *Contemporary Educational Technology*, 4(2), 121-135.
- D'Costa, A. (1995). Review of the spiritual well-being scale. In C. Conoley (Ed.), *Mental Measurement Yearbook, 12th edition* (pp. 983-984). Lincoln, NE: Buros Institute of Mental Measurements, University of Nebraska Press.
- Deci, E. (1995). *Why we do what we do: The dynamics of personal autonomy*. New York, NY: Putnam's.
- Delahunty, J., Verenikina, I., & Jones, P. (2014). Socio-emotional connections: Identity, belonging, and learning in online interactions – a literature review. *Technology, Pedagogy and Education*, 23(2), 243-265.
- Deng, L. & Tavares, N. J. (2015). Exploring university students' use of technologies beyond the formal learning context: A tale of two online platforms. *Australasian Journal of Educational Technology*, 31(3), 313-327.
- Dumbauld, B. (2014, July 11). A brief history of online learning [infographic]. Retrieved from <http://www.straighterline.com/blog/brief-history-online-learning-infographic/>
- Engdahl, E. (2014). Alternate reality gaming: Teaching visual art skills to multiple subject credential candidates. *Art Education*, 67(2), 19-27.
- Erdem Aydin, I. & Gumus, S. (2016). Sense of classroom community and team development process in online learning. *Turkish Online Journal of Distance Education*, 17(1), 60-77.
- Fawcett, B. G., Francis, L. J., & Henderson, A. J. (2013). Religiosity and music copyright theft among Canadian Baptist youth. *Journal of Research on Christian Education*, 22(2), 153-164. doi: 10.1080/10656219.2013.808974

- Fedynich, L. (2013). Teaching beyond the classroom walls: The pros and cons of cyber learning. *Journal of Instructional Pedagogies, 13*, 1-7.
- Ferrari, J. R., Bottom, T. L., & Matteo, E. (2014). Sense of community, inclusion, and religious pluralism: A comparison of two Catholic universities. *Religious Education, 109*(2), 112-125. doi: 10.1080/00344087.2014.887922
- Ferrari, J. R., Cowman, S. E., Milner, L. A., Guitierrez, R. E., & Drake, P. A. (2009). Impact of school sense of community within a faith-based university: administrative and academic staff perceptions on institutional mission and values. *Social Psychology of Education, 12*, 515. doi: 10.1007/s11218-009-9093-3
- Finkle, T. A. & Masters, E. (2014). Do MOOCs pose a threat to higher education? *Research in Higher Education Journal, 26*, 1-10.
- Francis, L. J., ap Siôn, T., & Village, A. (2014). Measuring the contribution of independent Christian secondary schools to students' religious, personal, and social values. *Journal of Research on Christian Education, 23*(1), 29-55. doi: 10.1080/10656219.2014.882723
- French, D. C., Purwono, U., & Rodkin, P. (2014). Indonesian Muslim adolescents' use of tobacco and alcohol: Associations with use by friends and network affiliates. *Merrill-Palmer Quarterly: Journal of Developmental Psychology, 60*(4), 385-402.
- French, D. C., Purwono, U., & Rodkin, P. C. (2012). Religiosity of adolescents and their friends and network associates: Homophily and associations with antisocial behavior. *Journal of Research on Adolescence, 22*(2), 326-332. doi: 10.1111/j.1532-7795.2012.00778.x
- Furió, D., Juan, M., & Seguí, I. (2015). Mobile learning vs. traditional classroom lessons: A comparative study. *Journal of Computer Assisted Learning, 31*(3), 189-201. doi: 10.1111/jcal.12071

- Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction* (8th ed.). Boston, MA: Pearson.
- Gauvreau, S. & Hurst, D. (2016). Online professional skills workshops: Perspectives from distance education graduate students. *International Review of Research in Open and Distributed Learning*, 17(5), 91-108.
- Gaytan, J. (2013). Factors affecting student retention in online courses: Overcoming this critical problem. *Career and Technical Education Research*, 38(2), 145-155. doi: 10.5328/cter38.2.147
- Geertsma, E. J. & Cummings, A. L. (2004). Midlife and transition and women's spirituality groups: A preliminary investigation. *Counseling and Values*, 49(1), 27-37.
- Gökçe, A. T. (2015). Relating teachers' whistleblowing tendency and personal features: Machiavellianism, religiosity, and utilitarianism. *Issues in Educational Research*, 25(4), 517-534.
- Gosselin, K. P., Northcote, M., & Reynauld, D. (2016). Development of an evidence-based professional learning program informed by online teachers' self-efficacy and threshold concepts. *Online Learning*, 20(3), 178-194.
- Grace, E., Raghavendra, P., Newman, L., Wood, D. & Connell, T. (2014). Learning to use the internet and online social media: What is the effectiveness of home-based intervention for youth with complex communication needs? *Child Language Teaching and Therapy*, 30(2), 141-157. doi: 10.1177/0265659013518565
- Grau-Valldosera, J. & Mingullió, J. (2014). Rethinking dropout in online higher education: The case of the Universitat Oberta De Catalunya. *International Review of Research in Open and Distance Learning*, 15(1), 290-308.

- Gravel, C. A. (2012). Student-advisor interaction in undergraduate online degree programs: A factor in student retention. *NACADA Journal*, 32(2), 56-67.
- Hachey, A. C., Wladis, C. W., & Conway, K. M. (2014). Do prior online course outcomes provide more information than GPA alone in predicting subsequent online course grades and retention? An observational study at an urban community college. *Computers & Education*, 72, 59-67. doi: 10.1016/j.compedu.2013.10.012
- Hampden-Thompson, G., Jeffes, J., Lord, P., Bramley, G., Davies, I., Tsouroufli, M., & Sundaram, V. (2015). Teacher's views on students' experiences of community involvement and citizenship education. *Education, Citizenship, and Social Justice*, 10(1), 67-78. doi: 10.1177/1746197914568854
- Han, H. (2013). Do nonverbal emotional cues matter? Effects of video casting in synchronous virtual classrooms. *American Journal of Distance Education*, 27(4), 253-264. doi: 10.1080/08923647.2013.837718
- Hannon, B. (2014). Predicting college success: The relative contributions of five social/personality factors, five cognitive/learning factors and sat scores. *Journal of Education and Training Studies*, 2(4), 46-58. doi:10.11114/jets.v2i4.451
- Harrawood, L. K. (2010). Measuring spirituality, religiosity, and denial in individuals working in funeral service to predict death anxiety. *Omega: Journal of Death & Dying*, 60(2), 129-142. doi: 10.2190/OM.60.2.b
- Harrison, J. B. & West, R. E. (2014). Sense of community in a blended technology integration course: A design-based research study. *International Review of Research in Open and Distance Learning*, 15(6), 289-312.
- Hartnett, M. (2015). Influences that undermine learners' perceptions of autonomy, competences

- and relatedness in an online context. *Australasian Journal of Educational Technology*, 31(1), 86-99.
- Hashey, A. I. & Stahl, S. (2014). Making online learning accessible for students with disabilities. *Teaching Exceptional Children*, 46(5), 70-78. doi: 10.1177/0040059914528329
- Heller, J. R. & Johnson, H. L. (2013). Parental opinion concerning school sexuality education in a culturally diverse population in the USA. *Society and Learning*, 13(5), 548-559. doi: 10.1080/14681811.2013.775063
- Hertz, P., Addad, M., & Ronel, N. (2012). Attachment styles and changes among women members of overeaters anonymous who have recovered from binge-eating disorder. *Health & Social Work*, 37(2), 110-122. doi: 10.1093/hsw/hls019
- Hillard, A. T. (2015). Global blended learning practices for teaching and learning, leadership and professional development. *Journal of International Education Research*, 11(3), 179-188.
- Homaei, R. Bozorgi, Z. D., & Ghahfarokhi, M. S. M. (2016). Relationship between optimism, religiosity, and self-esteem with marital satisfaction and life satisfaction. *International Education Studies*, 9(6), 53-61. doi: 10.5539/ies.v9n6p53
- Hsu, Y. & Ching, Y. (2013). Mobile app design for teaching and learning: Educators' experiences in an online graduate course. *International Review of Research in Open and Distance Learning*, 14(4), 117-139.
- Ice, P., Diaz, S., & Swan, K. (2012). The PAR framework proof of concept: Initial findings from a multi-institutional analysis of federated postsecondary data. *Journal of Asynchronous Learning Networks*, 16(3), 63-86.
- Imazeki, J. (2014). Bring-you-own-device: Turning cell phones into forces for good. *The Journal for Economic Education*, 45(3), 240-250. doi: 10.1080/00220485.2014.917898

- Islam, N., Beer, M., & Slack, F. (2015). Managing online presence in the E-Learning environment: Technological support for academic staff. *Journal of Education and Training Studies*, 3(3), 91-100. doi: 10.11114/jets.v3i3.744
- Isralowitz, R. & Reznik, A. (2015). Impact of religious education and religiosity on adolescent alcohol use and risk-taking behavior. *Religious Education*, 110(3), 303-310.
- Kear, K., Chetwynd, F., & Jefferis, H. (2014). Social presence in online learning communities: The role of personal profiles. *Research in Learning Technology*, 22, 1-15. doi: 10.3402/rlt.v22.19710
- Kear, K., Donelan, H., & Williams, J. (2014). Using wikis for online group projects: Student and tutor perspectives. *International Review of Research in Open and Distance Learning*, 15(4), 70-90.
- Kelly, S. & Claus, C. J. (2015). Practicing nonverbal awareness in the asynchronous online classroom. *Communication Teacher*, 29(1), 37-41. doi: 10.1080/17404622.2014.985597
- Kennette, L. & Reed, B. (2015). Instructor presence helps bridge the gap between online and on-campus learning. *College Quarterly*, 18(4).
- Khan, B. H. (1997). *Web-based instruction*. Englewood Cliffs, NJ: Educational Technology Publications.
- Kiliç, E. & Gökdas, I. (2014). Learning through blogging: Use of blogs to enhance the perceived learning of pre-service ICT teachers. *Educational Sciences: Theory and Practice*, 14(3), 1169-1177. DOI: 10.12738/estp.2014.3.1987
- Kirmizi, Ö. (2015). The influence of learner readiness on student satisfaction and academic achievement in an online program at higher education. *Turkish Online Journal of Educational Technology* 14(1), 133-142.

- Kivunja, C. (2014). Theoretical perspectives of how digital natives learn. *International Journal of Higher Education*, 3(1), 94-109. doi: 10.5430/ijhe.v3n1p94
- Klassen, B. J., Smith, K. Z., & Grekin, E. R. (2013). Differential relationships between religiosity, cigarette smoking, and waterpipe use: Implications for college student health. *Journal of American College Health*, 61(7), 381-385.
- Ko, E., Roh, S., & Higgins, D. (2013). Do older Korean immigrants engage in end-of-life communication? *Educational Gerontology*, 39(8), 613-622. doi: 10.1080/03601277.2012.706471
- Koenig, H. G. (2001). Religion and medicine II: Religion, mental health, and related behaviors. *International Journal of Psychiatry in Medicine*, 31(1), 97-109. doi:10.2190/ BK1B-18TR-X1NN-36GG
- Kress, V. E., Newgent, R. A., Whitlock, J., & Mease, L. (2015). Spirituality/religiosity, life satisfaction, and life meaning as protective factors for nonsuicidal self-injury in college students. *Journal of College Counseling*, 18(2), 160-174. doi: 10.1002/jocc.12012
- Kuban, A. J. & Mulligan, L. M. (2014). Screencasts and standards: Connecting an introductory journalism research course with information literacy. *Communication Teacher*, 28(3), 188-195.
- Lange, L. M. (2013). An open, online class to prepare faculty to teach online. *Journal of Educators Online*, 10(1), 1-32.
- Ledbetter, M. F., Smith, L. A., Fischer, J. D., & Vosler-Hunter, W.L. (1991). An evaluation of the construct validity of the Spiritual Well-Being Scale: A confirmatory factor analytic approach. *Journal of Psychology and Theology*, 19(1), 92-102.
- Lee, E., Pate, J. A., & Cozart, D. (2015). Autonomy support for online students. *Techtrends: Linking research and practice to improve learning*, 59(4), 54-61. doi: 10.1007/s11528-

015-0871-9

- Lewis, K. O., McVay-Dyche, J., & Chen, H. (2015). Examining sense of community among medical professionals in an online graduate program. *Journal of Educators Online, 12*(1), 1-29.
- Liaquat, S., Sultan, S. & Hussain, I. (2013). New horizon of spiritual well-being and hope among cancer patients: A psychological aspect. *Journal on Educational Psychology, 6*(4), 30-35.
- Life Advance. (2009). *Welcome to the home of the Spiritual Well-Being Scale*. Retrieved from <http://www.lifeadvance.com/spiritual-well-being-scale.html>
- Mallison, B. & Krull, G. (2013). Building academic staff capacity to support online learning in developing countries. *Journal of Asynchronous Learning Networks, 17*(2), 63-72.
- Marshall, J., Greenberg, H., & Machun, P. A. (2012). How would they choose? Online student preference for advance course information. *Open Learning, 27*(3), 249-263. doi: 10.1080/02680513.2012.716656
- Martin, A. J. (2015). Implicit theories about intelligence and growth personal best goals: Exploring reciprocal relationships. *British Journal of Educational Psychology, 85*(2), 207-223. doi: 10.1111/bjep.12038
- Masino, M. (2015). Integration of Blackboard in the online learning environment. *Journal of Instructional Pedagogies, 16*, 1-10.
- Mason, M. J., Schmidt, C., & Mennis, J. (2012). Dimensions of religiosity and access to religious social capital: Correlates with substance use among urban adolescents. *Journal of Primary Prevention, 33*(5-6), 229-237. doi: 10.1007/s10935-012-0283-y
- Mays, T. (2016). Graduate inquiry: Social capital in online courses. *Mid-Western Educational Researcher, 28*(2), 162-186.

- Mbati, L. (2013). Online social media applications for constructivism and observational learning. *International Review of Research in Open and Distance Learning, 14*(5), 166-185
- Mehdinezhad, V. & Nouri, F. (2016). The relationship between elementary school principals' transformational leadership and spiritual well-being. *Management in Education, 30*(2), 42-49. doi: 10.1177/0892020616643160
- McCall, M. B. (2013). The Kentucky community and technical college system learn on demand model. *Change: The Magazine of Higher Learning, 45*(3), 60-65.
- McMillan, D. W. & Chavis, D. M. (1986). Sense of community: a definition and theory. *Journal of Community Psychology, 14*(1), 6-23.
- Mohamad, M. & Shaharuddin, S. (2014). Online forum discussion to promote sense of learning community among the group members. *International Education Studies, 7*(13), 61-74.
- Moore, R. L. (2014). Importance of developing community in distance education courses. *TechTrends: Linking Research and Practice to Improve Learning, 58*(2), 20-24. doi: 10.1007/s11528-014-0733-x
- Munoz, L. R., Pellegrini-Lafont, C., & Cramer, E. (2014). Using social media in teacher preparation programs: Twitter as a means to create social presence. *Penn GSE Perspectives on Urban Education, 11*(2), 57-69.
- Obst, P. & Tham, N. (2009). Helping the soul: The relationship between connectivity and well-being within a church community. *Journal of Community Psychology, 37*(3), 342-361. doi: 10.1002/jcop.20299
- Oloyede, G. K. & Mercy, K. N. (2016). Media usage, religiosity and gender as determinant of performance in chemistry subject. *Journal of Education and Practice, 7*(7), 47-56.
- Olson, J. S. & McCracken, F. E. (2015). Is it worth the effort? The impact of incorporating

- synchronous lectures into an online course. *Online Learning*, 19(2), 73-84.
- Olson, J. D., Ringhand, D. G., Kallinski, R. C., & Ziegler, J. G. (2015). Forming student online teams for maximum performance. *American Journal of Business Education*, 8(2), 139-160.
- Ouzts, K. (2006). Sense of community in online courses. *Quarterly Review of Distance Education*, 7(3), 285-296.
- Paloutzian, R. F. & Ellison, C. W. (1982). Loneliness, spiritual well-being, and the quality of life. In L. Peplau & D. Perlman (Eds.), *Loneliness: A Sourcebook of Current Theory, Research, and Therapy (224-237)*. New York, NY: Wiley-Interscience.
- Park, C. L., Perry, B., & Edwards, M. (2011). Minimising attrition: Strategies for assisting students who are at risk of withdrawal. *Innovations in Education and Teaching International*, 48(1), 37-47. doi: 10.1080/14703297.2010.543769
- Park, J., Roh, S., & Yeo, Y. (2012). Religiosity, social support, and life satisfaction among elderly Korean immigrants. *Gerontologist*, 52(5), 641-649. doi: 10.1111/1468-5906.t01-1-00158
- Phillips, H. P. (1960). Problems of translation and meaning in field work. In R. N. Adams & J. J. Preiss (Eds.) *Human organization research: Field relations and techniques*. Homewood, ILL: Dorsey Press, Inc.
- Phillips, S. L. (2011). Path models of vocational calling in Christian college students. *Christian Higher Education*, 10(3), 296-323. doi: 10.1080/15363759.2011.576220
- Phirangee, K. (2016). Students' perceptions of learner-learner interactions that weaken a sense of community in an online environment. *Online Learning*, 20(4), 13-33.
- Phirangee, K., Epp, C. & Hewitt, J. (2016). Exploring the relationships between facilitation

- methods, students; sense of community, and their online behaviors. *Online Learning*, 20(2), 134-154.
- Pollard, H., Minor, M. & Swanson, A. (2014). Instructor social presence within the community of inquiry framework and its impact on classroom community and the learning environment. *Online Journal of Distance Learning Administration*, 17(2), 41-52.
- Porterfield, M. & Isaac-Savage, E. (2013). The formation of online wisdom communities among ministerial students. *Journal of Adult Theological Education*, 10(2), 116-131. doi: 10.1179/1740714114Z.00000000018
- Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the Horizon: The Strategic Planning Resource for Education Professionals*, 9(5), 1-6. doi: 10.1108/10748120110424816
- Randall, G. K. & Bishop, A. J. (2013). Direct and indirect effects of religiosity on valuation of life through forgiveness and social provisions among older incarcerated males. *Gerontologist*, 53(1), 51-59. doi: 10.1093/geront/gns070
- Randolph, J. & Crawford, L. (2013). Factorial validity and reliability in the sense of community in online courses scale. *Online Learning*, 12(2), 53-69.
- Randolph, J. & Kangas, M. (2008). A scale for measuring sense of community in online courses: Preliminary psychometric results, predictors of course satisfaction, and predictors of sense of community. University of Lapland, Finland.
- Razak, N. & Saeed, M. (2015). EFL Arab learners' peer revision of writing in a Facebook group: Contributions to written texts and sense of online community. *English Language Teaching*, 8(12), 11-26.
- Reichard, J. D. (2014). Racial diversity, student religiosity, and school choice: An empirical case

- study of multi-racial religious education. *Religious Education*, 109(1), 81-92. doi: 10.1080/00344087.2014.868251
- Rennick, L. A., Smedley, C. T., Fisher, D., Wallace, E., & Kim, Y. K. (2013). The effects of spiritual/religious engagement on college students' affective outcomes: Differences by gender and race. *Journal of Research on Christian Education*, 22(3), 301-322. doi: 10.1080/10656219.2013.850996
- Robert, T. E., Young, J. S., & Kelly, V. A. (2006). Relationships between adult workers' spiritual well-being and job satisfaction: A preliminary study. *Counseling and Values*, 50(3), 165-176.
- Rockinson-Szapkiw, A. J., Pritchard, T., & McComb-Beverage, S. (2013). Promoting professional identity: A within group comparison of wiki-based and traditional assignments on school counseling students' learning, sense of community and computer anxiety. *British Journal of Guidance & Counselling*, 41(5), 559-572. doi: 10.1080/03069885.2013.773958
- Rohr, L. & Costello, J. (2015). Student perceptions of Twitters' effectiveness for assessment in a large enrollment online course. *Online Learning*, 19(4), 25-36.
- Roscoe, D. (2012). Comparing student outcomes in blended and face-to-face courses. *Journal of Political Science Education*, 8(1), 1-19. doi 10.1080/15512169.2012.641413
- Rose, M. A., Gosman, D., & Shoemaker, K. (2014). Mobile learning: Geocaching to learn about energy systems. *Technology and Engineering Teacher*, 74(1), 17-23.
- Ross, H. M., Banow, R., & Yu, S. (2015). The use of Twitter in large lecture courses: Do the students see a benefit? *Contemporary Educational Technology*, 6(2), 126-139.
- Rovai, A. P. (2001a). Building classroom community at a distance: A case study. *Educational*

- Technology Research and Development*, 49(4), 33-48.
- Rovai, A. P. (2001b). Classroom community at a distance: A comparative analysis of two online-based university programs. *Internet and Higher Education*, 4(2), 105-18.
- Rovai, A. P. (2002a). Building sense of community at a distance. *International Review of Research in Open and Learning Distance*, 3(1), 1-16.
- Rovai, A. P. (2002b). Development of an instrument to measure classroom community. *Internet and Higher Education*, 5, 197-211. doi:10.1016/S1096-7516(02)00102-1
- Rovai, A. P. (2002c). Sense of community, perceived cognitive learning, and persistence in asynchronous learning networks. *Internet and Higher Education*, 5(4), 319-332.
- Rovai, A. P. (2003). Sense of community in higher education television-based distance education program. *Educational Technology Research and Development*, 51(2), 5-16.
- Rovai, A. P. (2007). Facilitating online discussions effectively. *Internet and Higher Education*, 10(1), 77-88. doi: 0.1016/j.iheduc.2006.10.001
- Rovai, A. P. & Baker, J. D. (2005). Gender differences in online learning: Sense of community, perceived learning, and interpersonal interactions. *Quarterly Review of Distance Education*, 6(1), 31-44.
- Rovai, A. P., Baker, J. D., & Cox, W. F. (2008). How Christianly is Christian distance higher education? *Christian Higher Education*, 7(1), 1-22, doi: 10.1080/15363750701285941
- Rovai, A. P. & Gallien, L. B. (2005). Learning and sense of community: A comparative analysis of African American and Caucasian online graduate students. *Journal of Negro Education*, 74(1), 53-62.
- Rovai, A. P., Jordan, H. M. (2004). Blended learning and sense of community: A comparative analysis with traditional and fully online graduate courses. *International Review of*

- Research in Open and Distance Learning*, 5(2), 1-13.
- Rovai, A. P. & Wighting, M. J. (2005). Feelings of alienation and community among higher education students in a virtual classroom. *Internet and Higher Education*, 8(2), 97-110. doi: 10.1016/j.iheduc.2005.03.001
- Rovai, A. P., Wighting, M. J., & Liu, J. (2005). School climate: Sense of classroom and school communities in online and on-campus higher education courses. *Quarterly Review of Distance Education*, 6(4), 361-374.
- Ryan, R. M. & Deci, E. L. (2009). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78. doi: 10.1037/0003-066X.55.1.68
- Said, H., Kirgis, L., Verkamp, B., & Johnson, L. (2015). On-line vs. face-to-face delivery of information technology courses: Students' assessments. *Journal of Information Technology Education: Research*, 14, 297-312.
- Salas-Wright, C. P., Vaughn, M.G., & Hodge, D. R. (2012). Religiosity profiles of American youth in relation to substance use, violence, and delinquency. *Journal of Youth and Adolescence*, 41(12), 1560-1575. doi: 10.1007/s10964-012-9761-z
- Sarac, L. (2012). The relationships between homophobic attitudes and religiosity among Turkish physical education teacher majors. *Physical Education and Sport Pedagogy*, 17(3), 277-287. doi: 10.1080/17408989.2012.690380
- Schoenrade, P. (1995). Review of the spiritual well-being scale. In C. Conoley (Ed.), *Mental Measurement Yearbook, 12th edition* (pp. 984-985). Lincoln, NE: Buros Institute of Mental Measurements, University of Nebraska Press.
- Shackelford, J. L., Maxwell, M. (2012). Sense of community in graduate online education:

- Contribution of learner to learner interaction. *International Review of Research in Open and Distance Learning*, 13(4), 228-249.
- Shafie, L. A., Yaacob, A., & Singh, P. K. K. (2016). Lurking and l2 learners on a Facebook group: The voices of the invisibles. *English Language Teaching*, 9(2), 1-12.
- Smilyanski, I. A., Boyd, L. D., Perry, K. R., Rothman, A. T. & Jenkins, S. (2015). Assessment of students' sense of community in distance education classrooms of U.S. dental hygiene programs. *Journal of Dental Education*, 79(9), 1066-1073.
- Smith, T. (2013). Digital renegades in America: Changing metaphors to realize the potential of technology in education. *Critical Questions in Education*, 4(1), 30-41.
- Soria, K. M. & Stebleton, M. (2013). Major decisions: Motivations for selecting a major, satisfaction, and belonging. *NACADA Journal*, 33(2), 29-43. doi: 10.12930/NACADA-13-018
- Spellings, C. R. Barber, B. K., & Olsen, J. A. (2012). Political activism of Palestinian youth: Exploring individual, parental, and ecological factors. *Journal of Marriage and Family*, 74(5), 1084-1100. doi: 10.1111/j.1741-3737.2012.01002.x/abstract
- Stroope, S., Draper, S., & Whitehead, A. L. (2013). Images of a loving God and sense of meaning in life. *Social Indicators Research*, 111(1), 25-44. doi: 10.1007/s11205-011-9982-7
- Sultan, S. & Hagger, M. (2013). Psychological and socio-demographic correlates of academic performance distinguishing completers and non-completers in distance education. *Journal on Educational Psychology*, 7(2), 23-29.
- Sutantoputr, N. W. & Watt, H. M. G. (2013). Attribution and motivation: Gender, ethnicity, and religion differences among Indonesian university students. *International Journal of*

- Higher Education*, 2(1), 12-21. doi:10.5430/ijhe.v2n1p12
- Terosky, A. L. & Heasley, C. (2015). Supporting online faculty through a sense of community and collegiality. *Online Learning*, 19(3), 147-161.
- Thomas, K. & O'Bannon, B. (2013). Cell phones in the classroom: Preservice teachers' perceptions. *Journal of Digital Learning in Teacher Education*, 30(1), 11-20. doi: 10.1080/21532974.2013.10784721
- Thorson, J. A. & Powell, F. C. (1990). Meanings of death and intrinsic religiosity. *Journal of Clinical Psychology*, 46, 379-389.
- Toker Gokce, A. (2016). The effect of teachers' spirituality and ethical ideology on their preference of reporting wrongdoings at schools. *International Education Studies*, 9(5), 85-95. doi: 10.5539/ies.v9n5p85
- Toom, A. (2015). Students-enthusiasts in online classes: Their contribution to the educational process. *IAFOR Journal of Education*, 3(2), 126-140.
- Trespalacios, J. & Perkins, R. (2016). Sense of community, perceived learning, and achievement relationships in an online graduate course. *Turkish Online Journal of Distance Education*, 17(3), 31-49.
- Tucker, J. P., YoungGonzaga, S., & Krause, J. (2014). A proposed model for authenticating knowledge transfer in online discussion forums. *International Journal of Higher Education*, 3(2), 106-119.
- VanPatten, B., Trego, D., & Hopkins, W. P. (2015). In-class vs. online testing in university-level language courses: A research report. *Foreign Language Annals*, 48(4), 659-688. doi: 10.1111/flan.12160
- Waldis, C., Conway, K., & Hachey, A. C. (2016). Assessing readiness for online education –

- Research models for identifying students at risk. *Online Learning*, 20(3), 97-109.
- Wang, S., Hsu, H., & Campbell, T. (2014). An investigation of middle school science teachers and students use of technology inside and outside of classrooms: Considering whether digital natives are more technology savvy than their teachers. *Educational Technolgy Research and Development*, 62(6), 637-662. doi: 10.1007/s11423-014-9355-4
- Warner, R. M. (2013). *Applied statistics: From bivariate through multivariate techniques* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Wendt, J. L. & Rockinson-Szapkiw, A. J. (2015). The effect of online collaboration on adolescent sense of community in eighth-grade physical science. *Journal of Science Education and Technology*, 24(5), 671-683. doi: 10.1007/s10956-015-9556-6
- Wighting, M. J. & Liu, J. (2009). Relationships between sense of school community and sense of religious commitment among Christian high school students. *Journal of Research on Christian Education*, 18(1), 56-68. doi: 10.1080/10656210902751834
- Wighting, M. J., Liu, J., & Rovai, A. P. (2008). Distinguishing sense of community and motivation characteristics between online and traditional college students. *Quarterly Review of Distance Education*, 9(3), 285-295.
- Worthen, M. G. F. (2014). Blaming the jocks and the Greeks?: Exploring collegiate athletes' and fraternity/sorority members' attitudes toward LGBT individuals. *Journal of College Student Development*, 55(2), 168-195. doi: 10.1353/csd.2014.0020
- Yapici, I. Ü. (2016). Effectiveness of blended cooperative learning environment in Biology teaching: Classroom community sense, academic achievement and satisfaction. *Journal of Education and Training Studies*, 4(4), 269-280. doi: 10.11114/jets.v4i4.1372
- Yuan, J. & Kim, C. (2014). Guidelines for facilitating the development of learning communities

in online courses. *Journal of Computer Assisted Learning*, 30(3), 220-232. doi:
10.1111/jcal.12042

Yukselturk, E., Ozekes, S. & Turel, Y. K. (2014). Predicting dropout student: An application of data mining methods in an online education program. *European Journal of Open, Distance and E-Learning*, 17(1), 118-133.

Zubairu, U. M. & Sakariyau, O. B. (2016). The relationship between religiosity and academic performance amongst accounting students. *International Journal of Evaluation and Research in Education*, 5(2), 165-173.

APPENDIX A

PERMISSION TO USE CLASSROOM COMMUNITY SCALE

Permission to use the Classroom Community Scale can be found in the 2002 journal article entitled *Development of an instrument to measure classroom community* by A. P. Rovai. The portion of the article which provides permission to use the survey has been provided below in appendix A.

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Appendix A and consists of 10 items related to feelings of connectedness and 10 items related to feelings regarding the use of interaction within the community to construct understanding and the extent to which learning goals are being satisfied within the classroom setting. **Researchers may use this instrument for studies they conduct provided they give proper attribution by citing this article.**

For items 1, 2, 3, 6, 7, 11, 13, 15, 16, and 19, the following scoring scale was used: *strongly agree* = 4, *agree* = 3, *neutral* = 2, *disagree* = 1, *strongly disagree* = 0; for items 4, 5, 8, 9, 10, 12, 14, 17, 18, and 20: *strongly agree* = 0, *agree* = 1, *neutral* = 2, *disagree* = 3, *strongly disagree* = 4. To obtain the overall Classroom Community Scale score, one must add the weights of all 20 items. Total raw scores range from a maximum of 40 to a minimum of 0. Subscale raw scores range from a maximum of 20 to a minimum of 0. To calculate the connectedness subscale score, the scores of odd Classroom Community Scale items, i.e., 1, 3, 5, 7, 9, 11, 13, 15, 17, and 19, are added together. Similarly, to calculate the learning subscale score, the scores of the remaining even Classroom Community Scale items are added together.

APPENDIX B

PERMISSION TO USE SPIRITUAL WELL-BEING SCALE


A copy of the email granting permission to use the Spiritual Well-Being Scale has been provided below in Appendix B.

SWBS Re: Contact Form: Format

Ray Paloutzian <paloutz@westmont.edu>

Fri 12/1/2017 3:45 AM

To: Furey, Stephanie <sfurey@liberty.edu>;

 1 attachments (534 KB)

z.Oxford Txtbk Chap SWBS.pdf;

Stephanie, the following email all the information you need. May your dissertation research go totally glitch-free!

I get many inquiries about the SWBS. Thus, below I copy and paste a long email that I send in response to the many requests I get about the SWBS. You may know some of it already, but it may have a few bits of info that might help you. Here it is, for your information and use.

Permission is granted to use the SWBS subject to purchase of the number of copies (i.e., authorization to make the number of copies from a PDF file that you download) that you will use. See the website www.lifeadvance.com. It has information about the scale and the instructions to follow to obtain the Specimen Set that includes one examination copy of the scale, the manual for the SWBS that includes scoring instructions, norms, interpretive information, and a research bibliography that is about 20 pages long. (For student research, a student is authorized to use the student discount procedure, which will give a 50% discount on all items.) When you go to the products page of the website, select the icon that indicates the number of copies of the scale that you are purchasing authorization to make from the PDF download that you retrieve after processing your order. You will see on the Products Page that the cost per copy goes down as the N goes up, in steps of 50. After you select the icon that corresponds to your number of copies, you will go to the shopping cart page. Change the number to the correct number for your purchase and then punch the "update shopping cart button." Then follow the procedures, collect the PDF file download as indicated on the web page (or on the email that is also sent to you), and you are thereby authorized to make and use the number of copies that you purchased authorization to make.

APPENDIX C

IRB APPROVAL

The Liberty University Institutional
Review Board has approved
this document for use from
4/30/2018 to --
Protocol # 3230.043018

CONSENT FORM

INVESTIGATING THE RELATIONSHIP BETWEEN UNDERGRADUATE STUDENTS' RELIGIOSITY AND THEIR SENSE OF COMMUNITY IN ONLINE COURSES

Stephanie Furey
Liberty University
School of Education

You are invited to be in a research study on religion and sense of community in online courses. This study is surveying online students to see how their level of religion is related to their sense of community in their online class. You were selected as a possible participant because you are at least 18 years old and you are currently taking an online, undergraduate class through the Liberty University School of Education. Please read this form and ask any questions you may have before agreeing to be in the study.

Mrs. Stephanie Furey, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information: The purpose of this study is to investigate whether or not a relationship exists between online, undergraduate students' religiosity and their sense of community.

Procedures: If you agree to be in this study, I would ask you to do the following things:

1. Click on the link at the bottom of this page, and proceed to take the 40-question survey consisting of the Classroom Community Scale and the Spiritual Well Being Scale. The survey should take approximately 15-40 minutes.

Risks: The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life. The only risk associated with this study is a potential breach in confidentiality if the personal information were to be stolen.

Benefits: Participants should not expect to receive a direct benefit from taking part in this study.

Potential benefits to society include the addition of further knowledge on the relationship between religion and sense of community in online classes.

Compensation: Participants will be compensated for participating in this study. Participants will have a chance to win one of 12 raffle prizes: one of two first-place prizes of \$25 Amazon gift cards and one of 10 second-place prizes of \$10 Amazon gift cards. Eligibility for the prize drawings will close once 80 participants have taken the survey.

Confidentiality: The records of this study will be kept private. In any sort of report the researcher might publish, the researcher will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records.

The Liberty University Institutional
Review Board has approved
this document for use from
4/30/2018 to --
Protocol # 3230.043018

- Survey responses will be anonymous. Participants' email addresses will be collected separately and used to contact participants in the event that they win the raffle prizes.
- Data will be stored on a password locked computer, and may be used for future presentations. After three years, all electronic records will be deleted.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate 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 Stephanie Furey. You may ask any questions you have now. If you have questions later, you are encouraged to contact her at sfurey@liberty.edu. You may also contact the researcher's faculty advisor, Dr. Michelle Barthlow, at mjbarthlow@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 Ste. 1887, Lynchburg, VA 24515 or email at irb@liberty.edu.

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

Statement of Consent: I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

APPENDIX D

RECRUITMENT LETTER TO PROFESSORS

Dear Professor,

As a doctoral candidate in the School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The purpose of my research is to study the relationship between religiosity and sense of community in online, undergraduate level classes, and I am writing to request your assistance in conducting my research.

If you are willing, you will be asked to post a recruitment letter on the announcements section of your online class. The recruitment letter will contain a link that has a brief description of the study, a consent document, and the actual survey questions for the students to take. It should take approximately 15-40 minutes for your students to take the survey. Survey responses will be anonymous. Participant's email address will be collected separately and used to contact participants in the event that they win the raffle prizes.

To participate, students will go to the announcement section of your online class and click on the link provided. The link will take them to [Qualtrics](#), but before they can begin the survey, they must read the consent document.

The consent document is provided as the first page they will see after they click on the link. The consent document contains additional information about my research. After reading the consent document, participants will then click on the survey link at the end of the consent information to indicate that they have read the consent information and would like to take part in the survey.

As an incentive for taking part in the study, 12 participants will be randomly drawn to receive one of the following prizes: one of two first place prizes of \$25 Amazon gift cards or one of 10 second place prizes of \$10 Amazon gift cards. Eligibility for the prize drawings will close once 80 participants have taken the survey.

Thank you in advance for taking the time to read this letter. If you have any questions about the surveys or the purpose of my research, please do not hesitate to contact me at sfurey@liberty.edu

Sincerely,

Stephanie Furey
Liberty University, Doctoral Candidate

APPENDIX E

RECRUITMENT LETTER TO PARTICIPANTS

Dear Undergraduate Online Student,

As a doctoral candidate in the School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The purpose of my research is to study the relationship between religiosity and sense of community in online, undergraduate level classes, and I am writing to invite you to participate in my study.

If you are an undergraduate student taking online classes through Liberty University's School of Education, are 18 years of age or older, and are willing to participate, you will be asked to take the survey posted on the announcements section of your online class. It should take approximately 15-40 minutes for you to take the survey, which consists of the Classroom Community Scale and Spiritual Well Being Scale. Your participation will be completely anonymous, and no personal, identifying information will be collected.

To participate, click on the link provided here:

https://liberty.col.qualtrics.com/jfe/form/SV_6rlEWn25mCu3bTv. The link will take you to Qualtrics, but before you begin the survey, you must read the consent document.

The consent document is provided as the first page you will see after you click on the link. The consent document contains additional information about my research. Please click on the survey link 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.

As an incentive for taking part in the study, 12 participants will be randomly drawn to receive one of the following prizes: one of two first-place prizes of \$25 Amazon gift cards or one of 10 second-place prizes of \$10 Amazon gift cards. Eligibility for the prize drawings will close once 80 participants have taken the survey. In order for the survey data to remain anonymous, all participants will be redirected at the end of the survey to submit their email addresses separately from the rest of the data. This will ensure that no participant's data can be matched with his or her email address.

Thank you in advance for taking the time to participate in my study. If you have any questions about the surveys or the purpose of my research, please do not hesitate to contact me at sfurey@liberty.edu

Sincerely,

Stephanie Furey
Liberty University, Doctoral Candidate

APPENDIX F**CONSENT FORM****CONSENT FORM****INVESTIGATING THE RELATIONSHIP BETWEEN STUDENTS' RELIGIOSITY AND THEIR SENSE OF COMMUNITY IN ONLINE COURSES**

Stephanie Furey
Liberty University
School of Education

You are invited to be in a research study on religion and sense of community in online courses. This study is surveying online students to see how their level of religion is related to their sense of community in their online class. You were selected as a possible participant because you are at least 18 years old, and you are currently taking an online class. Please read this form and ask any questions you may have before agreeing to be in the study.

Mrs. Stephanie Furey, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information: The purpose of this study is to investigate whether or not a relationship exists between online, undergraduate students' religiosity and their sense of community.

Procedures: If you agree to be in this study, I would ask you to do the following things:

1. Click on the link at the bottom of this page, and proceed to take the 40-question survey after clicking on the link. The survey should take approximately 15-40 minutes.

Risks: The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life. The only risk associated with this study is a potential breach in confidentiality if the personal information were to be stolen.

Benefits:

No Direct Benefits: Participants should not expect to receive a direct benefit from taking part in this study.

Benefits to society include the addition of further knowledge on the relationship between religion and sense of community in online classes.

Compensation: Participants will be compensated for participating in this study. The compensation that participants should expect to receive from taking part in this study are a chance to win one of 12 raffle prizes. Twelve participants will be randomly drawn to receive one of the following prizes: two first place prizes of \$25 Amazon gift cards, and 10 second place prizes of \$10 Amazon gift cards. Eligibility for the prize drawings will close once 80 participants have taken the survey.

Confidentiality: The records of this study will be kept private. In any sort of report the researcher might publish, the researcher will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records. In order to keep participant information confidential, the researcher will assign each participant a random number. Each participant's number will be stored with their email address in a separate folder from his or her data. Participant's email address will be used to contact that participant in the event that they win the raffle prizes. Data will be stored on a password locked computer, and may be used for future presentations. After three years, all electronic records will be deleted.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate 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 without affecting those relationships.

How to Withdraw from the Study:

If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you, will be destroyed immediately and will not be included in this study.

Contacts and Questions: The researcher conducting this study is Stephanie Furey You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at sfurey@liberty.edu You may also contact the researcher's faculty advisor, Dr. Michelle Barthlow, at mjbarthlow@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 Ste. 1887, Lynchburg, VA 24515 or email at irb@liberty.edu.

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

Statement of Consent: I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

Signature of Participant

Date

Signature of Investigator

Date