SPIRITUAL INVOLVEMENT: HOW IT RELATES TO

GOAL COMPLEXES AND PERCEPTION OF

CLASSROOM AUTONOMY IN COLLEGE STUDENTS

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Abstract: This study aims to assess the relationship between spiritual involvement, goal complexes, student perception of classroom autonomy, academic achievement. This was done through survey research on a Large Public Midwestern University. Many college students enter the classroom with some form of spiritual identity and that spirituality has become a less common topic over the years, even though, it is not clear how student's spirituality interacts with the academic environment. We have good information related to the relationship between goal complexes, classroom autonomy, and academic achievement. However, the picture is not clear regarding these variables and the relationship they have with spirituality. The goal of this research is to address this gap in order to provide those working within the academic environment a better understanding of how spirituality interacts with the academic environment and to point towards spirituality's importance within students' academic careers. These variables are addressed utilizing hierarchical regression and correlational analysis, which begin to shed light onto the role of spirituality within college academics. My findings point towards spirituality being a positive factor within the academic environment, especially as it relates to the variables studied here.

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CHAPTER I

INTRODUCTION

Spirituality is an important aspect of life for many people in the United States of America. Even though the backgrounds of people living within the United States vary greatly, these spiritual beliefs can still play a role in many areas of a person's life (Buser & Buser, 2014; Donaldson et al., 2018; Natis, 2016). Spirituality can exist outside the structure and history of a particular religion: "we are not referring here to 'holistic spirituality,' that is, a particular type of practice of spirituality, but the idea that spiritual experience is multidimensional and may encompass all aspects of human existence" (Merwe & Habron, 2015). Spirituality is in contrast with religion which is described as a "social institution in which a group of people participate rather than an individual search for meaning" (Dyson et al., 1997). In the present study, I will focus on the broader meaning of spirituality, as opposed to using the narrower scope of religion, especially as it relates to the college classroom and college students' use of spiritual beliefs academically.

A student's spirituality is often neglected at public institutions of higher education, even though spiritual beliefs have been within the fabric of the culture of the United States before and since its founding in 1776. As of 2014, 76.7% (down from 83.1% in 2007) of the population within the United States of America reported having some level and type of spiritual belief (Pew Research, *Religious Landscape Study,* 2014).

Even with a high percentage of the population reporting to holding a spiritual belief there have been attempts to keep spiritual beliefs separate from other aspects of the culture, such as government and education. One example of this is the court case, *Engel v. Vitale*, 370 U.S. 421 (1962), which overturned a state decision to allow schools to hold a short, nondenominational prayer at the beginning of each school day. Two other similar cases were *Abington School District v. Schempp*, 374 U.S. 203 (1963) and *Wallace v. Jaffree*, 472 U.S. 38 (1985). *Abington School District v. Schempp* (1963), overturned a state decision to require students to read bible verses and recite the lord's prayers at the beginning of the school day. *Wallace v. Jaffree* (1985) overturned a state decision to authorize a moment of silence to start the school day, which encouraged students to meditate or participate in voluntary prayer.

Now, in all these cases it was argued, especially in the case of *Abington School District v. Schempp* (1963), that these policies were not inclusive of all students and that they violated the Establishment Clause of the First Amendment. Many of these cases were aimed at laws which did not include all beliefs, while promoting a single, widely held belief or practice. It is important to note these cases didn't prohibit religion being taught, and often times spiritual beliefs were encouraged to be taught when presented objectively (Prothro, 2008). Regarding the ruling of *Abington School District v. Schempp* (1963) Justice Thomas Clark wrote, "It might well be said that one's education is not complete without a study of comparative religion or the history of religion and its relationship to the advancement of civilization."

The goal of these rulings was not to eliminate religion from schools. However, these rulings have caused hesitancy by schools and educators to discuss spirituality in

order to avoid violating these rulings or the Establishment Clause within the classroom (Nord, 2010; Prothero, 2008). With this study I will focus on the role spiritual beliefs play within the academic environment, especially as these beliefs relate to motivation, perception of classroom autonomy, and academic achievement. However, before discussing these relationships I will examine the spiritual background of the people within the United States.

Within the United States the majority of people who consider themselves spiritual still associate primarily with beliefs considered to be of Christian (70.65%) background (e.g., Protestant, Catholic, Mormon, Jehovah's Witness, etc.) (Pew Research, *Religious Landscape Study,* 2014). This group of beliefs has seen the largest decline over the past decade in comparison with those who consider themselves to be of Non-Christian (5.9%) beliefs (e.g., Jewish, Muslim, Buddhist, Hindu, etc.) and Unaffiliated (22.8%) beliefs (Atheist, Agnostic, & Nothing particular) (Pew Research, *Religious Landscape Study,* 2014). We also see people are more likely to report being "spiritual but not religious" (27%) than they are to report to being "religious but not spiritual" (6%) (Pew Research, *Religious Landscape Study*, 2014). It is with this information I will explore the relationship spiritual beliefs have with motivation, perception of classroom autonomy, and academic achievement within the college classroom.

With these various court rulings and other cultural events over the last few hundred years there has been a noticeable shift within the educational system of the United States. Many universities within the United States started out with a Potestant focus, but have gradually shifted towards nonsectarian common schools, (Nord, 2010). The shift academically went from teaching of the classics and standardized curriculum to

a liberal focus, which allowed for autonomy for disciplines, academic freedom to scholars, electives for students, and moving religious activities or organizations to the peripheries (Nord, 2010). Most schools offer religious courses or have a religious department. These courses and departments are focused on teaching the history of various religious beliefs (Nord, 2010; Prothero, 2008).

The vast majority of universities do not require a single spiritual course for graduation (Prothero, 2008). Prothro argues that college graduates should be able to know basic information about various religious beliefs and to know the differences between some of the world's major religious beliefs. The university this study will be based on has religious studies department, which focuses on broad topics of religion and does not contain any required courses for students to take. These are elective courses and require students to seek them out, with many students being able to miss any type of spiritual learnings entirely. Even more common at universities is the movement to off-campus spiritual based organizations. There are spiritual based organizations available for students to be a part of no matter what their beliefs are, but these must be sought out by the individual and are not actively encouraged by the university as a whole. Even though I am an arguing for spiritual beliefs to be included within the broader academic curriculum of universities, it is important to note spiritual beliefs do not require equal time within any course or in the general curriculum. However, spiritual beliefs should be given adequate time and various points of view should be included fairly in discussion (Nord, 2010; Prothero, 2008).

The exclusion of spiritual topics or curriculum could have a negative impact on student motivation and achievement within the college classroom. The incorporation of

spiritual beliefs into the academic environment may lead to improved academic

outcomes, motivation, and academic self-efficacy (Holland, 2016; Yadav, et al., 2017).

However, these positive correlations between academic outcomes, motivation, and self-

efficacy are not consistent throughout research (Henning et al., 2015; Schubmehl et al.,

2009). According to Pew Research, *Religious Landscape Study* (2014) many students

within a college academic environment will report to holding some form of spiritual

belief, therefore, seeing the impact spiritual beliefs can have on academic outcomes and

behaviors could point to the importance of incorporating spiritual beliefs into the

academic environment.

This study will attempt to address the gap in current literature by examining the

relationship between students' spiritual beliefs and academic achievement, motivational

goals, and perception of classroom autonomy. A second aim of the study will be to

determine if there are differences in expressed spiritual beliefs in academic achievement

and perception of teacher support.

Spirituality

Spirituality is a common experience for many college students, with a majority of

people within the United States reporting to holding some form of spiritual belief (Pew

Research, *Religious Landscape Study,* 2014). Spirituality is defined as:

> The feelings, thoughts, experiences, and behaviors that arise from a search for the
>
> sacred. The term 'search' refers to attempts to identify, articulate, maintain, or
>
> transform. The term 'sacred' refers to a divine being, or Ultimate Reality or
>
> Ultimate Truth as perceived by the individual (Sawatzky et al., 2005, pg. 7).

With this definition in mind, this study will focus on the importance these beliefs play in the academic lives of college students. Whether it be studying methods used by students (Maria et al., 2018), motivation (Holland, 2016), or grade point average (Schumbmehl et al., 2009), studying how spirituality interact with these academic measures has guided my dissertation.

Even though this definition provides more clarity of how spirituality will be defined, it still leaves the concept fairly abstract and difficult to conceptualize. With that in mind, I will focus on spirituality along two key dimensions: importance and involvement (Paine & Sandage, 2016). The importance dimension is focused on how much emphasis a person places on their beliefs in non-spiritual activities (Paine & Sandage, 2016), whereas involvement is focused on a person's direct engagement with spiritual activities (Paine & Sandage, 2016). Differentiating between involvement and importance of a person's beliefs will aid in studying this variable in a concrete manner (Dong et al., 2018; Paine & Sandage, 2016; Schubmehl et al., 2009).

Motivation

Motivation will be looked at through the lens of self-determination theory. This theory primarily focuses on psychological needs which can either help or impede people from succeeding (Deci & Ryan, 2017). Even further, these motivational beliefs will be examined through the structure of goal complexes, which combines the achievement goals adopted and the reasons behind these achievement goals (Elliot & Thrash, 2001; Hodis et al., 2016; Senko & Tropiano, 2016; Sommet & Elliot, 2017; Vansteenkiste et al., 2010; Vansteenkiste et al., 2014). Utilizing goal complexes to examine motivational

beliefs in relation to the other variables of this study will provide a more comprehensive result.

Student Perception of Classroom Autonomy

Student perception of classroom autonomy is something which has a positive impact on student academic success (Asiyai, 2017; Khine, et al., 2017). Even though these perceptions often lead to positive impacts on student's success, students' perceptions of autonomy tend to become more negative as students transition throughout the school system (Bru, et al, 2010). Students begin to perceive teacher support as something less available as they move through the school system, which has coincided with lower levels of academic achievement (Bru et al., 2010). Including student perception of teacher support is important since it is an essential factor in student academic success, social success, and positive motivational orientation (Hamre & Pianta, 2001). The perception of autonomy college students report from their teachers can directly impact their success academically and the behaviors they exhibit in order to reach their academic goals. Examining student perception of classroom autonomy will not only provide insight into how they view the classroom environment, but also how these perceptions can impact other factors to be studied. These perceptions can have an impact on students' cognitive strategies, but it can also influence the achievement goal orientation they adopt with a particular course (Lyke & Young, 2006).

Statement of the Problem and Purpose of the Study

Even though college students who report being spiritual may be a slowly declining population, they still represent a majority of the student population. Even with this large population of students reporting to being spiritual within the educational

system, these beliefs and their impact on students' academics is often times not discussed. This population of students is important to examine due to their varied beliefs, which will be incorporated into their academic environments to varying degrees. Having a better understanding of how student spirituality can impact their motivation, achievement goals and perception of classroom autonomy can help give educators a better target to aim for in terms of how and when spirituality should be incorporated into the academic environment at the university level. Thus, this study will investigate college student's spirituality in relation to academic achievement, perception of classroom autonomy, and motivational beliefs.

Significance of the Study

The practical implications of this study possibly include identifying the relationships between the variables studied, which would provide educators with a better understanding of how students are using their spirituality in the academic environment. This study will also investigate how the perception of classroom autonomy interacts with student's spirituality in their academic endeavors. Additionally, this study will contribute to a gap in literature in terms of our understanding of the relationships between spirituality, perception of classroom autonomy, and motivational beliefs. Also, if it is determined spirituality plays a role in motivational beliefs, student perception of classroom autonomy, and academic achievement, then it will provide evidence for teachers and university staff to utilize spirituality within the classroom when reasonable. Lastly, if spirituality is shown to be a significant factor in academic achievement and achievement goals, it provides those in higher education another tool to use in an attempt to increase motivation and academic achievement within college student communities.

Research Questions

RQ1. Is there a relationship between spirituality (involvement and importance) and student perception of classroom autonomy?

RQ2. Are perceptions of classroom autonomy related to choices aligned with one's spirituality?

RQ3. How are goal complexes related or influenced by student perception of classroom autonomy?

RQ4. Is there a relationship between spirituality (involvement and importance) and goal complexes?

RQ5. How are goal complexes, spirituality, and academic achievement (GPA) influenced by each other?

Definition of Terms

Spirituality "The feelings, thoughts, experiences, and behaviors that arise from a search for the sacred. The term 'search' refers to attempts to identify, articulate, maintain, or transform. The term 'sacred' refers to a divine being, or Ultimate Reality or Ultimate Truth as perceived by the individual" (Sawatzky et al., 2005, p. 7)

Perception of Classroom Autonomy Is defined along two styles of teaching: Controlling and Autonomy Supportive:

> **Autonomy Supportive** is defined as, "an individual in a position of authority takes the other's perspective, acknowledges the others' feelings, and provides the other with pertinent information and opportunities for choice" (Black & Deci, 2000, p. 73).

> **Controlling style** is defined as someone in authority who "pressures others to behave in particular ways, either through coercive or seductive techniques that generally include implicit or explicit rewards or punishments" (Black & Deci, 2000, p. 73)

Motivational Goals Will be defined in terms of goal complexes. These beliefs will be measured using both the achievement goal adopted and the underlying reasons of these achievement goals (Hodis et al., 2016; Senko & Tropiano, 2016; Sommet & Elloit, 2017; Sommet et al., 2018; Vansteenkiste et al., 2010; Vansteenkiste et al., 2014).

Academic Achievement Defined as student reported estimate of current college grade point average (GPA) (if freshman, high school GPA could be reported).

Overview

In Chapter Two, a theoretical framework and review of the relevant literature concentrating on five distinctive areas of research: self-determination theory, perception of classroom autonomy, motivational beliefs, and spirituality. Also, I will examine the relationship among these variables, and provide a rationale for my research questions and hypotheses. With Chapter Three, I describe the methods used to explore my research questions with a description of the sample of the study, the specific measures used, and the procedures adhered to for data collection and analysis process. Chapter Four presents the results of my analysis described in Chapter Three. Chapter Five gives a summary of the findings, implications, limitations, and future directions for research.

CHAPTER II

LITERATURE REVIEW

Spirituality achievement goals, and classroom autonomy are important factors to consider when exploring what leads to college students attaining higher levels of academic achievement than their peers. Achievement goals and classroom autonomy have received significant attention in the literature over recent year (Akar et al., 2018; Elliot & Thrash, 2001; Pintrich, 2000; Ramos et al., 2018; Senko & Tropiano, 2016; Vansteenkiste et al., 2010). Even with the significant attention paid to these variables, there are still gaps and inconsistencies regarding the relationships achievement goals and classroom autonomy have with various variables, especially spirituality and the academic environment. I worked to address these gaps and inconsistencies by examining the role spirituality plays in achievement goals, academic achievement, and student perceptions of classroom autonomy. Implications of this work have theoretical and practical significance for researchers and educators due to the majority of college students who report to having a spiritual belief in which they use in some aspect throughout their lives (Pew Research, 2014; Zera, 1989). Pew Research (2014) found that approximately 75% of the population reports to having some form of spirituality within the United States of America. Gaining a better understanding of relationship between spirituality and the academic environment will provide educators and researchers a more holistic view of student motivation within the academic environment of the university

In this chapter, I present a theoretical perspective which helps lay the foundation for the variables and their relationships. I used self-determination theory to frame my study around three main variables: spirituality, goal complexes, and perception of classroom autonomy. I first present a background of self-determination theory and then present each of the variables separately in order to provide background of these three variables from previous research. After this I work on making connections between the variables utilizing previous research to provide a rational for my research questions and hypothesis.

Self-Determination Theory

Self-determination theory focuses on humans as developing beings with physical, social, and cognitive needs, which make self-determination theory a sound fit for my present study. I will use the major tenets of this theory to help frame the various aspects of my current study. Self-determination theory posits that people are physically active, curious, and social (Ryan & Deci, 2016). According to Ryan and Deci (2016) self-determination theory aims to examine the attributes, experiences, behaviors, and perceptions that inform an individual's self-organization. This theory provides an explanation for how people organize these actions, behaviors, and beliefs into a healthy and successful self. Self-determination theory is driven by three basic psychological needs - autonomy, competence, and relatedness - which serve as the backbone of this theory. These vertebrae will be used to frame questions, purposes, and discussion throughout my current study.

Autonomy is defined as the "need to self-regulate one's experiences and actions" (Ryan & Deci, 2016 p. 10). Autonomy is characterized by an individual doing things that

are authentic to their interests and/or values. However, within the academic environment activities can be regulated and leave little room for autonomy. This limited autonomy within the academic environment can lead to lower levels of achievement and development (Ryzin et al., 2007). Autonomy has been linked with improved levels of intrinsic motivation and engagement in various activities (Deci & Ryan, 2002; Ho, 2016; Ryzin et al., 2007). Autonomy will be examined via student perceptions of classroom autonomy in this study.

The next basic need presented through self-determination theory is competence. This is defined as a person feeling efficacious and having the ability to master the skills at hand (Ryan & Deci, 2016). Through self-determination theory competence is viewed as a basic need, and not just a belief or feeling. This need for competence will drive individuals to pursue certain activities in order to fulfill this need. I will use goal complexes to examine students' need for competence. Goal complexes have been connected to various academic outcomes but are also tied to various academic behaviors. These behaviors will drive students to display or not display their competence differently depending on which goal they most often adopt. Whether students pursue mastery or performance goals, they will be displaying their competence to their peers, family, or instructors. Though using goal complexes, more specifically, achievement goals, is not measuring competence directly, it is measuring how or why they pursue certain academic goals and the behaviors which they utilize to appear competent or not in academic endeavors.

The third and final basic need is relatedness. Relatedness is defined by the social connectivity a person feels (Baumeister & Leary, 1995; Ryan, 1995). This basic need can

include feelings of belonging, significance, and being cared for by others (Ryan & Deci, 2016). The need for relatedness will be examined through several different measures. It will be researched through student's engagement and importance with their particular spiritual beliefs held. Spirituality will be the main avenue I will examine college student connectedness by assessing their reported engagement with and importance of these spiritual beliefs in their daily lives to gain a better understanding of how their beliefs impact academic achievement.

Although Self Determination Theory (SDT) is much broader than what is discussed here, the three basic needs discussed above provide a solid framework to begin examining and discussing how spiritual involvement, achievement goals, and perception of classroom autonomy relate to each other and their impact on academic achievement in college students.

Student Perception of Classroom Autonomy

The classroom is one area of importance for college students. They will spend time in the classroom environment, whether it be face-to-face, online or hybrid, interacting with peers and instructors across multiple subjects. Within the classroom environment students will experience varying levels of control within the same class and across courses. These varying levels of control can lead students to develop multiple approaches to the course work within these unique environments. With this study I will focus on the classroom environment from the view of the students, not the instructor. Students' perception of classroom autonomy is important as Lyke and Young (2006) state, "students' perceptions of the classroom environment may therefore have significant effects on their cognitive strategies and may also influence their goal orientations" (p.

480). These perceptions are an important variable to consider, because they can influence the goal orientations a student adopts within a particular classroom environment.

The perceptions students have of their classroom environment in this study will focus on two types: the controlling environment and the autonomy supportive environment. The controlling environment is defined by teachers putting pressure onto students to feel, think, behave, or adopt teachers' perspectives, reliance on external sources of motivation, and assertion of power by the teachers (Amoura et al., 2015; De Meyer et al., 2014; Kaur et al., 2014; Lyke & Young, 2006; Reeve, 2009). The perception of an autonomy supportive environment can lead to positive academic outcomes. The autonomy-supportive perception is more likely to be correlated with mastery orientated goals, higher levels of belongingness, and a higher likelihood of sharing personal information, beliefs, and feelings (Kaur et al., 2014; Lyke & Young, 2006; Mulready-Shick & Parker, 2013; Reeve, 2009). The autonomy-supportive environment is described by teachers as providing students the opportunity to develop, nurture, and identify internal motivational resources, as well as, adopting students' perspectives, support for autonomous behaviors, patience, and acknowledgement of complaints or negative effects (Amoura et al., 2015; Kaur et al., 2014; Lyke & Young, 2006; Meyer et al., 2014; Reeve, 2009).

In comparison, the perception of a controlling style does not consistently lead to significantly different academic outcomes in comparison with an autonomy supportive perception; it is consistently correlated more often with performance-orientated goals, lower feelings of belongingness, and a lower likelihood of sharing of personal beliefs, thoughts, and feelings (Kaur et al., 2014; Lyke & Young, 2006; Mulready-Shick &

Parker, 2013; Reeve, 2009). These two teaching styles (controlling and autonomy supportive) are distinctive styles a student can perceive within a classroom, and these styles can lead to various student behaviors within the classroom environment. Gaining an understanding of how students are perceiving their academic environment will provide depth to this study and will help provide insight into the goal complexes students may adopt and how their spiritual beliefs are utilized within the academic environment.

Achievement Goals

Achievement goals are a key component of the study of motivation and academic success. This concept is typically broken down into two different constructs: mastery goals and performance goals. Mastery goals "emphasize developing competence and skills" (Senko & Tropiano, 2016, p. 1178), whereas performance goals "emphasize demonstrating competence by outperforming others" (Senko & Tropiano, 2016, p. 1178). Students who adopt mastery goals tend to utilize more malleable approaches and allow for mistakes to be an aspect of the learning process (Elliot & Thrash, 2001; Pintrich, 2000; Senko & Tropiano, 2016; Vansteenkiste et al., 2010). Students who adopt performance goals tend to take on the opposite mind-set; instead of allowing for mistakes and malleability, students will take a fixed approach where mistakes point towards incompetence (Elliot & Thrash, 2001; Pintrich, 2000; Senko & Tropiano, 2016; Vansteenkiste et al., 2010). Achievement goals (performance and mastery) are tied neatly to Self-Determination Theory, especially as it relates to competency. Mastery approach and performance approach goals are aimed at individuals expressing or not expressing their need for competence in a particular set of ways depending on the achievement goal they adopt. The stark differences between the two goals does not end with the definition,

it continues with the outcomes and practices these two goals lead to in the findings of research. Based on these findings, most researchers will promote adoption of a mastery approach over a performance approach (Dweck, 1986; Grant & Dweck, 2003; Hulleman et al., 2010; Senko & Tropiano, 2016; Vansteenkiste et al., 2010; Vansteenkiste et al., 2014). Senko and Tropiano (2016) sum up the differences between mastery and performance well:

> These goals should therefore elicit public self-consciousness, which, during challenges that threaten to unmask one's inability, will arouse anxiety and cultivate strategies and behaviors that are inimical to learning, such as avoiding help or self-handicapping. For these reasons, this model tout's mastery goals over performance goals, with the latter considered riskier and less adaptive on the whole. (p. 1179)

Senko and Tropiano (2016) point towards some maladaptive behaviors, such as avoiding help and self-handicapping, as reasons for performance goals being seen more negatively and having more risk being associated with them. However, the findings regarding performance and mastery goals are not always consistent. Some studies point towards mastery goals being more adaptive and leading to more favorable outcomes academically (Ames & Archer, 1988; Dewar et al., 2013; Graham & Golan, 1991; Ranellucci et al., 2015). These studies will sometimes point towards students trying harder for longer periods and taking on more challenging tasks.

These findings seem to make most sense on the surface, however they are not found consistently throughout research. Some studies have found performance goals to lead to more positive outcomes than mastery approach goals (Elliot et al., 2005; Senko &

Harackiewicz, 2005). These studies found that performance goals were more optimal regarding success, which is the opposite of what many studies have found regarding performance and mastery goals. Lastly, some studies have found mastery approach and performance approach to be as optimal as each other regarding success (Elliot et al., 2005; Elliot et al., 2006; Kavussanu et al., 2009). With these differences in outcomes in research regarding performance approach and mastery approach it begs one to ask if the achievement goal model is comprehensive enough or if something else is needed to find more conclusive connections between academic success and achievement goals.

 Goal Complexes

Many researchers have asked if achievement goals are enough to predict significant variance on their own to understand better why students adopt different achievement goals with varying outcomes (Benita et al., 2017; Elliot & Murayama, 2008; Elliot & Thrash, 2001; Senko & Tropiano, 2016; Vansteenkiste et al., 2014; Vansteenkiste et al., 2010). With these researchers aiming to improve the predictive power of achievement goals, it is important to combine achievement goals with another variable related to the academic environment. One way this is addressed is by including an examination of the reasons (controlled and autonomous) behind the achievement goals people admit to having (Elliot & Thrash, 2001; Hodis et al., 2016; Senko & Tropiano, 2016; Vansteenkiste et al., 2010; Vansteenkiste et al., 2014). Two other variables researchers have examined along with achievement goals are the motivations behind them (Elliot & Murayama, 2008; Hodis et al., 2016) and even the context in which the achievement goals are adopted (Benita et al., 2017). Even though different variables are chosen to examine alongside achievement goals, the goal for each researcher is the same.

All these researchers are aiming to create a more robust examination of students and their achievement goals in order to create more consistent findings regarding their relation to academic success and behaviors. Examining the reasons behind the achievement goals helps to provide more depth and understanding of the achievement goals a student adopts. These underlying reasons a student expresses point towards the differences between students who adopt a performance goal or a mastery goal, and how students adopting the same goal can have different academic outcomes or behaviors. Even though the importance of examining different variables alongside achievement goals is clear, I will only utilize the underlying reasons (controlled and autonomous) in this study in conjunction with achievement goals.

The underlying reasons (controlled or autonomous) will be the variable I use in tandem with achievement goals. These reasons have been studied and shown to be an important factor in understanding the achievement goals students adopt (Elliot & Thrash, 2001; Hodis et al., 2016; Senko & Tropiano, 2016; Sommet & Elliot, 2017; Vansteenkiste et al., 2010; Vansteenkiste et al., 2014). The underlying reasons and achievement goals have been studied together under the concept of the goal complex model (Hodis et al., 2016; Senko & Tropiano, 2016; Sommet & Elliot, 2017; Sommet et al., 2018). The goal complex model takes into account the achievement goals a person adopts and the underlying reasons behind those goals (Elliot & Thrash, 2001; Senko & Tropiano, 2016).

Within the goal complex achievement goals are viewed as standards, but assume these standards are not always pursued for the same reasons. Each achievement goal can be adopted for varying reasons for each student. These reasons can both impact the goal

adopted, but also the behaviors and outcomes which are utilized in pursuit of the goal adopted (Elliot & Thrash, 2001; Michou et al., 2014; Senko & Tropiano, 2016; Vansteenkiste et al., 2010). Within this model it is important to separate the reasons from the goals, and then to recombine them in order to create the goal complexes (Michou et al., 2014; Vansteenkiste et al., 2010). Fusing the two together creates a unique analysis that would be impossible if one was to examine both the reasons and goals in isolation from each other (Elliot & Thrash, 2001; Senko & Tropiano, 2016). Utilizing the goal complex model will allow for a more in-depth examination of students and their achievement goal adoption. This model can allow for examination of both the achievement goals adopted and the reasons separately, but more importantly, it provides the opportunity to examine the combination of the two variables. Using this combined model to examine alongside other intended variables of study will allow for added depth and complexity to the study.

Within the goal complexes model, the underlying reasons are broken down into two categories: autonomous or controlled reasons. These underlying reasons can change the meaning of similar goals, especially between people who adopt the same achievement goals. Autonomous reasons will come with the belief of self-endorsement, volition, enjoyment, feelings of pride, and feelings of possession (Hodis et al., 2016; Senko & Tropiano, 2016; Sommet & Elloit, 2017; Sommet et al., 2018; Vansteenkiste et al., 2010; Vansteenkiste et al., 2014), whereas controlled reasons will be focused on meeting the demands of others, making others proud, looking smart to others (parents, teachers, or peers), and contingencies set by self (Hodis et al., 2016; Senko & Tropiano, 2016;

Sommet & Elloit, 2017; Sommet et al., 2018; Vansteenkiste et al., 2010; Vansteenkiste et al., 2014).

The reasons that underlie the achievement goals can lead to different behaviors and actions taken toward achieving outcomes. Research has found that controlled reasons lead to more frustration, setbacks during tasks, more pressure, and seeing goal difficulty as a threat instead of a challenge (Ntoumanis et al., 2014; Sheldon & Elliot, 1998; Sommet et al., 2018). When these controlled reasons are connected to performance goals, they have been found to predict anxiety, negative effect, and low vitality (Gillet et al., 2015; Sommet et al., 2018; Vansteenkiste et al., 2010). Although mastery goals are most closely associated with autonomous reasons, they can be linked with controlled reasons when a student's goal is to learn in order to avoid negativity from parents. This student wants to learn the material (mastery goal) but is doing so for controlled reasons (parents). Lastly, performance goals can be linked with autonomous reasoning as when a student who wants to be the best in the class on each exam (performance) but is doing so because they enjoy the challenge this brings (autonomous reasoning).

The outcomes and behaviors these reasons and achievement goals can lead to have been studied previously. Sommet and Elliot (2017) state that performance goals, mastery goals, and autonomous reasons were all positively correlated with study persistence. All three of these variables had positive impacts on study persistence, but controlled reasons did not have a positive or negative relationship with persistence. These results were produced by examining achievement goals and reasons as separate variables. Sommet and Elloit (2017) also examined persistence alongside goal complexes. Again, autonomous mastery goal complex and autonomous performance goal complex resulted

in a positive correlational relationship with persistence. Even though both are positively correlated with persistence, they are not equal in their strength. Each controlled goal complex has a weak correlation with persistence. Within this same study, both autonomous mastery and performance goal complexes were found to have a positive correlation with grade aspiration (Sommet & Elliot, 2017). However, controlled mastery and performance goal complexes were found to have a negative correlation with grade aspiration (Sommet & Elliot, 2017).

These differences between performance and mastery goal complexes helps point towards the importance of examining both the underlying reasons and achievement goal. It helps point at how both the achievement goal and the underlying reasons students adopt within the academic environment can impact their behaviors and outcomes. The benefit of goal complexes, instead of just reasons or achievement goals, for understanding students' academic behavior and outcomes is backed by extant research as well (Elliot & Murayama, 2008; Elliot & Thrash, 2001; Senko & Tropiano, 2016). Goal complexes add depth, complexity, and a better understanding of why students may differ in behaviors or outcomes within their academic endeavors.

<div align="center">**Spirituality**</div>

Spirituality is an important aspect of life for many college students. Fioramonti et al. (2019) define spirituality as, "the discovery, conservation, and transformation of the most ultimate of all concerns, the sacred. Spirituality has likewise been defined as the pattern of feelings, thoughts, experiences, and behaviors that arise from a search for the sacred" (p. 159). The definition provided here will be utilized throughout this study. This definition is not found in just a single space, but is echoed closely by Meezenbroek et al.

(2012, p. 142) as "ones striving for and experience of connection with the essence of life" and includes connectedness with self, others, nature, and the transcendent (God, or power greater than self or ordinary source), and by Shults and Sandage (2016) as "ways of relating to the sacred" (p. 42). With this chosen definition it is important to also define the idea of the "sacred." Defining the "sacred" helps provide more clarity to this definition and how spirituality will be viewed. Pargament (2002) defines the "sacred" as:

> Those things that are holy, "set apart" from the ordinary, and worthy of veneration and respect. The sacred included concepts of higher powers, such as God, the divine, and the transcendent. However, it also includes objects that are sanctified or take on sacred status by virtue of their association with or representation of the holy. (p. 169)

Spirituality is the chosen term because it refers to a broader set of meanings and activities than religion is typically associated with, but also due to student's preference to identify with spirituality and not religiosity (Gaulden, 2013; Marler & Hadaway, 2002; Zinnbaur et al., 1997). Religious beliefs are often defined by a particular set of beliefs or practices and are often tied to a religious structure or denomination. In contrast, spirituality is defined more broadly as the connection with a higher power, and are most often not tied to particular practices or structures. Using spirituality as the phrasing and definition will allow for a broader response pattern from participants, especially those who do not tie their spirituality to a specific religion or organization. The importance of spirituality for college students will be examined through the lens of self-determination theory and will be measured through the idea of spirituality, which consists of two key dimensions: involvement and importance.

Spirituality can be an important aspect within a person's life and will vary from person to person in the role it plays. Spirituality will be measured along two key constructs, which represent different areas of a person's spirituality: first, the importance individuals impart on their spirituality, and secondly, involvement, which is how much they are involved in activities related to their spirituality (Paine & Sandage, 2016). The definition provided for spirituality above is one that is stated similarly by Schubmehl et al. (2009) and Dong et al. (2018). Schubmehl et al. (2009), and Paine and Sandage (2016) point towards the importance of measuring spirituality along both these key dimensions of involvement and importance in order to gather the most accurate and useful data regarding college student's spirituality. Including these two constructs under the spirituality umbrella will help point to differences between those who respond to having the same or similar beliefs as their peers. These two key concepts within spirituality: first, the importance individuals place on these beliefs (Koenig et al., 2014; ; Paine & Sandage, 2016; Pargament et al., 1988; Worthington et al., 2003) and secondly, the level of involvement with a range of spiritual activities each person has with their held spiritual beliefs (Koenig et al., 2014; Krause, 2009; Paine & Sandage, 2016) will provide needed depth and level of differentiation among participants in this study.

Spirituality (involvement and importance) ties in directly with self-determination in terms of relatedness. Spirituality helps to satisfy the psychological need of relatedness by providing a sense of affiliation and community for college students (Steffen et al., 2015). Research shows relatedness and feelings of connection are important for success and overall well-being in academic based endeavors, both inside and outside of the classroom (Crosby & Bossely, 2012; Kasser & Ryan, 1996; Paine & Sandage, 2017;

Ryan & Deci, 2016; Steffen et al., 2015). It is clear having a sense of connection with a community is a positive influence on well-being and success and being connected spiritually is one avenue for college students to meet the psychological need of relatedness (Ryan & Deci, 2016). Even though there are many avenues (e.g., sports, clubs, academics, housing units) for students to meet their psychological need for relatedness, their spirituality seems to be an important avenue, based on the large number of students who report to holding a form of spirituality. This need for relatedness is further backed by Baumeister and Leary (1995) as they present evidence regarding relatedness as a needed human motivation, and that a lack of relatedness can lead to poor well-being and diminished capacity to adjust.

Autonomy has not yet received much attention to its relationship with spirituality, however, it would seem to be an important aspect. Many students would link their spirituality with something genuine in respect to certain values/interests (Ryan & Deci, 2016). Autonomy and spirituality interact similarly to spirituality and relatedness. Having a sense of spiritual autonomy through involvement and importance can help students to feel more connected to their academic environment and higher levels of overall well-being (Gaulden, 2013; van Dierendonck, 2011). Gaining autonomy through spirituality leads to students being able to make decisions that align more closely with their beliefs and values (van Dierendonck, 2011). Students who report to having a strong connection with their spirituality have been found to be more autonomous in their academic lives, and with this increase in autonomy are afforded more chances to make choices which best represent their spirituality (Gaulden, 2013; van Dierendonck, 2011). Another important aspect of autonomy and spirituality, especially as it relates to academics, is the

ability of students with strong spiritual ties to separate their beliefs and course material or experiences in college. According to Gaulden (2013) having strong spiritual ties which help improve autonomy can help students not feel tension between their beliefs and what is being taught in the classroom. This autonomy can help students feel less tension in their academic endeavors, which can have a lasting impact on their ability to succeed academically.

Spirituality appears to have a clearer connection with autonomy and relatedness (Crosby & Bossely, 2012; Gaulden, 2013; Kasser & Ryan, 1996; Paine & Sandage, 2017; Ryan & Deci, 2016; Steffen et al., 2015; van Dierendonck, 2011). However, the relationship between competence, especially academic competence, is not as clear or consistent. With the sense of relatedness and autonomy provided by a person's spirituality, it would seem logical then, that those beliefs would provide benefit for academic involvement (e.g., study habits, attendance, classroom activity) and academic success. However, research points to an inconsistency in this relationship between academic success/involvement and spirituality. Steffen (2013) and Steffen, Clayton, and Swinyard (2014) found spirituality to have a significant relationship with life aspirations. Even though life aspirations is a broader term than academic success, the academic success students chose to aspire to is a small part of their overall life aspirations. Taking what Steffen (2013) and Steffen et al. (2014) found regarding spirituality and life aspirations, it is likely these beliefs also play an important role in academic aspirations as well. Both Steffen (2013) and Steffen et al. (2014) found a positive relationship between spirituality and academic aspirations and work to paint a clearer picture as to the benefit spirituality plays in the success students hope for and seek. These findings are supported

by several other studies as well. One of the first is an older study by Zera (1989), who found a higher degree of spirituality to be positively correlated with GPA. These findings are supported by Holland (2016) and Maria, Nizam, & Chowdhury (2018) in terms of how spirituality can have a positive relationship with academic success and involvement.

Spirituality and Perception of Classroom Autonomy

Although spirituality is not often studied in relation to student's perception of classroom autonomy, we do know that higher levels of autonomy allow students the ability to make choices (paper topic, who they work with, when assignments are due, etc.) which align more closely with their spirituality (Gaulden, 2013; van Dierendonck, 2011). Students who report to being spiritual will often want to make decisions which best reflect their beliefs and will feel more autonomous when they are allowed to do so within the academic environment. It is also known that the autonomy supportive environment will lead to more positive student behaviors (academically and socially), interactions, and feelings within the classroom (Amoura et al., 2015; Kaur et al., 2014; Lyke & Young, 2006; Meyer et al., 2014; Reeve, 2009). Students who perceive the classroom as an autonomy supportive environment will be afforded more chances to voice their opinions and make choices about varying items within the classroom (Amoura et al., 2015; Lyke & Young, 2006; Meyer et al., 2014). Even though spirituality and perception of classroom autonomy are not studied in direct relation to each other, they both have a positive relationship with autonomy, which leads to more positive classroom behaviors and outcomes. Based on these previous studies, the hypotheses for this study are as follows:

RQ1. Is there a relationship between spirituality (involvement and importance) and student perception of classroom autonomy?

> ***Hypothesis 1.*** *Students' perception of classroom autonomy will be positively related with their reported level of spiritual involvement.*

> ***Hypothesis 2.*** *Students' perception of classroom autonomy will be positively correlated with their reported level of spiritual importance.*

RQ2. Are perceptions of classroom autonomy related to choices aligned with one's spirituality?

> ***Hypothesis 3.*** *Spiritual involvement will be a positive predictor of students reported perception of classroom autonomy.*

> ***Hypothesis 4.*** *Spiritual importance will be a positive predictor of students reported perception of classroom autonomy.*

Goal Complexes and Student Perception of Classroom Autonomy

Goal complexes and perception of classroom autonomy can be more easily linked together as they share more common research space within academics. Goal complexes examine achievement goals and the underlying reasons (autonomous/controlling), and perceptions of classroom autonomy reflect students' perceptions of either a controlling or autonomous classroom. These two variables will interact with each other within a classroom environment. We know within the goal complexes model that students who adopt mastery/performance goals with autonomous reasoning are more likely to do better within that class (Sheldon & Elliot, 1998; Sommet & Elliot, 2017; Vansteenkiste et al., 2010). The same can be said about students who perceive the classroom as more autonomous instead of more controlling (Kaur et al., 2014; Mulready-Shick & Parker,

2013; Reeve, 2009). Even though these two things have been studied separately, it is seemingly clear as to how these two variables will interact with each other.

RQ3. How are goal complexes related or influenced by student perception of classroom autonomy?

> ***Hypothesis 5.*** *Students' autonomous reasoning will be positively correlated with student perception of classroom autonomy,*
>
> ***Hypothesis 6.*** *Mastery goal adoption will be a significant predictor of student perception of classroom autonomy.*
>
> ***Hypothesis 7.*** *Performance-approach goal adoption will be a significant predictor of student perception of classroom autonomy.*
>
> ***Hypothesis 8.*** *Performance-avoidance goal adoption will be a negative predictor of student perception of classroom autonomy.*
>
> ***Hypothesis 9.*** *Students' autonomous reasoning will be a significant predictor of student perception of classroom autonomy.*
>
> ***Hypothesis 10.*** *Students' goal complexes will be a significant predictor of student perception of classroom autonomy*

Spirituality and Goal Complexes

Spirituality has been studied in relation to achievement goals, motivation, reasoning, and many other academic-related variables. Even though both achievement goals and reasoning have been studied alongside spirituality the connection between spirituality and goal complexes is not one that has been made directly in prior research. The findings from these studies which have examined spirituality and achievement goals,

or the underlying reasoning can be used to begin making a connection between spiritual beliefs and goal complexes.

The studies by Zera (1989), Holland (2016), and Maria et al. (2018) had different approaches towards investigating the relationship between spirituality and academic achievement but had similar findings regarding this relationship. Both Holland (2016) and Maria et al. (2018) found the level of involvement in spiritual activities to be positively correlated with more hours spent studying and higher levels of academic success, especially compared with those who reported lower levels of involvement in spiritual activities. However, these findings are not consistent among other studies. In fact, several other studies examining the relationship between spiritual beliefs and academic achievement found a nonsignificant relationship between spirituality and academic achievement. Schumbehl et al. (2009) failed to find involvement in spiritual activities to be related to GPA, which is similar to Henning et al. (2015), who also failed to find a relationship between spiritual affiliation and written grade (course grade). These studies show the complexity of results regarding the relationship between spirituality and academic achievement and point towards the need for future examination of this relationship.

The amount of involvement with spiritual activities and importance of those beliefs did not produce consistent findings in relation to academic achievement among several studies. Some studies found spirituality to be of importance and a positively correlated factor with academic achievement (Holland, 2016; Maria et al., 2018), and others found there to be no correlation or a non-significant relationship between the two (Krageloh et al., 2015; Schumbehl et al., 2009). Even though the findings regarding the

relationship between spirituality and academic achievement differ among these studies, these differences can often be accounted for in the design of the studies. Some studies focused on the activities (good study habits or time spent studying) which are often associated with good academic achievement (Henning et al., 2015; Holland, 2016; Maria et al., 2018), whereas others focused on GPA and involvement in spiritual activities (Henning et al., 2015; Schumbehl et al., 2009). These studies show the inconsistency in findings regarding spirituality (involvement and importance) and academic achievement (or the activities most associated with this). The role spirituality plays in the academic environment is not clear due to the inconsistent ways in which spirituality has been studied in relation to various academic variables. The purpose of the present research is to provide more clarity regarding the relationship between spirituality, motivation, and academic success. This will be accomplished through other variables, such as achievement goals, perception of classroom autonomy, and academic achievement.

Spirituality has been shown to have a positive correlational relationship with increased studying, improved academic outcomes, and increased autonomy (Holland, 2016; Maria et al., 2018; Paine & Sandage, 2016; van Dierendonck, 2011; Zera, 1989). These positive improvements point towards a level of importance for spirituality within the academic environment for students who report to holding them. These beliefs have been studied alongside many variables, such as motivation, academic achievement, and involvement in school related activities which have mostly led to positive relationships. However, spirituality has not been studied in relation to goal complexes. Goal complexes have been shown to have positive relationships to academic achievement, especially when looking at goal complexes focusing on the underlying autonomous reasons (Elliot

& Murayama, 2008; Elliot & Thrash, 2001; Senko & Tropiano, 2016). Even though the relationship between spirituality and goal complexes is not clear and has not been studied in depth, there are a few hypotheses we can make regarding these two variables:

RQ4. Is there a relationship between spirituality (involvement and importance) and goal complexes?

> ***Hypothesis 11.*** *Spiritual involvement will be positively correlated with the underlying autonomous reasons of achievement goals adopted.*

> ***Hypothesis 12.*** *Spiritual importance will be positively correlated with the underlying autonomous reasons of achievement goals adopted.*

> ***Hypothesis 13.*** *Students' level of spiritual importance will be positively correlated with mastery goal adoption.*

> ***Hypothesis 14.*** *Students' level of spiritual involvement will be positively correlated with mastery goal adoption.*

RQ5. How are goal complexes, spirituality, and academic achievement (GPA) influenced by each other?

> ***Hypothesis 15.*** *Students' level of spiritual importance will be a significant predictor of reported academic achievement (GPA).*

> ***Hypothesis 16.*** *Students' goal complexes will be a significant predictor of reported academic achievement (GPA).*

Relevant Individual and Organizational Variables

Reported Spiritual Affiliation. This variable will be collected for demographic purposes to help provide a better understanding of the participants and their spiritual backgrounds.

Identified Gender. Gender will be used to examine if any gender specific differences exist among the variables studied. Although some studies have found minor differences among gender, it is used in this study solely as part of the descriptives. Yadav et al. (2017) found differences between the amount of spirituality reported between males and females, whereas Holland (2016) and Schubmehl et al. (2009) did not find any significant differences among gender. With these studies in mind, I do not anticipate gender being a significant variable in relation to spiritual involvement, goal complexes, or perception of classroom autonomy.

Grade Classification. There are no significant differences expected among the grade classification. With the studies presented here grade classification was not a variable used to make claims or examine differences. Grade classification will be broken down into four items: Freshman, Sophomore, Junior, Senior, and Graduate Student, and will be used for demographic purposes.

Race/Ethnicity. Race/ethnicity will be used to gather demographic information. Significant differences are not expected to be found along this variable. However, gathering this information will allow this study to be more generalizable if participants are representative of the population at larger.

Grade Point Average. Grade point average information will be gathered through student report of current estimated GPA. GPA will serve as a variable which points towards overall academic outcomes as it relates to goal complexes, spirituality, and perception of classroom autonomy.

Class Delivery Format. Information regarding class delivery, either online, hybrid, or face-to-face, will be gathered. This variable will be collected to examine what

types of classes students are referencing. It will be included in the demographic information.

Summary

As discussed in this chapter, students have varying levels of spirituality, however, it is not clear how these varying levels of spirituality will impact their academic careers. Spirituality appears important in the academic environment and evidence points to spirituality leading to more positive behaviors and outcomes within these academic environments. Spirituality will be studied alongside goal complexes and perception of classroom autonomy. These variables provided also have positive relationships with certain academic behaviors and outcomes within the college environment, however, it is not clear how these variables (spirituality, goal complexes, and perception of classroom autonomy) will interact with each other to produce various academic outcomes, beliefs, or behaviors. Examining the relationship between these variables will provide insight into the importance of spirituality for students within the academic environment, especially as these beliefs relate to goal complexes and perception of classroom autonomy within the college classroom.

CHAPTER III

METHODOLOGY

Spirituality, achievement goals, and classroom autonomy are important factors to consider when exploring what leads to college students attaining higher levels of academic achievement than their peers (Buser & Buser, 2014; Donaldson et al., 2018; Natis, 2016; Ramos et al., 2018; Vansteenkiste et al., 2010). All these variables have been studied consistently over time, but they have not all been studied together in an academic environment. This is especially true of the relationship they have with students' spirituality. Addressing this gap is important in terms of classroom practices and educational policies. The purpose of this study is to investigate the relationship between spirituality, goal complexes, and perception of classroom autonomy, and how they can interact with academic success for college students.

Research Questions

In order to address this gap and explore the purpose, five research questions will be examined. Next, I present these five research questions and their corresponding hypotheses:

RQ1. Is there a relationship between spirituality (involvement and importance) and student perception of classroom autonomy?

> ***Hypothesis 1.*** *Students' perception of classroom autonomy will be positively related with their reported level of spiritual involvement.*

Hypothesis 2. Students' perception of classroom autonomy will be positively correlated with their reported level of spiritual importance

RQ2. Are perceptions of classroom autonomy related to choices aligned with one's spirituality?

Hypothesis 3. Spiritual involvement will be a positive predictor of students reported perception of classroom autonomy.

Hypothesis 4. Spiritual importance will be a positive predictor of students reported perception of classroom autonomy.

RQ3. How are goal complexes related or influenced by student perception of classroom autonomy?

Hypothesis 5. Students' autonomous reasoning will be positively correlated with student perception of classroom autonomy,

Hypothesis 6. Mastery goal adoption will be a significant predictor of student perception of classroom autonomy.

Hypothesis 7. Performance-approach goal adoption will be a significant predictor of student perception of classroom autonomy.

Hypothesis 8. Performance-avoidance goal adoption will be a negative predictor of student perception of classroom autonomy.

Hypothesis 9. Students' autonomous reasoning will be a significant predictor of student perception of classroom autonomy.

Hypothesis 10. Students' goal complexes will be a significant predictor of student perception of classroom autonomy

RQ4. Is there a relationship between spirituality (involvement and importance) and goal complexes?

> ***Hypothesis 11.*** *Spiritual involvement will be positively correlated with the underlying autonomous reasons of achievement goals adopted.*

> ***Hypothesis 12.*** *Spiritual importance will be positively correlated with the underlying autonomous reasons of achievement goals adopted.*

> ***Hypothesis 13.*** *Students' level of spiritual importance will be positively correlated with mastery goal adoption.*

> ***Hypothesis 14.*** *Students' level of spiritual involvement will be positively correlated with mastery goal adoption.*

RQ5. How are goal complexes, spirituality, and academic achievement (GPA) influenced by each other?

> ***Hypothesis 15.*** *Students' level of spiritual importance will be a significant predictor of reported academic achievement (GPA).*

> ***Hypothesis 16.*** *Students' goal complexes will be a significant predictor of reported academic achievement (GPA).*

Participants

Data was collected from a random sample of college students from a large Public Midwestern University. Both graduate and undergraduate students were asked to participate in this study. Data from both graduate and undergraduate students was analyzed. Selected participant demographics of the large Public Midwestern University are related to race: Male 50.02%; White 66.49%, African American 4.05%, Hispanic 7.58%, Asian 2.04%, American Indian/Alaska Native 4.2%, and Multiracial 8.71%.

Selected demographics of the large Public Midwestern University as it relates to grade classification is broken down into two key categories: undergraduate students 82.19% (Freshman 21.69%, Sophomore 17.41%, Junior 18.34%, Senior 24.75%) and graduate students 14.43% (Masters 8.68%, Doctorate 5.75%). The remaining 3.38% of students make up a few specially categorized groups of students in both the graduate and undergraduate levels. All Percentages are presented as percent of total student body. A power analysis was run with G*Power 3.1 to determine the number of participants needed to accurately and effectively examine the variables being examined (*N*=119).

Once data collection stopped, there were 216 unique responses remaining from participants who were willing to consent to participating in the data collection process. All data regarding gender, grade classification, race, class format, and spiritual beliefs were coded and analyzed for frequency of responses and percentage. Selected participant demographics characteristics are given in Table 3.1. The majority of participants indicated they were female (63.0%). This was not representative of the sample population, which was near a 50/50 split according to the universities data. Another common response grouping was regarding grade classification with 90.7% of participants responding to being undergraduate students. Again, with 90.7% of participants reporting to be undergraduates the sample did not fully align with the sample population. The participants within this study most accurately represented the sample population along racial demographics. The majority of participants who completed the survey reported to holding a belief associated with Christianity (70.4%). This percent for Christianity did not include Catholic beliefs (9.3%), as most of the respondents who stated to being Catholic did not include a qualifier stating Christianity alongside Catholic as their

primarily held belief. This is different in comparison to the participants who reported

being Baptist, Protestant, Methodist, Church of Christ, or Southern Baptist. Those few

participants who did respond with any of the options listed above produced a response

such as, "Christian-Baptist" or "Methodist-Christian," whereas Catholic was typically

listed as "Catholic." With this pattern of responses, I chose to list all responses including

"Christianity" or a variation on spelling as one category for demographic purposes. This

question was open-ended in order to adhere to the definition of spirituality being used to

frame beliefs in this study.

Table 3.1

Descriptive Statistics of Participant Demographics (N = 216)

Variable	Frequency (*n*)	Percent (%)
Grade Classification		
Freshman	61	28.2%
Sophomore	52	24.1%
Junior	45	20.8%
Senior	38	17.6%
Graduate Student	20	9.3%
Gender		
Male	79	36.6%
Female	136	63.0%
Other/Decline to Respond	1	0.5%
Race		
White/Caucasian	156	72.2%
Hispanic/Latino	13	6.0%
Black	16	7.4%
Native American/Alaskan	17	7.9%
Asian/Pacific Islander	19	4.2%
Other or Multiple	5	2.3%
Class Format		
Online	123	56.9%
Hybrid	65	30.1%
Face-to-Face	28	13.0%
Spiritual Beliefs		
Christian	152	70.4%
Catholic	20	9.3%
Atheism/Agnostic	16	7.4%
Muslim	3	1.4%
Buddhism	5	2.3%
Other/None	20	9.3%

Measures

Five measures were used to analyze the three key constructs of this study: perception of classroom autonomy, goal complexes (achievement goals and underlying reasons), and spirituality (involvement and importance). Each instrument was selected based on their use in previous literature examining perception of classroom autonomy, goal complexes, and spirituality. The Learning Climate Questionnaire has been used to measure students' perceptions of autonomy support within the classroom (Black & Deci, 2000; Williams & Deci, 1996; Williams et al., 1997). Goal complexes were examined utilizing two measures: Achievement Goals Questionnaire (Senko & Miles, 2008) and Underlying Reasons Scale (Michou et al., 2014). Achievement Goals Questionnaire has been used to examine students' mastery or performance goals within the academic environment (Senko & Miles, 2008). The underlying reasons scale was used in tandem to address the underlying reasons associated with certain achievement goal orientations may adopt (Michou et al., 2014). Spirituality was measured utilizing two questionnaires: Religious Commitment Inventory-10 (RCI-10) (Miller et al., 2013) and The Duke University Religion Index (DURAL) (Koenig & Bussing, 2010). The Religious Commitment Inventory has been used to measure the importance students place on their spiritual beliefs and the DURAL has been used to measure student's involvement with their beliefs. Both of these measures have been used in previous research to measure these aspects of students' spirituality in relation to other variables. Participants were also asked to complete a short demographic questionnaire. Each of these measures are discussed in more detail in the following sections.

The Learning Climate Questionnaire (LCQ)

Student perception of classroom autonomy was measured using the LCQ (Black & Deci, 2000). The LCQ consists of 15 items all aimed at measuring a student's perception of autonomy based on their experience with an instructor (e.g., *I feel that my instructor provides me choices and options; I don't feel very good about the way my instructor talks to me)*. Each item was scored on a 7-point Likert-type scale from 1 (*strongly disagree)* to 7 (*strongly agree)*. Reported Cronbach's internal consistency reliability estimates are: α = 0.93 (Black & Deci, 2000).

The LCQ was adapted by Williams and Deci (1996) from the Health-Care Climate Questionnaire: α = .95. Both the adapted version and original version contain 15-questions. The biggest difference comes in the focus on the subjects. The original questionnaire was focused on autonomy support of healthcare providers and was adopted to focus on autonomy support of educators. The validity of this adaption was examined by Williams and Deci (1996) in a 3-part study and found this scale to measure autonomy support similarly to the Health-Care Climate Questionnaire it was adapted from. They found students who perceived their instructor to be more autonomy supportive developed more autonomous self-regulating skills for learning, felt more competent, and behaved in more autonomy-supportive ways in their own interactions with peers (Williams & Deci, 1996). Similar results regarding the LCQ and its connection to other positive learning behaviors have been found in other studies since (Black & Deci, 2000; Williams, et al., 1997).

Goal Complexes

Goal complexes were assessed using two measures; one which measures the achievement goals students adopt and the other measuring the underlying reasons behind these goals. Both of these measures were looked at in tandem to address the concept of goal complexes. This method has been used in previous research addressing the concept of goal complexes (Sommet & Elliot, 2017; Vansteenkiste et al., 2010).

Achievement Goals Questionnaire

Students' achievement goals were measured using the Achievement Goals Questionnaire (Senko & Miles, 2008). This measure contains 13 items which were split into three subscales: mastery goal, performance-approach goal, and performance-avoidance goal. All items were measured on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). The Mastery Goal measure was used to assess the importance students place on learning and mastering course material. The mastery goal measure contains five items (e.g., *My goal in this class is to learn as much as I can about the material; I want to learn as much as possible from this class*; α = .91; Senko & Miles, 2008). The Performance-Approach Goal measure contains five items and aims to measure the importance students place on out-performing their peers (e.g., *It is important to me to do better than most other students in this class; I really want to do better than other students in this class*; α = .87; Senko & Miles, 2008). The Performance-Avoidance Goal measure contains 3 items aiming to measure students how it is for students to avoid doing poorly in class (e.g., *I worry about the possibility of getting a bad grade in this class; My fear of performing poorly in this class motivates me;* α = .73; Senko & Miles, 2008).

The Achievement Goals Questionnaire (ACQ) was adapted from similar measures comprising of more items developed by Elliot and Church (1997) and Harackiewicz et al. (2009). Senko and Miles (2008) used these two original measures looking into achievement goals to examine if their new measure was still measuring achievement goals accurately and based on initial testing the new measure is shown to be measuring achievement goals accurately. This initial measure shows the relation achievement goals have with academic outcomes and academic behaviors. The measure developed by Elliot and Church (1997) was developed in the college academic environment and shows how mastery goals lead to more positive academic behaviors, however, with similar academic outcomes to a performance-approach goal. The findings of this study are backed by the findings from other studies examining achievement goals and academic outcomes/behaviors (Harackiewicz et al., 2000; Senko & Miles, 2008).

Underlying Reasons

Students' underlying reasons for their achievement goals were measured using the Underlying Reasons of Achievement Goals (Michou et al., 2014). There are six items in the measure, which were divided into two scales: Controlling Reasons and Autonomous Reasons. Each scale was measured using a 7-point Likert-type scale ranging from 1 (Not True at All) to 7 (Very Ture). The autonomous reasoning scale contains three items which aim to measure how autonomous students feel in their achievement goal adoption (e.g., *because this goal is challenging and pleasant to me;* $\alpha = .83$; Vansteenkiste et al., 2010). The controlling reasons scale contains three items aiming to assess how controlled students feel in their achievement goal adoption (e.g., *because I can only be proud of myself if I do so;* $\alpha = .86$; Vansteenkiste et al., 2010).

This measure has been developed to assess the students' underlying reasons of their achievement goal adoption. It has been used in both academic and physical environments to gain a better understanding of why students chose to pursue or do certain activities (Vansteenkiste et al., 2010; Michou et al., 2014). The measure has been shown to accurately gauge the underlying reasons and their connections to achievement goal adoption and academic outcomes.

Spirituality

Spirituality was measured using two scales, which will aim to measure the two dimensions: importance and involvement (Schubmehl et al., 2009; Dong et al., 2018; Paine & Sandage, 2016).

Religious Commitment Inventory-10

Student's importance placed on spiritual beliefs was measured using the Religious Commitment Inventory (Worthington et al., 2003). This measure aims to assess the importance of student's spiritual beliefs in all aspects of their lives (e.g., *I spend time trying to grow in understanding my faith; Spiritual beliefs influence all my dealings in life*). The measure contains 10 items which were measured on a 5-point Likert-type scale ranging from 1 (Not at all true of me) to 5 (totally true of me). Reported Cronbach's internal consistency reliability estimate is: $\alpha = 0.93$ (Worhtington et al., 2003).

The RCI-10 was adapted from the RCI-17. The 10 items remaining were chosen based upon the values from a principal-axis factor analysis (Worthington, et al., 2003). This factor analysis was duplicated over a course of time to see if initial findings were consistent. Once this was done, the 10-item measure was tested to determine if it was still measuring what it was intended to test. The RCI-10 does appear to test the reported

importance of student's spiritual beliefs in their everyday life (Worthington et al., 2003; Worthington et al., 2012). Worthington et al., 2003, worked to address the validity of the RCI-10 through comparison to the RCI-17 and other measures reported to measure spiritual commitment and importance. Through this vast study examining validity, it was concluded the RCI-10 is a valid measure for examining spiritual commitment/importance (Worthington et al., 2003). Along with this study assessing the RCI-10's validity, the measure has also been utilized in various studies looking to examine the importance people place upon their spiritual beliefs and has been found to be consistent across students and populations (Richards & Bergin, 1997; Ripley et al., 2001; Worthington et al., 2003; Worthington et al., 2012) With these previous studies and its results, it is reasonable to use this measure in this study in order to assess the reported importance of spirituality from participants.

Although this measure utilizes the term "religion" within its title, it is not unreasonable to apply it to research examining beliefs through the term of spirituality. This survey has been utilized in research examining beliefs through the lens of spirituality by removing the work religion from the survey and replacing it with spirituality. When studies have done this, they have found similar results in response and reliability scores (Richards & Bergin, 1997; Worthington et al., 2003; Worthington et al., 2012). With these previous studies utilizing this survey to examine spirituality and producing similar results, it is reasonable to do the same within this current study.

The Duke University Religion Index (DUREL)

Student involvement with their spiritual beliefs was measured using The Duke University Religion Index (DUREL). This measure aims to address how often students

are involved with their spirituality using three subscales. However, for the purpose of this study, only two of the subscales were used. These two scales are one item each. The third scale of this measure was not used due to the questions being of similar focus to the RCI-10 (e.g., *My religious beliefs are what really lie behind my whole approach to life*). With it being only three items of similar focus to the RCI-10, it would not add to this study and would not provide as insightful of an examination of the importance students place on their spiritual beliefs. Lastly, this scale of the DURAL is intended to be assessed separately and not including it will not impact the analysis of the first two scales.

The two scales utilized are the organized religious activities scale (ORA) and non-organized religious activities (NORA) scale. The two scales consist of two total questions: Frequency of Attendance at Religious Services (ORA) and Frequency of Private Religious Activities (NORA). The Frequency of Attendance at Religious services subscale contains 1 item (e.g., *How often do you attend church or other religious meetings?*) which was measured on a 6-point Likert-Type scale ranging from 1 (Never) to 6 (More than once a week). The Frequency of private religious activities subscale contains 1 item (e.g., *How often to you spend time in private religious activities, such as prayer, meditation, or bible study?*) which was measured using a 6-point Likert-type scale ranging from 1 (Rarely or never) to 6 (More than once a day). he reported Cronbach's internal consistency reliability estimate is: $\alpha = 0.91$ (Storch et al., 2004).

These two scales for the DURAL were developed using items from a large, national health survey of students, which was conducted within the state of North Carolina in 2010. The DURAL was developed through comparison of other known measures aiming to assess spirituality. The main measure the DURAL drew upon was the

10-item Hoge Intrinsic religiosity scale. Looking at the DURAL alongside other measures known to be valid and reliable, it is shown that the DURAL is likely a valid measure for measuring spiritual involvement. The two items that make up these two scales have been shown to accurately measure involvement with their participant's beliefs in both organized and non-organized activities. Organized spiritual activities are focused on attending a service or other meeting revolving around spiritual activities. However, non-organized activities are individual activities such as mediation, prayer, or bible/spiritual readings. This has been demonstrated through use across multiple studies which reported similar levels of involvement with spirituality, even when different populations were sampled (Koenig, 2008; Koenig, 2012; Storch et al., 2004). Using these two scales will allow me to measure my participant's level of involvement with their spirituality.

Again, this measure has used the term "religion" in its original iteration. However, the original authors and other studies have utilized the DUREL and changed the term to spirituality (Koenig, 2008; Koenig, 2012; Storch et al., 2004). Even with changing the term from religion to spirituality, the DUREL has produced similar results with variables of study and reliability scores (Koenig, 2012; Storch et al., 2004). With these findings regarding the change between the term "religion" in the original study and "spirituality" in subsequent studies, it is reasonable to utilize this measure in a study utilizing spirituality and not religiosity.

Demographic Questions

In addition to the above questionnaires, demographic information was collected from participants. Gender was collected along four categories: male, female, other, and

decline to answer. Data was coded as 1=Male, 2=Female, 3=Other, and 4=Decline to Answer. Students were asked to provide which spiritual belief they most associate with at the time of the study. This question was collected as an open-ended answer, and responses were shorted during the analysis phase. This question was asked as an open-ended item in order to best represent the definition of spirituality being used within this study. Ethnicity was collected as well in seven categories: Asian or Pacific Islander, African American (Black), Latino/a, Native American or Alaskan Native, Euro-American (White), Other, and Decline to answer. These ethnicity categories are aligned with the university's student population reports. Participants were asked to provide their current grade classification based on five categories: Freshman, Sophomore, Junior, Senior, and Graduate Student. Data was coded as 1=Freshman, 2=Sophomore, 3=Junior, 4=Senior, and 5= Graduate Student. Students were also asked to provide their most accurate estimation of their Grade Point Average (GPA) at the time of the study. Students were also asked to provide information regarding course delivery format (Fully Online, Hybrid, Face-to-Face). This data was collected during the COVID-19 pandemic, which influenced the availability of certain course delivery formats. Data was coded as 1=Fully Online, 2=Hybrid, and 3=Face-to-Face. These variables were used to provide in-depth information regarding the background of the participants and how their backgrounds align with the larger student body population of the university from which the sample was taken.

Procedure

After approval from the Institutional Review Board (IRB) (appendix A), students were recruited via their organizational email based on their inclusion in the Oklahoma

State University email directory, and through the College of Human Sciences SONA system. The survey was distributed to 600 unique emails provided by the university via their email directory. Only email addresses of currently enrolled students over 18 years old were collected. After the initial distribution was sent, reminder emails were scheduled weekly during data collection. These reminder emails only got sent to the participants who had not responded to the survey. Recruitment via the email database resulted in 61 unique participants. SONA participants were recruited at random based on their willingness to sign up for the survey via the SONA system. Students who completed the survey via SONA were awarded 1-credit for completing the survey. These credits can be applied for course assignments or extra credit depending on the course(s) they are enrolled in currently. SONA data collection began later than email distribution collection, in the hopes it would not be needed. However, to make data collection more efficient and reach the largest group of possible participants, students were recruited through the SONA system. SONA resulted in 191 unique participants to finish the survey. The data collection period lasted from October 26th, 2020 until December 15th, 2020. Data collection was discontinued once enough responses were collected to perform data analysis based on the initial Power Analysis. All data was collected in a computer-based setting using an online survey system (e.g., Qualtrics), which is a secure online data collection system. One link was provided in the emails sent to participants and through the SONA system, with the link taking them directly to the survey. Once participants arrived at the survey, participants were immediately asked to provide their consent before beginning the survey, and once they confirmed they were at least 18 years of age and were currently enrolled in classes at the large Public Midwestern University, they could

begin the survey. Participants were asked to complete the entire survey and to answer each question accurately and honestly. Integrity checks were included four times throughout the survey. These questions were formatted in the same manner as the questions which proceeded them, but asked participants to respond to the question with a specific answer. These integrity questions were included and formatted in a manner to demonstrate whether or not a participant was answering each question honestly after fully reading the prompt.

The data collection process resulted in 255 unique survey responses. However, of these 255, 10 participants opted out of participating in the survey, which left 245 participants data to use in analysis. After further exploring data, it was noticed that 15 other participants consented to the study but did not respond to any of the demographic questions or questions pertaining to the variables being explored, which left 230 participants with analyzable data for demographic purposes and exploration of variables. I also worked to address participants who did not answer all the integrity check questions correctly, which resulted in 10 participants to examine. It was determined that these six of these 10 participants needed to be deleted from the analysis, as there was a clear pattern to their responses which pointed towards not fully reading each prompt and responding with an accurate answer. The four participants that were kept in the analysis did not demonstrate a pattern of responses and answered three of the four integrity check questions correctly. With 10 participants being removed due to not providing consent, six for inaccurate responses to the integrity check questions, and 15 who did not respond to any of the items within the survey, I was left with 224 responses to analysis. However, after further examination of the data it was noticed there were eight other response

needed to be examined for missing data. After consultation with various resources regarding missing data, it was determined the best approach was to remove these responses as they were equally represented across the demographic questions and no inferences would have been possible due to the extent of the missing data. These participants had responded to less than 20% of the survey items. Dealing with missing data in this manner will help to maintain statistical power. Once all needed surveys were removed, I was left with 216 unique survey responses to analyze in this study.

Data Analysis

Once data was collected, it was analyzed using the Statistical Package for Social Sciences (SPSS). Correlational analysis was used to assess research questions one and four. Regression analysis was used to examine research questions two, three, and five. Demographic information was examined as well, but only to determine how the sample population compared with the overall population of students at the university. Results are reported in Chapter 4.

CHAPTER IV

FINDINGS

In this study I investigated college students' spirituality and the relationship spirituality has with student perception of classroom autonomy, goal complexes, and academic achievement. I aim to address the following research questions:

RQ1. Is there a relationship between spirituality (involvement and importance) and student perception of classroom autonomy?

RQ2. Are perceptions of classroom autonomy related to choices aligned with one's spirituality?

RQ3. How are goal complexes related or influenced by student perception of classroom autonomy?

RQ4. Is there a relationship between spirituality (involvement and importance) and goal complexes?

RQ5. How are goal complexes, spirituality, and academic achievement (GPA) influenced by each other?

Assumptions

Scatter plots show that the assumption of linearity was met for each of the continuous dependent and independent variables. However, the strength of the relationship varied between variables based on how well they fit the regression line (Appendix B).

The assumption of normality was violated by a few variables (perception of classroom autonomy, spiritual involvement, and GPA), though data analysis methods used are robust to violations of normality when there is a relatively large sample size.

Prior to conducting all multiple regression models, the relevant assumptions of this statistical analysis were tested. An examination of correlations revealed that no independent variables were highly correlated, indicating that there is no multicollinearity in the data set. Additionally, analysis of collinearity statistics supports that the assumption of no multicollinearity has been met (i.e., Tolerance and VIF) as the collinearity statistics were all within acceptable limits. Tolerance scores were all above .02 (Kumari, 2008); the range for this data set was .270-.932. Variance Inflation Factors (VIF) scores were well below 10 (Kumari, 2008); the range for variables in this data set was 1.073-3.710.

The Durbin-Watson statistic showed the assumption that values of the residuals of independent variables has been met, with all Durbin-Watson values being between 1.893-1.988 (Durbin-Watson, 1971). The plots of standardized residuals versus standardized predicted values (Appendix C) showed no obvious signs of funneling, indicating the assumption of homoscedasticity (or the assumption that the amount of error in the model is similar at each point of the model) was met for all regression models (Osborne & Watson, 2002). The P-P plots for the models (Appendix E) suggested that the assumption of normality of residuals has not been violated. Cook's Distance values were all under 1, suggesting individual cases were not unduly influencing the model. The range of distance values for this data set is .000-.101.

Descriptive Statistics and Reliability Analysis

The descriptive statistics show the range, mean, and standard deviation for all variables with data collected in this study. All descriptive statistics can be found in table 4.1. With all the variables present in the descriptive it is important to note the differences in scale for each variable. Grade level, gender, reported spiritual identification, and class format were all coded before data analysis. These variables standard deviations range from .491 (gender) to 1.584 (reported spiritual identification). GPA was not coded and was analyzed based on the number provided by participants. The remaining variables present in the descriptive statistics table were analyzed on a Likert-scale ranging from one to seven, except Spiritual Involvement (DUREL) which was analyzed on a Likert-scale ranging from one to five. The variables analyzed on a Likert-scale from one to seven had standard deviations ranging from 1.037 (Mastery Goal) to 1.549 (Performance-Approach Goal).

Reliability analysis were run to test for internal consistency of the measures used within this study. All reliability analysis were tested using Cronbach's internal consistency test. The LCQ's reported internal consistency was satisfactory ($\alpha = 0.94$). There were three reliability analysis run for the ACG (Mastery Goal Scale, $\alpha = .92$; Performance-Approach Goal Scale, $\alpha = .94$; Performance-Avoidance Goal Scale, $\alpha = .60$). With the underlying reasons measures there were two reliability analysis run to determine reliability (Autonomous Reasons Scale, $\alpha = .74$; Controlled Reasons Scale, $\alpha = .93$). Lastly, the two measures aiming to assess spirituality were run to test for internal consistency (RCI-10; $\alpha = 0.95$; DUREL, $\alpha = 0.79$). All measures and scales were at

satisfactory levels regarding Cronbach's alpha, except for the performance-avoidance

scale which fell below the satisfactory level (Cortina, 1993).

Table 4.1 *Descriptive Statistics for All Variables* (N = 216)

Variable	Range	Mean	Standard Deviation
Grade Level	4	2.56	1.314
Gender	2	1.64	.491
Race	5	1.73	1.338
Reported Spiritual Beliefs	5	1.84	1.584
GPA	2	2.49	.416
Class Format	2	1.56	.713
Student Perception of Classroom Autonomy (LCQ)	5.47	5.292	1.111
Mastery Goal	6.00	5.883	1.037
MG Autonomous Reasoning	5.20	5.288	1.056
MG Controlled Reasoning	6.00	3.062	1.443
Performance-Approach Goal	6.00	4.749	1.549
P-Approach Autonomous Reasoning	6.00	4.552	1.398
P-Approach Controlled Reasoning	6.00	2.802	1.371
Performance-Avoidance Goal	5.67	5.696	1.143
P-Avoidance Autonomous Reasoning	5.25	5.163	1.095
P-Avoidance Controlled Reasoning	6.00	3.342	1.270
Spiritual Importance (RCI-10)	4.00	2.798	1.196
Spiritual Involvement (DUREL)	5.00	3.618	1.538

Relationship between Spirituality and Student Perception of Classroom Autonomy

Correlational analysis was used to determine if a positive, neutral, or negative relationship exists between spirituality and student perception of classroom autonomy. In order to address spirituality in this correlational analysis, I looked at spiritual involvement (DUREL) and spiritual importance (RCI-10) and the relationship with student perception of classroom autonomy.

Research Question One

In order to address research question one, a two-tailed correlational analysis was conducted examining the relationship between spirituality and student perception of classroom autonomy. The correlational analysis was run with the two key components of spirituality being examined in this study: spiritual importance and spiritual involvement. Each measure was included in the analysis separately in order to assess if either component (involvement or importance) has a stronger relationship with student perception of classroom autonomy. Results are in Table 4.2.

Table 4.2 *Correlation and Descriptive Statistics of Classroom Autonomy and Spirituality*

	1	2	3
1. Classroom Autonomy (LCG)	1	.107	.037
2. Spiritual Importance (RCI-10)		1	.842**
3. Spiritual Involvement (DUREL)			1
M	5.29	2.80	3.62
SD	1.11	1.20	1.54

Note. ** $p < .001$

The correlational analysis shows that the relationship between student perception of classroom autonomy and the two key components of spiritual are positive, but non-significant *(*spiritual importance, $r = .107$, $p = .118$; spiritual involvement, $r = .037$, $p = .592$). Spiritual importance shows to have the strongest positive relationship between the two components of spirituality. Even with both components having a positive relationship with student perception of classroom, the results do not support either hypothesis since the relationship between student classroom autonomy and spiritual involvement and importance is non-significant.

Differences for Spirituality and Perception of Classroom Autonomy

Research Question Two

A two-stage hierarchical multiple regression analysis was conducted with in order to address research question two by examining whether or not spirituality is a predictor of student perception of classroom autonomy. Grade Level and Class Format were entered into the model in stage one, as they show an ability to influence the model within this data and are known to influence perception of classroom autonomy. Spiritual importance and spiritual involvement were entered into the model at stage two to see if they add any significant level of explained variance. Results are shown in Table 4.3.

Table 4.3 *Spirituality Predicting Classroom Autonomy*

Predictors	B	SE B	β	t	p
Step 1					
Grade Level	.131	.061	.155	2.157*	.032
Class Format	.310	.112	.199	2.772*	.006
F					4.634
R² (Adjusted R²)					.042(.033)
Step 2					
Grade Level	.135	.061	.160	2.205*	.029
Class Format	.279	.113	.179	2.482*	.014
Spiritual Importance	.204	.116	.220	1.758	.080
Spiritual Involvement	-.098	.090	-.135	-1.084	.280
F					3.237
R² (Adjusted R²)					.058(.040)
ΔR²					.016

Note. *p<.05

Stage one shows that grade level (β = .166, p < .05) and class format (β = .195, p < .05) were significant predictors of student perception of classroom autonomy. Entering these variables did provide a significant model for predicting perception of classroom autonomy, $F (2, 213) = 4.634$, p < .05, and accounted for 4.2% of the variation in perception of classroom autonomy. Stage two in the hierarchical multiple regression revealed that spiritual importance (β = .220, p < .10) was not a significant predictor of student perception of classroom autonomy and spiritual involvement (β = -.135, p = .280) was not significant predictors of student perception of classroom autonomy. Adding

spiritual importance and spiritual involvement into the model improved R^2 by .014 and produced an overall mode fit which was non-significant, F (4, 211) = 3.237, p = .167. The results regarding spiritual importance did not support my hypothesis. The same is true regarding the results of spiritual involvement.

Differences between Goal Complexes and Perception of Classroom Autonomy

Research Question Three

A three-stage hierarchical regression analysis and correlational analysis were conducted to address research question three, which is looking at the relationship between student perception of classroom autonomy and goal complexes. Within the regression model, student perception of classroom autonomy served as the dependent variable. The three achievement goals: mastery, performance approach, and performance avoidance, were entered in step one. In step two, the underlying autonomous reasons associated with each achievement goal were added to the regression model. Step-three added the underlying controlled reasons associated with each achievement goal. Correlational results are shown in table 4.4. Regression analysis results are shown in table 4.5.

Table 4.4 *Correlation Between Student Perception of Classroom Autonomy and Goal Complexes*

	1	2	3	4	5	6	7	8	9	10
1.Student Perception of Classroom Autonomy	1	.376**	.284**	-.100	.142*	.243**	-.045	-.130	.097	.070
2.Mastery Goal		1	.621**	-.139*	.120	.177*	-.135*	.025	.245**	-.061
3.Mastery Autonomous Reasons			1	.176**	.203**	.480**	.122	.270*	.593**	.120
4. Mastery Controlled Reasons				1	.232**	.239**	.825**	.235**	.269**	.809**
5. Performance-Approach Goal					1	.710**	.401**	.078	.194**	.260**
6.P-Aprroach Autonomous Reasons						1	.425**	.127	.438**	.253**
7.P-Apporach Controlled Reasons							1	.206**	.277**	.831**
8.Performance-Avoidance Goal								1	.589**	.217**
9.P-Avoidance Autonomous Reasons									1	.307**
10.P-Avodiance Controlled Reasons										1

The correlational analysis shows that mastery goal adoption ($r = .376, p < .001$)

and mastery goal autonomous reasons ($r = .284, p < .001$) are significantly correlated

with student perception of classroom autonomy. The same is true regarding performance-

approach goal adoption ($r = .142, p < .05$) and the autonomous reasons associated with

performance-approach goal ($r = .243, p < .001$). Student perception of classroom

autonomy was not significantly correlated with the underlying controlled reasons

associated with each of the achievement goals. Lastly, the correlational analysis shows

that student perception of classroom autonomy is not significantly correlated with

performance-avoidance goal ($r = -.130, p = .057$) or the underlying autonomous reasons

associated with performance-avoidance goal ($r = .097, p = .153$). My hypothesis regarding

autonomous reasoning and student perception of classroom autonomy was not supported

in this analysis, since only two of the three underlying autonomous reasons produced

significant correlations.

Table 4.5 *Goal Complexes as Predictors of Perception of Classroom Autonomy*

Predictors	B	SE B	β	t	p
Step 1					
Mastery	.393	.067	.367	5.825**	.000
Performance Approach	.078	.045	.109	1.732	.085
Performance Avoidance	-.143	.061	-.147	-2.353*	.020
F			14.738		
R² (Adjusted R²)			.173(.161)		
Step 2					
Mastery Performance	.356	.089	.333	4.003**	.000
Approach	-.038	.066	-.053	-.576	.565
Performance Avoidance	-.176	.077	-.181	-2.291*	.023
MG Autonomous Reasons	.013	.110	.012	.118	.906
P-Approach Autonomous Reasons	.181	.086	.228	2.117*	.035
P-Avoidance Autonomous Reasons	.026	.098	.026	.269	.788
F			8.849		
R² (Adjusted R²)			.203(.180)		
ΔR²			.03		
Step 3					
Mastery	.253	.091	.236	2.769*	.006

P-Approach	-.027	.065	-.038	-.423	.673
P-Avoidance	-.151	.074	-.155	-2.025*	.044
MG Autonomous Reasons	.113	.113	.108	1.006	.315
P-Approach Autonomous Reasons	.219	.087	.275	2.517*	.013
P-Avoidance Autonomous Reasons	-.053	.097	-.053	-.552	.582
MG Controlled Reasons	-.219	.095	-.284	-2.298*	.023
P-Approach Controlled Reasons	-.233	.113	-.287	-2.066*	.040
P-Avoidance Controlled Reasons	.463	.106	.529	4.349**	.000
F				8.642	
R^2 (Adjusted R^2)				.274(.242)	
ΔR^2				.071	

Note. *$p<.05$, **$p<.001$

Step one of the hierarchical regression model shows that two of three achievement goals, mastery ($\beta = .367$, $p < .001$) and performance-avoidance ($\beta = -.147$, $p < .05$), are significant predictors of student perception of classroom autonomy, whereas performance-approach ($\beta = .109$, $p = .085$) is not a significant predictor of classroom autonomy. Performance-avoidance goal adoption is a negative predictor within this regression model. Step two added in the underlying autonomous reasons associated with each achievement goal. In step two, the only underlying autonomous reasons which produced a significant result were the underlying autonomous reasons associated with

performance-approach goals ($\beta = .228$, $p < .05$). Also, within step two, two of the achievement goals continued to be significant predictors of student perception of classroom autonomy; mastery goal adoption ($\beta = .333$, $p < .001$) and performance-avoidance goal adoption ($\beta = -.181$, $p < .05$). Step three added in the underlying controlled reasons associated with each achievement goal. The model shows all the underlying controlled reasons to be significant predictors of perception of classroom autonomy: mastery controlled reasons ($\beta = -.284$, $p < .05$), performance-approach controlled reasons ($\beta = -.287$, $p < .05$), and performance-approach controlled reasons ($\beta = .529$, $p < .001$). Regarding my hypothesis on autonomous reasons and student perception of classroom autonomy, there was not support as only one of three autonomous reasons were found to be significant predictors within this model. My hypotheses for mastery goal adoption ($\beta = .236$, $p < .05$) and performance-avoidance goal adoption ($\beta = -.155$, $p < .05$) were supported within this hierarchical regression model. However, my hypothesis regarding performance-approach goal adoption ($\beta = -.038$, $p = .673$) was not supported due to non-significant results within this regression model. Goal complexes explained a significant proportion of variance in student perception of classroom autonomy, $R^2 = .274$, $F(3, 206) = 8.642$, $p < .001$. This model supports my hypothesis regarding goal complexes and student perception of classroom autonomy. Even though not all my hypothesizes regarding the different components of goal complexes were supported, goal complexes as a whole were supported within the regression model. The regression model shows that individual components of goal complexes are not as strong of predictors on their own, as they are as a whole.

Relationship of Spirituality and Goal Complexes

Research Question Four

In order to address research question four a 2-tailed correlational analysis was conducted examining the relationship between spirituality and goal complexes. Two key components of spirituality (involvement and importance) were included to examine the relationship spirituality has with goal complexes. Spiritual importance and spiritual involvement are assed utilizing two measures. The analysis also includes both the achievement goal and underlying reasons (autonomous and controlled). This allows the researcher to assess which part of goal complexes spirituality has the strongest relationship with. Results are in Table 4.6.

Table 4.6 *Correlation and Descriptive Statistics of Spirituality and Goal Complexes*

	1	2	3	4	5	6	7	8	9	10	11
1.Spiritual Importance (RCI-10)	1	.842**	.132	.185*	.147*	-.002	.138*	.169*	.110	.125	.117
2. Spiritual Involvement (DUREL)		1	.068	.104	.054	-.049	.090	.108	.050	.047	.038
3. Mastery Goal			1	.621**	-.139*	.120	.177*	-.135*	.025	.245**	-.061
4. Mastery Autonomous Reasons				1	.176**	.203**	.480**	.122	.270**	.593**	.120
5. Mastery Controlled Reasons					1	.232**	.239**	.825**	.235**	.269**	.809**
6.Performance-Approach Goal						1	.710**	.401**	.078	.194**	.260**
7. P-Approach Autonomous Reasons							1	.425**	.127	.438**	.253**
8. P-Approach Controlled Reasons								1	.206**	.277*	.831**
9.Performance-Avoidance Goal									1	.589**	.217**
10. P-Avoidance Autonomous Reasons										1	.307**
11. P-Avoidance Controlled Reasons											1
M	2.80	3.62	5.88	5.29	3.06	4.75	4.55	2.80	5.70	5.16	3.34
SD	1.20	1.54	1.04	1.06	1.44	1.55	1.40	1.37	1.14	1.20	1.27

The correlational analysis shows that the relationship between spiritual importance and the underlying autonomous reasons associated with the achievement goals is positive with all three autonomous reasons. However, it is only significant with two of the three autonomous reasons associated with achievement goal adoption (Mastery Goal Autonomous Reasons $r = .185$, $p < .05$; P-Approach Goal Autonomous Reasons $r = .138$, $p < .05$; P-Avoidance Goal Autonomous Reasons $r = .125$, $p = .067$). With only two of the three autonomous reasons being significantly correlated with spiritual importance my hypothesis was not supported. The hypothesis regarding spiritual involvement was not supported within the correlational analysis either, as spiritual involvement was not significantly correlated with any of the underlying autonomous reasons (Mastery Goal Autonomous Reasons $r = .104$, $p = .127$; P-Approach Goal Autonomous Reasons $r = .090$, $p < .189$; P-Avoidance Goal Autonomous Reasons $r = .047$, $p = .489$). Spiritual involvement ($r = .068$, $p = .321$) and spiritual importance ($r = .132$, $p = .053$) were positively, non-significantly correlated with mastery goal adoption. With these non-significant relationships, the results do not support my hypothesis.

Differences Between Spiritual Involvement, Goal Complexes, and GPA

Research Question Five

A three-stage hierarchical multiple regression analysis was conducted with student-reported GPA as the dependent variable in order to address research question five. Research question five aims to address the predictive relationship of goal complexes and spirituality with GPA. In stage one of the model, spiritual involvement and spiritual importance were added. In stage two, the three achievement goals were added into the model. Lastly, in stage three, the underlying reasons (autonomous and controlled)

associated with each achievement goals were added to the model. Results are shown in

Table 4.7.

Table 4.7 *Goal Complexes and Spirituality as Predictors of GPA*

Predictors	B	SE B	β	*t*	p
Step 1					
Spiritual Importance (RCI-10)	.030	.044	.087	.690	.491
Spiritual Involvement (DUREL)	-.003	.034	-.011	-.090	.929
F			.653		
R² (Adjusted R²)			.006(-.003)		
Step 2					
Spiritual Importance (RCI-10)	.032	.045	.093	.724	.470
Spiritual Involvement (DUREL)	-.002	.034	-.007	-.054	.957
Mastery Goal	.015	.028	.038	.553	.581
Performance Approach	.029	.018	.108	1.574	.117
Performance Avoidance	-.046	.025	-.126	-1.841	.067
F			1.467		
R² (Adjusted R²)			.034(.011)		
ΔR²			.028		
Step 3					
Spiritual Importance (RCI-10)	.046	.045	.132	1.017	.310

Spiritual Involvement (DUREL)	-.007	.035	-.026	-.205	.838
Mastery Goal	-.038	.039	-.095	-.974	.331
P-Approach	.056	.028	.207	1.980*	.049
P-Avoidance	-.051	.032	-.141	-1.610	.109
Mastery Autonomous Reasons	.071	.048	.180	1.475	.142
Mastery Controlled Reasons	-.031	.041	-.109	-.767	.444
P-Approach Autonomous Reasons	-.033	.037	-.111	-.882	.379
P-Approach Controlled Reasons	-.003	.049	-.011	-.069	.945
P-Avoidance Autonomous Reasons	.008	.041	.022	.201	.841
P-Avoidance Controlled Reasons	-.019	.046	-.059	-.425	.671
F				1.290	
R² (Adjusted R²)				.065(.015)	
ΔR²				.031	

Step one of the hierarchical multiple regression shows that spiritual involvement ($\beta = .069$, $p = .314$) and spiritual importance ($\beta = .069$, $p = .314$) are not significant predictors of GPA. Through the three stages of the regression model, spiritual

involvement (stage 2, β = .077, p = .258; stage 3, β = .094, p = .185) and spiritual importance (stage 2, β = -.007, p = .957; stage 3, β = -.026, p = .838) remained as non-significant predictors of GPA. Step two added in the three achievement goals being studied in this current research. In step two, all three achievement goals were shown to not be significant predictors of GPA. Even though all were non-significant, both mastery goal and performance approach had positive coefficients with GPA, whereas performance avoidance had negative coefficients, which suggests an inverse relationship with GPA. Step two produced the best fit in terms of prediction of academic GPA, even though it was still not significant R^2 = .032, F (5, 210) = 1.467, p = .115. Step three added in the underlying reasons (autonomous and controlled) associated with each achievement goal. In stage three, only performance approach goal adoption was shown to be a significant predictor of GPA (β = .207, p < .05). Adding in all aspects of goal complexes lead to the overall model being non-significant R^2 = .040, F (3, 208) = 1.240, p = .282. This regression model did not support my hypotheses regarding spirituality, goal complexes, and GPA.

CHAPTER V

CONCLUSION

Spirituality is an important aspect of many students lives within the college

setting; however, it is not clear what role spirituality plays within the academic setting

(Buser & Buser, 2014; Donaldson et al., 2018; Natis, 2016). Research has shown

spirituality to be a positive factor with various academic-related variables (Holland, 2016;

Yadav, et al., 2017), but these positive relationships are not found consistently throughout

the current literature (Henning et al., 2015; Schubmehl et al., 2009). Working to gain a

better understanding of the relationship spirituality has with additional academic

variables, specifically goal complexes, GPA, and student perception of classroom

autonomy, could help to improve how spiritual beliefs are incorporated into the academic

setting. Spirituality is thought to be a positive factor for students, which has been linked

to more positive academic outcomes (Holland, 2016; Yadav, et al., 2017). However, little

research has examined spirituality and its relationship with goal complexes and student

perception of classroom autonomy specifically. This study addresses the gap in current

literature by examining the relationship between spirituality, perception of classroom

autonomy, goal complexes, and academic achievement.

This final chapter is separated into four sections. The first section will present a

summary of the findings from the study and conclusions based on those findings.

The second section contains a discussion regarding the implications of the results. Next, is a section addressing the limitations of the current study. Finally, suggestions for future directions for the topics explored in this study.

Findings

In the current study, I examined five research questions through four regression analyses and two correlational analyses. The findings of each of these analyses are discussed below.

Differences between Spirituality and Perception of Classroom Autonomy

Correlation of Spirituality and Student Perception of Classroom Autonomy

Through previous research it has been found that perception of classroom autonomy and spirituality lead students to have a sense of belonging within the academic environment (Amoura et al., 2015; De Meyer et al., 2014; Gaulden, 2013; Lyke & Young, 2006; Reeve, 2009; van Dierendonck, 2011). This sense of belonging is often associated with higher levels of autonomy and choice. Perception of classroom autonomy has also been found to have a strong relationship with various academic outcomes and to have a positive relationship with motivation (Amoura et al., 2015; De Meyer et al., 2014; Lyke & Young, 2006; Reeve, 2009). However, the relationship between student perception of classroom autonomy and spirituality is not as clear. Even though both are associated with feelings of belonging and a higher perception of autonomy, there is not consistent research looking at the relationship between the two. The results of this study aim to fill in this gap, by showing there is a positive relationship between spirituality and student perception of classroom autonomy.

The findings of the correlational analysis showed that there is not a significant relationship between spirituality and perception of classroom autonomy. This is shown by neither spiritual involvement nor spiritual importance having a significant correlation with student perception of classroom autonomy. Even though there was not a significant relationship between these two components of spirituality and student perception of classroom autonomy, they all produced a positive, non-significant relationship with each other. I hypothesized students' perception of classroom autonomy would be positively correlated with their reported level of spiritual involvement and spiritual importance. These hypotheses were not supported by the analysis as both spiritual involvement and spiritual importance had a positive, non-significant correlation with student perception of classroom autonomy. This finding adds to the inconsistent results of previous research regarding the significance of spirituality and students' academic environment (Henning et al., 2015; Holland, 2016; Schubmehl et al., 2009; Yadav, et al., 2017). Even though previous research will often point towards a positive relationship, the significance of this relationship varies. There are many factors which have a significant relationship with perception of classroom autonomy, however, based on these findings it does not appear as though spirituality has a significant relationship with student perception of classroom autonomy. Even with a positive correlation between spirituality (importance and involvement), it is still not clear how important this relationship is based on the non-significant findings of this study.

Spirituality Predicting Classroom Autonomy

A two-stage hierarchical regression model was run to assess if spirituality could be a significant predictor of classroom autonomy. In stage one, we see both class format

and grade level as being significant predictors of student perception of classroom autonomy; these findings support the results of previous research (Mulready-Shick & Parker, 2013: Reeve, 2009; Lyke & Young, 2006). Spirituality is not a significant predictor of student perception of classroom autonomy, based on the non-significant results of spiritual involvement and spiritual importance. However, spirituality does produce positive coefficient numbers in the model, which point toward spirituality being a positive factor in the prediction of student perception of class autonomy. I hypothesized that spiritual importance would be a positive predictor of students' perception of classroom autonomy. The results of the hierarchical regression model do not support this hypothesis, with spiritual importance found as a positive, non-significant predictor of students' perception of classroom autonomy. However, spiritual importance does begin approaching significance in this model ($p = .08$). I also hypothesized that spiritual involvement would be a positive predictor of students' perception of classroom autonomy. Again, the results of this study do not support this hypothesis with spiritual involvement having a positive, non-significant relationship with student perception of classroom autonomy.

These results add to the inconsistent findings regarding the predictive power of spirituality and the academic environment (Henning et al., 2015; Holland, 2016; Yadav, et al., 2017). Even though previous research is inconsistent regarding the significance of this relationship, it was reasonable to hypothesize there would be a positive relationship with spiritual involvement and spiritual importance in relation to students' perception of classroom autonomy. These two components of spirituality add to the variance accounted for within the model, however the model is still non-significant. These positive, non-

significant results point toward spirituality being a positive factor within the classroom environment and one worth acknowledging, even if to a less degree than variables shown throughout research to have a more significant relationship with classroom autonomy.

Differences in Goal Complexes and Perception of Classroom Autonomy

Goal complexes and perception of classroom autonomy are two important factors related to academic success and academic research (Mulready-Shick & Parker, 2013; Reeve, 2009; Sheldon & Elliot, 1998; Sommet & Elliot, 2017; Vansteenkiste et al., 2010). Both have been studied significantly over time and have been shown to be positive predictors of academic outcomes and increased study habits, along with various other factors related to academic success (Mulready-Shick & Parker, 2013; Reeve, 2009; Sheldon & Elliot, 1998; Vansteenkiste et al., 2010). In order to address this relationship, a correlational analysis was used to see if there was a relationship between goal complexes and perception of classroom autonomy. A three-stage hierarchical regression was run to address the effectiveness of goal complexes as a predictor of student perception of classroom autonomy.

The correlational analysis shows student perception of classroom autonomy to have a positive, significant relationship with mastery goal and performance approach goal adoption, as well as the underlying autonomous reasons associated with them. However, perception of classroom autonomy has a negative, non-significant relationship with performance-avoidance goal adoption and a positive, non-significant relationship with the underlying autonomous reasons associated with performance-avoidance goal adoption. I hypothesized that students' autonomous reasoning would be positively correlated with student perception of classroom autonomy. These findings above do not support this

hypothesis, since only the autonomous underlying reasons associated with mastery goal and performance-approach goal adoption were significantly correlated with student perception of classroom autonomy. Even though all underlying autonomous reasons had positive relationships with perception of classroom autonomy, only the underlying autonomous reasons for performance-approach and mastery goal adoption produced a significant positive correlational relationship with perception of classroom autonomy. These finding align closely with the results of previous research examining goal complexes in the academic environment (Senko & Tropiano, 2016; Sommet & Elliot, 2017; Vansteenkiste et al., 2010; Vansteenkiste et al., 2014). Although not all the underlying autonomous reasons produced significant correlational relationships with student perception of classroom autonomy, it was reasonable to make this hypothesis based on prior research. The reasonableness of this hypothesis is even clearer when looking at the autonomous reasoning associated with performance-avoidance goal adoption, as it was approaching significance in this study ($p = .057$). In many instances, the underlying autonomous reasons help to clarify the relationship between achievement goals and other important academic variables. Even though the non-significance of the underlying autonomous reasons for performance-avoidance goal adoption was not anticipated, it is not entirely unexpected for a few reasons. The first being, the relationship was near zero. Secondly, performance-avoidance goal adoption often has the weakest correlation among the achievement goals studied and with variables related to autonomy and academic achievement. Another factor at play in these relationships is the manner in which the underlying autonomous reasons were analyzed. Prior research has

shown various approaches to analyzing the underlying autonomous reasons and the relationship these reasons have with various academic-related variables.

A three-stage hierarchical regression model was utilized to analyze the relationship between goal complexes and perception of classroom autonomy. Even though both mastery and performance-avoidance goal adoption were significant predictors in stage-one, the nature of this relationship was not the same for mastery goal and performance-avoidance goal adoption. Performance-avoidance goal adoption has an inverse relationship with perception of classroom autonomy. The opposite relationships mastery goal and performance-avoidance goal adoption have with student perception of classroom autonomy is one supported through previous research (Elliot & Murayama, 2008; Elliot & Thrash, 2001; Senko & Tropiano, 2016). In stage two of the model, we have an even clearer picture of the relationship between goal complexes and student perception of classroom autonomy. The results of stage two produced only three significant predictors, mastery goal, performance-avoidance goal and the underlying autonomous reasons associated with performance-approach goal. I hypothesized that student's mastery goal adoption would be a significant predictor of student perception of classroom autonomy. Overall, the results of the hierarchical regression model support this hypothesis, as mastery goal adoption was a significant predictor throughout the model. These findings are in line with the results of previous research (Sommet & Elliot, 2017; Vansteenkiste et al., 2010; Vansteenkiste et al., 2014).

I also hypothesized that performance-approach goal adoption would be a significant predictor of student perception of classroom autonomy. This hypothesis was not supported in the current research, as performance-approach was non-significant

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throughout the regression model and even became a negative, non-significant predictor in stages two and three. This finding is not consistently supported within previous research (Vansteenkiste et al., 2010; Vansteenkiste et al., 2014; Sommet & Elliot, 2017). Even though the finding did not align with my hypothesis it was reasonable to hypothesize the relationship would be significant; even with the inconsistent findings regarding performance-approach goal adoption, there is evidence in research pointing towards a positive, significant relationship with factors related to the classroom environment.

Next, I hypothesized that performance-avoidance goal adoption would be a negative predictor of student perception of classroom autonomy. This hypothesis was supported in my regression analysis. Performance-avoidance maintained a negative, significant predictive relationship with student perception of classroom autonomy throughout the model. This finding aligns with the findings of previous research (Sommet & Elliot, 2017; Vansteenkiste et al., 2014), where performance-avoidance goal adoption is consistently found to be have a negative relationship with student perception of classroom autonomy. However, the significance of the relationship was not anticipated due to previous research being inconsistent in the findings regarding the significance of performance-avoidance goal adoption.

Even though not all achievement goals produced the relationships I had hypothesized, the direction of each relationship was as anticipated for two of the three achievement goals. Mastery goal adoption had a positive, significant relationship within the model. This was an anticipated finding since mastery goal adoption is often associated with more autonomous feelings related to the academic environment. The same is true for the relationship between performance-avoidance and perception of

classroom autonomy, where a negative, significant relationship was found. Mastery and performance-avoidance goal adoption having inverse relationships is aligned with previous research. With these two achievement goals having the anticipated relationships with student perception of classroom autonomy, there is reason to believe the measures used are accurately measuring the variables.

The only result which was not fully anticipated was the negative relationship between performance-approach goal adoption and student perception of classroom autonomy within the hierarchical regression model. Although this relationship is more complex than the other two achievement goals within this study and previous research, where previous research has produced more inconsistent findings, it was still reasonable to anticipate a more positive and/or significant relationship between performance-approach goal adoption and student perception of classroom autonomy.

Lastly, regarding these variables, I hypothesized that students' autonomous reasoning would be a significant predictor of student perception of classroom autonomy. This hypothesis was not supported in this regression model. Once these autonomous reasons were added in stage two of the model, only the underlying autonomous reasons associated with performance-approach showed to be a significant predictor of student perception of classroom autonomy. It was anticipated that the underlying autonomous reasons associated would be significant predictors in the model based on prior research regarding goal complexes. However, the lack of a significant relationship does not point towards the measures being poor, as the direction of the relationships was as anticipated. Both the underlying autonomous reasons associated with mastery and performance-approach goal adoption resulted in positive, non-significant predictive relationships,

whereas the underlying autonomous reasons associated with performance-avoidance resulted in a negative, non-significant predictive relationship with student perception of classroom autonomy.

Even though the overall support of my hypotheses were mixed, the overall results of the regression model for goal complexes was significant. Including both the achievement goals and the underlying autonomous and controlled reasons produced a better model fit, which accounted for a greater amount of variance than just the achievement goals alone. I hypothesized that goal complexes would be a significant predictor of student perception of classroom autonomy. The results of this hierarchical regression model support this hypothesis. The overall model fit was significant when including all components of goal complexes.

The regression analysis produced some unanticipated results, which were most likely due to the manner in which items were analyzed in this study, as previous research has shown multiple ways to address these reasons within the framework of goal complexes. In future research involving goal complexes, researchers should utilize different models to address the underlying reasons associated with achievement goals. Also, in terms of future directions, I would work to include class format into the model to better address the effect this plays in the relationship between goal complexes and perception of classroom autonomy. Including class format in the semester data was collected would likely not have been as effect as it could be in future studies. This is due to the current COVID-19 pandemic, which forced universities to change their policies on class format and the number of courses offered online. These policies limited student class choice, in an effort to keep students healthy.

Relationship of Spirituality and Goal Complexes

Goal complexes and its components, achievement goals and underlying reasons (autonomous and controlled), are commonly researched variables in relation to academic-related variables (Sommet & Elliot, 2017; Vansteenkiste et al., 2014). Spirituality has not been studied as consistently in terms of its relationship with academic related variables (Henning et al., 2015; Krageloh et al., 2015; Schumbehl et al., 2009). In order to better examine the relationship between these two variables a correlational analysis was run.

The correlational analysis shows spiritual involvement has no significant relationships with any aspect of goal complexes. I hypothesized that students' spiritual involvement would be positively correlated with the underlying autonomous reasons of each achievement goal. This hypothesis was not supported in the correlational analysis of this study. Results show spiritual involvement having a positive, non-significant relationship with the underlying autonomous reasons associated with each of the achievement goals. Even though previous research regarding spiritual involvement is inconsistent, it was reasonable to hypothesize this relationship would be positive and significant (Henning et al., 2015; Holland, 2016; Maria et al., 2018; Schumbehl et al., 2009). Even with the non-significant results between the underlying autonomous reasons and spiritual involvement, it is not all bad news with the relationship being a weak, positive correlation. It was also hypothesized that spiritual involvement would be positively correlated with mastery goal adoption. This hypothesis was not supported as spiritual involvement was shown to have positive, non-significant relationship with mastery goal adoption. Previous research is mostly inconsistent related to the significance of spiritual involvement within the academic environment; however, previous research

does consistently produce directionally positive relationships between spiritual involvement and other variables related to the academic environment (Crosby & Bossely, 2012; Kasser & Ryan, 1996; van Dierendonck, 2011).

The correlational analysis also shows spiritual importance to have a positive, non-significant relationship with each of the achievement goals. In this analysis, spiritual importance is shown to be positively correlated with all the underlying reasons, both controlled and autonomous, with positive, significant relationships with the controlled and autonomous reasons associated with mastery and performance-approach goal adoption. I hypothesized that spiritual importance would be positively correlated with the underlying autonomous reasons associated with each of the achievement goals This hypothesis was not supported due to spiritual importance only having a significant relationship with two of the three underlying autonomous reasons, with only the autonomous reasons associated with performance-avoidance goal adoption not being significantly correlated with spiritual importance. These results not supporting my hypothesis regarding spiritual importance and the autonomous underlying reasons was not an anticipated result based on prior research. However, the significance level between spiritual importance and the autonomous reasons associated with performance-avoidance goal adoption was approaching significance ($p < .10$).

Lastly, I hypothesized that spiritual importance would be positively correlated with mastery goal adoption. Again, this hypothesis was not supported within this correlational analysis as spiritual importance did not have a significant correlation with mastery goal adoption. The correlation between spiritual importance and mastery goal adoption was not anticipated based on previous research. However, the relationship

between spiritual importance and mastery goal adoption was approaching significance in this correlational analysis ($p < .10$) Which adds to the evidence showing spiritual importance having consistently stronger, and at times significant relationships with the variables in this study. Even though both components of spirituality are shown to be important throughout previous research, this current study shows spiritual importance to be the more significant component for future research within the academic environment. This is likely due to the manner in which spirituality was studied, especially as it relates to involvement and importance. The study focused on variables closely related to the academic environment and not the spiritual or social environment of students. With spiritual importance focused more on daily experiences with spirituality and spiritual involvement focused on specific activities related to spirituality, it was likely harder to translate specific spiritual activities into a relationship with activities not related to spirituality. Whereas spiritual importance lends itself more easily into the various environments a student enters into, especially as it relates to the academic environment.

Differences in Goal Complexes, Spiritual Involvement, and GPA

Grade point average (GPA) was gathered through student report of their best estimated current GPA at the time of the study. In order to examine this relationship a three-stage hierarchical regression model was utilized. Both goal complexes and spirituality (involvement and importance) have been shown to a have positive and significant relationships with GPA (Elliot & Murayama, 2008; Elliot & Thrash, 2001; Holland, 2016; Maria et al., 2018; Paine & Sandage, 2016; Senko & Tropiano, 2016; van Dierendonck, 2011; Zera, 1989). However, the relationship between spirituality and GPA is not as clear due to more inconsistent findings regarding the significance of this

relationship within previous research (Henning et al., 2015; Maria et al., 2018; Schumbehl et al., 2009;). The results of this analysis aim to provide more clarity to these relationships and are discussed below in more detail.

The hierarchical regression models shows that two of three achievement goals, the underlying reasons (controlled and autonomous) associated with each achievement goal, and spiritual involvement are all non-significant predictors of GPA as reported by student's best estimate. Performance-approach goal adoption did produce a significant result in stage three of the model. I hypothesized that goal complexes would be a significant predictor of academic achievement (GPA). The hierarchical regression model does not support this hypothesis, with the overall regression model being non-significant. Throughout the three stages, only performance-approach goal adoption produced a significant result in stage three. Even though the relationship was not significant between academic achievement and goal complexes, the relationship was positive between academic achievement, mastery goal (in stage two) and performance-approach goal adoption. Academic achievement had an inverse relationship with performance-avoidance goal adoption in the hierarchical regression model. The positive relationship between mastery and performance-approach goals with academic achievement and the negative relationship between performance-avoidance goal and academic achievement supports the findings of previous research on these variables (Elliot & Murayama, 2008; Elliot & Thrash, 2001; Senko & Tropiano, 2016). However, once adding the underlying reasons (controlled and autonomous) to the model in stage three, mastery goal adoption was shown to have an inverse relationship with academic achievement, an unexpected finding when considering the results of previous research or previous stages of this

regression analysis. These inconsistent results could be due to goal complexes being studied alongside a variable, spirituality, it has not often been studied alongside directly. It also could be due to the manner in which the components of goal complexes were studied within this study, as previous research has shown different ways to approach this analysis (Elliot & Murayama, 2008; Elliot & Thrash, 2001; Senko & Tropiano, 2016).

Both spiritual importance and spiritual involvement were not significant in this regression model, however, the coefficients point toward spiritual importance having a positive relationship with academic achievement and spiritual involvement having a negative relationship with academic achievement. I hypothesized that spiritual importance would be a significant predictor in this model. This hypothesis was not supported in this regression model, with spiritual involvement being a non-significant predictor. With the results in this study and previous research, it was reasonable to hypothesize spiritual importance would be a significant predictor of academic achievement. These results add to the inconsistent research regarding spiritual involvement, spiritual importance and academics, especially in terms of spiritual involvement and spiritual importance as they relate to academic achievement (GPA) (Holland, 2016; Krageloh et al., 2015; Maria et al., 2018; Schumbehl et al., 2009).

Although academic achievement was assessed utilizing student best estimate of current GPA, and it is reasonable to address this relationship through these two variables based on previous research (Holland, 2016; Maria et al., 2018; Zera, 1989) However, it would not be unreasonable to explore assessing academic achievement utilizing a different measure of success. Also, the class format and grade level of students were not included in the model or assumptions, these two factors have been included in prior

research exploring goal complexes and/or academic achievement. These would be variables to include in more depth with future research looking into goal complexes and the relationship with academic achievement.

Summary

My hypothesis regarding spirituality and student perception of classroom autonomy were not supported in this study, with positive, non-significant correlations between spiritual involvement, spiritual importance and student perception of classroom autonomy. The same was found regarding spiritual importance as a predictor of student perception of classroom autonomy in the regression model. Spiritual importance was also a non-significant predictor in the regression model. With these findings not supporting my hypotheses it is important to continue exploring spirituality and its relationship with student perception of classroom autonomy in order to continue adding to the understanding of the role spirituality plays within the academic environment.

Goal complexes and perception of classroom autonomy are two commonly studied variables with fairly consistent results providing insight into the relationship of these variables. My hypothesis regarding the underlying autonomous reasons was not supported through correlational analysis. The correlational analysis showed two of the three underlying autonomous reasons associated with the achievement goals having a positive, significant relationship with student perception of classroom autonomy. With hierarchical regression modeling, not all the achievement goals were shown to be significant predictors of student perception of classroom autonomy. These findings did not support my hypothesis and did fully align with the results of previous research, but

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did produce positive and negative relationships between achievement goals and student perception of classroom autonomy one could anticipate based on prior research.

The relationship between spiritual involvement and goal complexes was explored. With a correlational analysis I looked at the direct relationship of goal complexes and spirituality (involvement and importance). This correlational analysis did not support my hypotheses, with mastery goal adoption having a positive, non-significant correlation with spiritual importance and spiritual involvement. However, spiritual importance was approaching a significance in its relationship with mastery goal adoption and the underlying autonomous reasons.

Regarding GPA, I hypothesized that both goal complexes and spiritual importance would be significant predictors of academic achievement. However, neither were confirmed to be significant predictors. This finding is inconsistent with previous research regarding academic achievement and goal complexes, and to a lesser degree with spiritual importance. These findings did not fit with previous research related to goal complexes and academic achievement, where significant relationships have been found between the two variables throughout previous research.

<div align="center">**Implications of Conclusions**</div>

In chapter one, I mentioned that 76.7% of the population within the United States of America reported to holding some form of spiritual beliefs (Pew Research, *Religious Landscape Study,* 2014). The percentage of people who report to having spiritual beliefs has dropped over the years, but those who hold spiritual beliefs remain as a significant percentage of the population within the United States; with spiritual beliefs still holding a valued place in society today. Even with the majority of the population reporting to

holding a form of spiritual beliefs, it is not clear how spirituality impacts student

perception of the academic environment. Along with this data, several court cases were

presented to demonstrate how the legal system views spirituality within the academic

environment. All of these court cases came to similar rulings; however, the goal of these

rulings was not to completely remove spirituality from the classroom. The aim of these

court rulings was to discourage discrimination based on spiritual beliefs, with many of

the rulings discussing the importance of spirituality within the academic environment.

With these court rulings and data in mind, the main goal of this study was to work

towards gaining a better understanding of spiritual beliefs within the academic

environment.

In order to gain a better understanding of spiritual involvement and the

relationship with the academic environment; I looked at academic achievement, goal

complexes, and student perception of classroom autonomy specifically. Spiritual

involvement was found to have a positive correlation with student perception of

classroom autonomy, parts of goal complexes, and academic achievement. These positive

relationships were often non-significant; however, the positive direction of the

relationships point toward the importance of students' beliefs within the academic

environment. However, there are consistently positive relationships between spiritual

involvement and academic related variables included in this study. Even though the

relationship between spiritual importance and the other key variables of this study were

not always significant, they were positive in direction and had several relationships

approaching significance. With these findings, it is important to continue exploring

spiritual importance within the academic environment, as the findings point towards

spiritual importance being directionally positive factor within the academic environment. This does not mean spirituality should be given equal time within each subject or course, but that spirituality should be acknowledged as a real option for discussion and given adequate time when it is reasonable (Nord, 2010). Even with a decreasing majority, it is likely for students to hold some type of spiritual belief, however, based on this research and previous studies these various spiritual beliefs are likely to play a role of varied significance on students' goal complexes, academic achievement, and student perception of classroom autonomy. Allowing students to have more access to their spiritual beliefs within the academic environment will more than likely help them be better overall students.

Within this study I also wanted to examine the relationship goal complexes have with academic achievement and the perception of classroom autonomy. Examining these relationships would provide a clearer picture of how spiritual beliefs' fit into the academic environment. The results for goal complexes led to varied results, however, the results for mastery and performance-approach goal adoption and the underlying autonomous reasons associated with them produced positive correlational relationships with student perception of classroom autonomy and academic achievement. These findings point toward the continued importance of achievement goals as well the underlying autonomous reasons associated with them within the academic environment, which has been shown in previous research (Mulready-Shick & Parker, 2013; Reeve, 2009; Sheldon & Elliot, 1998; Sommet & Elliot, 2017; Vansteenkiste et al., 2010). Those within the academic environment should work to encourage students to adopt mastery goals along with autonomous reasoning for pursing their goals. If this is done students are

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more likely to perceive a more autonomous classroom environment and have a better chance at academic success.

Although, goals complexes seem to be a more significant factor within the academic environment based on this study, students' spirituality should not be dismissed. Spirituality's two key components did not produce many significant relationships in this study; however, spiritual importance did produce a few significant relationships with several other relationships approaching significance. Spiritual importance had stronger positive relationships with the same variables as spiritual involvement, and at times relationships of significance. With stronger positive relationships being produced between spiritual importance and the other variables of this study point towards this being an important relationship to be studied further.

Again, I would argue for students' spiritual beliefs' to be included within the academic environment, especially as it relates to spiritual importance, as spiritual importance focuses on student's autonomous decision making and how they incorporate their spiritual beliefs into everyday activities and situations. Students' spiritual beliefs are likely to continue being a part of their academic endeavors, and this study points toward the positive influence of these beliefs; so, I encourage those in academics to work towards including spiritual beliefs where applicable, as they are likely to have a positive influence on the students' goal complexes, academic achievement, and student perception of classroom autonomy. However, when including spiritual beliefs within the classroom it is important for instructors to approach these conversations with respect for other beliefs, regardless of the beliefs they hold. Approaching spiritual beliefs of others with respect will help to increase the sense of autonomy and relatedness within the classroom

and will allow conversations revolving around spiritual beliefs to flourish in a safe environment. Including spiritual beliefs within the classroom environment, when reasonable, is shown as a positive factor and doing so with respect and consideration for others is likely to improve autonomy, achievement, and relatedness.

Limitations

With this study there were some limitations that were anticipated, especially in regard to the population being sampled. The first being the sample was acquired from one public university. Only one public university's population was included for convenience of sampling. Having only participants from one university limited the population to a certain racial breakdown within the sample. Even though the sampled racial breakdown accurately represents the universities reported racial data, it does not fully represent the racial breakdown of the rest of the United States. Sampling from universities across various regions would allow for obtaining a sample which better represents the racial makeup of the country.

Another limitation due to convenience sampling, is the reported spiritual background of the sample population. This limitation has less to do with the university in which the sample was collected, and more to do with the region in which the university was sampled. Sampling from various regions would allow for a more diverse sampling of spiritual beliefs and would add more depth to the conversation regarding spiritual beliefs and the relationship spiritual beliefs have with the academic environment. The last limitation due to the sample population, was not fully anticipated, with the sample population being highly represented by one reported gender. There was not much

diversity anticipated here based on data collected and published by the university, however, a more balanced gender representation was anticipated.

All but one of the measures in this study were shown to be reliable and valid measures throughout several previous studies. However, the underlying reasons questionnaire was shown to be reliable, but information regarding validity was not presented in previous studies examined. It is believed the measure is accurately measuring the underlying reasons of achievement goals, but without information regarding validity it is not possible to say this. Without information discussing validity related to the underlying reasons questionnaire, it leads to a limitation of this study. If validity information can be produced regarding this questionnaire, then it would no longer be a limitation of this study or future studies.

There was also a limitation due the current COVID-19 pandemic. In most years students would have more autonomy as it relates to their class choice, especially as it relates to the format of the classes they enroll in. However, over the last academic year this choice was limited, with many courses being offered online, and face-to-face offerings being limited in number. This decrease in student ability to choose is a limitation for this study, as many variables included had a strong connection with autonomy and the sense of choice. However, this is a limitation I see as extremely relevant to this study as it directly impacted student's choice. This likely would have resulted in more negative views of classroom autonomy, since student's ability to choose was limited and students would have ended up in classes they were not able to choose the format of, which could have had them entering a class with lower sense of autonomy.

Future Directions

One key variable to consider in the future is class format, whether the class be online, hybrid, or face-to-face. This was a variable I collected data on but did not explore through the literature review and was not part of my research questions. However, having a better understanding of how class format impacts perception of classroom autonomy would likely provide a clearer picture of the relationship between spiritual involvement, classroom autonomy goal complexes, and academic achievement. When students have choice over their class format, they do so for different reasons. I would not anticipate any significant differences in academic achievement among these different class delivery formats, but I would anticipate some differences in the amount of autonomy students perceive between these different class delivery formats. Future studies examining these variables should include class format as an important variable in order to better understand these relationships.

Future studies should also aim to utilize a more robust sampling method. Sampling from universities from across the country and utilizing different types of universities (public, private, religiously affiliated). Utilizing a more robust sampling method would allow for the data collected, along with any findings, to be more easily applied to a broader group of students and those within the academic environment. I would not anticipate any significant differences in the findings but having a more robust sampling method would provide depth to the study and would allow for generalizations to be made regarding the data and the findings.

Another item for future directions would be to include open-ended items, especially as it relates to students' spiritual beliefs. This study utilized only Likert-type

questions to address students' beliefs, which met the purpose of this study. However, spiritual beliefs are a broad topic and not always easily quantified into numbers. Allowing participants to provide more depth to their answers regarding spiritual beliefs would allow for a deeper understanding of their responses on the Likert-type questions. I would not anticipate any significant differences in the analysis based on the Likert-type questions, however, I do think having open response questions directly tied to the Likert-type questions could provide depth and quality by allowing researchers insight to why a student selected a "7" or "2" on a Likert-type item related to spirituality.

Lastly, future studies should focus on the spiritual importance component of spiritual involvement. Through this study, spiritual importance has been shown to have a stronger relationship with the various academic-related variables present in this study. This stronger relationship points towards spiritual importance needing to be studied in more depth, alongside more academic-related variables. If spiritual importance is studied in more depth within the academic environment, I anticipate more significant and positive relationships would be discovered. Having a better understanding of how spiritual importance fits into the academic environment would provide those working in academics another asset to use; not only to understand better who their students are, but also to improve overall academic performance and success.

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APPENDICES

APPENDIX A

Oklahoma State University Institutional Review Board

Date:	09/18/2020
Application Number:	IRB-20-402
Proposal Title:	Spiritual Involvement: How it impacts goal complexes and perception of classroom autonomy while in college students.
Principal Investigator:	Kyle Clayton
Co-Investigator(s):	
Faculty Adviser:	Mike Yough
Project Coordinator:	
Research Assistant(s):	
Processed as:	Exempt
Exempt Category:	

Status Recommended by Reviewer(s): Approved

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in 45CFR46.

This study meets criteria in the Revised Common Rule, as well as, one or more of the circumstances for which <u>continuing review is not required.</u> As Principal Investigator of this research, you will be required to submit a status report to the IRB triennially.

The final versions of any recruitment, consent and assent documents bearing the IRB approval stamp are available for download from IRBManager. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be approved by the IRB. Protocol modifications requiring approval may include changes to the title, PI, adviser, other research personnel, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3. Report any unanticipated and/or adverse events to the IRB Office promptly.
4. Notify the IRB office when your research project is complete or when you are no longer affiliated with Oklahoma State University.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact the IRB Office at 405-744-3377 or irb@okstate.edu.

Sincerely,
Oklahoma State University IRB

APPENDIX B

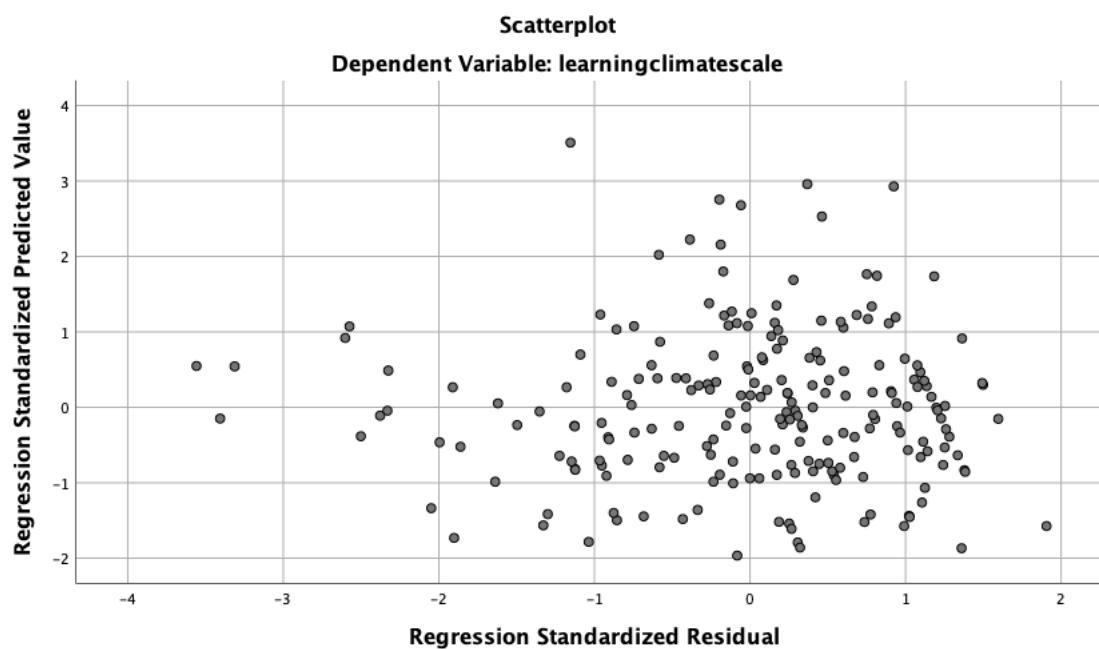Scatterplots of Standardized Predicted Values and Standardized Residuals Obtained
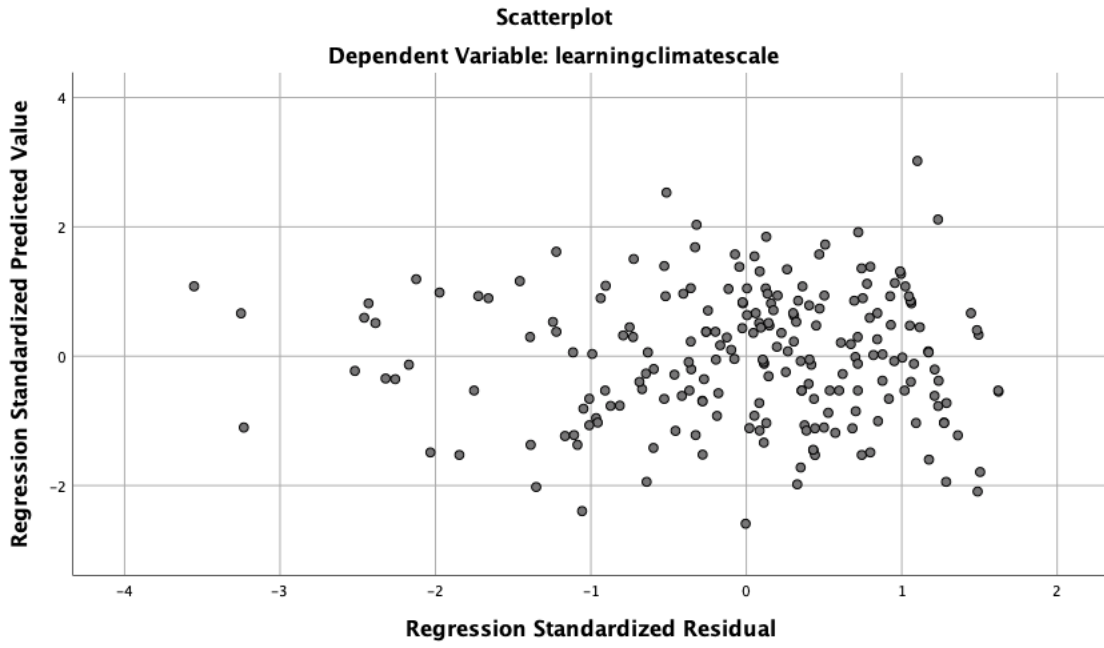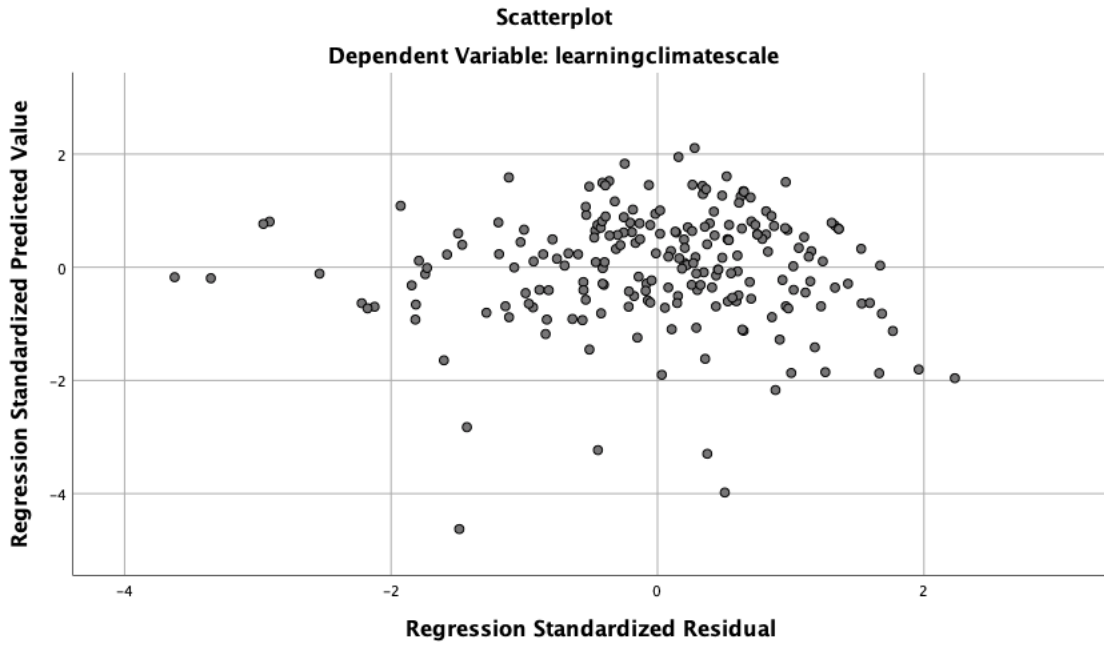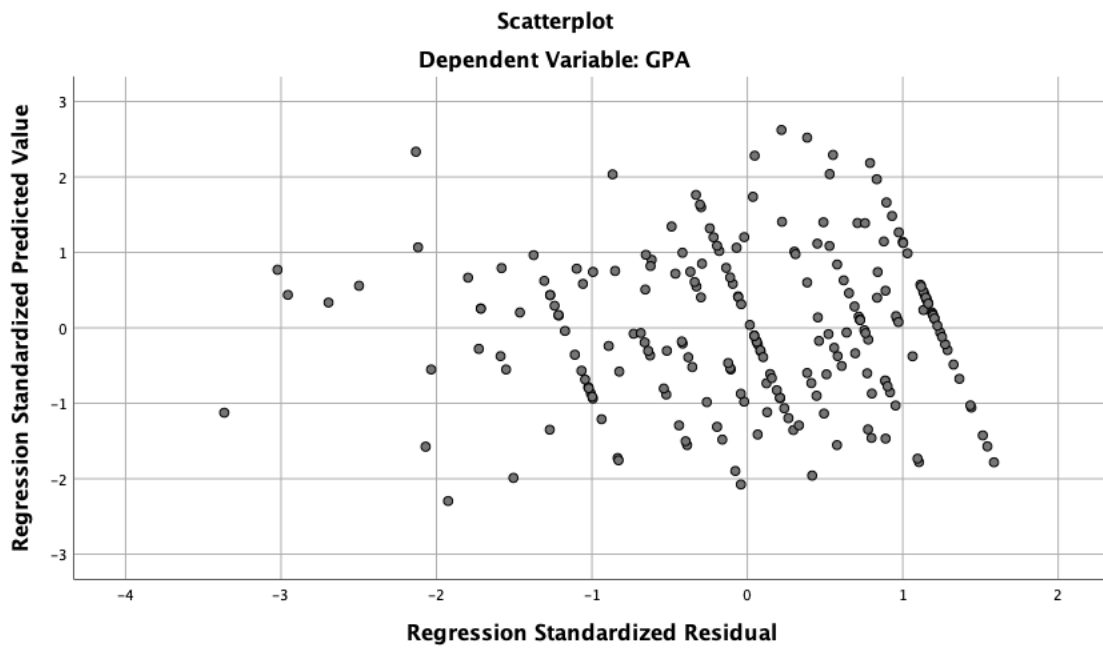
Figure B.1

Figure B.2

Scatterplot
Dependent Variable: learningclimatescale

Figure B.3

Scatterplot
Dependent Variable: learningclimatescale

Figure B.4

Scatterplot
Dependent Variable: GPA

APPENDIX C

Distribution of the Values of the Residuals

Figure C.1

Normal P–P Plot of Regression Standardized Residual

Dependent Variable: learningclimatescale

Figure C.2

Normal P–P Plot of Regression Standardized Residual
Dependent Variable: learningclimatescale

Figure C.3

Normal P–P Plot of Regression Standardized Residual
Dependent Variable: learningclimatescale

Figure C.4

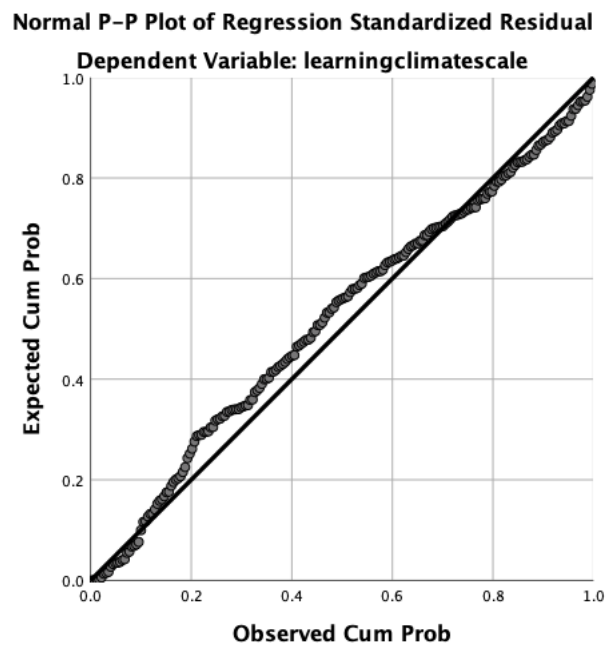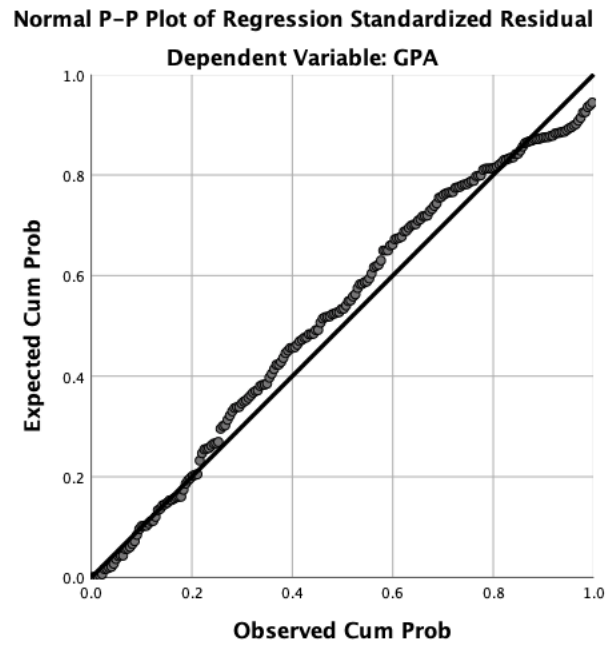**Normal P-P Plot of Regression Standardized Residual**
Dependent Variable: GPA
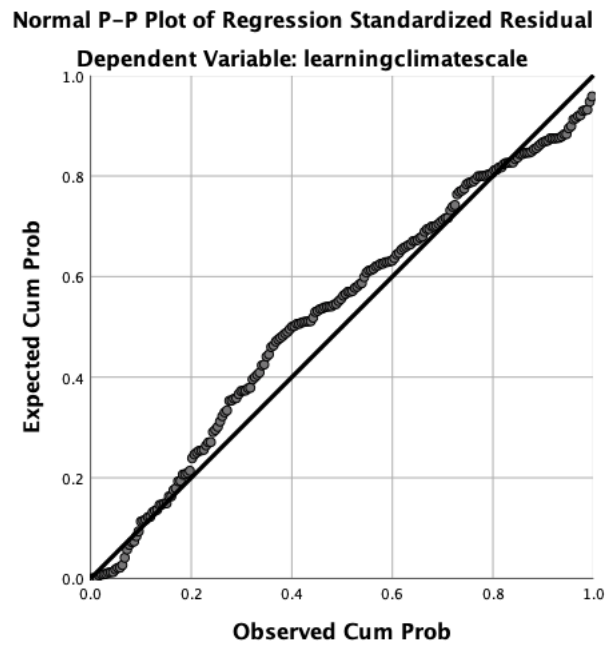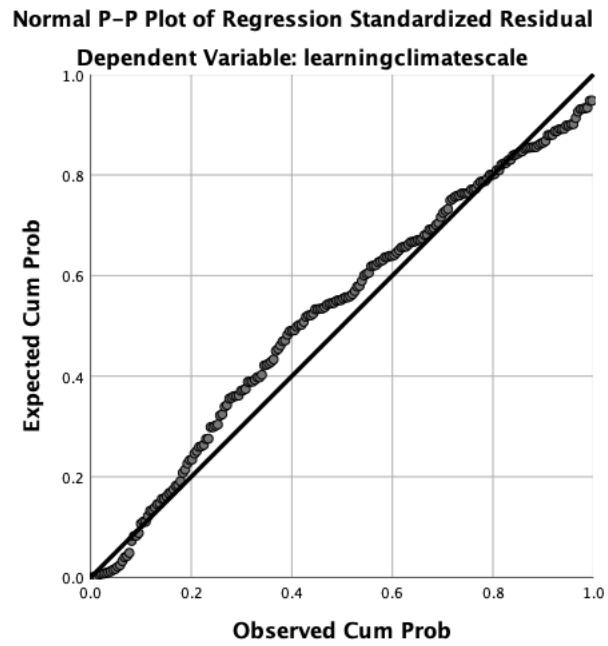
VITA

Kyle William Clayton

Candidate for Degree of

Doctor of Philosophy

Dissertation: SPIRITUAL INVOLVEMENT: HOW IT RELATES TO GOAL COMPLEXES AND PERCEPTION OF CLASSROOM AUTONOMY IN COLLEGE STUDENTS

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Completed the requirements for the Doctor of Philosophy in Educational Psychology at Oklahoma State University, Stillwater, Oklahoma in May, 2021.

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Associations of North America Higher Education International