STUDENT FEELINGS OF PSYCHOLOGICAL

OWNERSHIP AT A MID-SIZED REGIONAL PUBLIC

INSTITUTION

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Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
May, 2019

STUDENT FEELINGS OF PSYCHOLOGICAL OWNERSHIP AT A

MID-SIZED REGIONAL PUBLIC INSTITUTION

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ACKNOWLEDGEMENTS

It takes a village to complete a PhD program. While my name may be on the degree, it did not get there alone. So, thanks to:

- my family that allowed me to miss family dinners and soccer games and gymnastics meets and football games because I just couldn't make it.

- my battle buddies for being in the trenches with me and letting me vent or talk things out when needed.

- my advisors who answered endless questions and forced me to talk things through instead of ignoring my problems.

- those that asked how things were going, and genuinely listened when I answered.

- those that volunteered (or were volun-told) to edit and read through the many rough drafts.

- those that let me talk about my topic even though they didn't totally understand it.

- those that took, "I can't, I have homework" as a valid reason for me not participating.

- co-workers who took care of things when class or homework took precedent.

- everyone who said a prayer or sent a positive thought my way.

- Zeak, whom I literally would not have started or completed this process in a timely manner without.

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Name: LESLIE COTHREN

Date of Degree: MAY, 2019

Title of Study: STUDENT FEELINGS OF PSYCHOLOGICAL OWNERSHIP AT A

MID-SIZED REGIONAL PUBLIC INSTITUTION

Major Field: Educational Leadership and Policy Studies

Abstract:

Research shows that students with strong feelings of connection to the institution they attend often obtain higher grades, score better on tests, and have higher persistence rates than students with less connection to and felt ownership in the organization. However, not all students feel the same level of connection to the institution, even when students have similar backgrounds, participate in the same organizations, or attend the same institution. This correlational relationship study examined the relationship between students' feelings of psychological ownership toward the institution they attend and students' perceptions of involvement, students' feelings of satisfaction, and demographic factors. Findings showed students developed feelings of psychological ownership toward the institution, however demographic factors were not consistently statistically significant. Furthermore, a relationship was found between psychological ownership and both satisfaction and involvement with the institution.

This research shows the concept of psychological ownership can be applied to higher education. However, further research is needed to understand the full implications of this connection. Additionally, the theory of psychological ownership still needs examining as it relates to higher education, as the prevention motivation was not as strongly correlated to student feelings of psychological ownership as the promotion motivation. For practitioners, by intentionally considering the individual aspects of psychological ownership when interacting with students, campus administrators can create a campus environment where students are encouraged to be engaged with the institution and take control of their experience. This ownership by the students may lead to higher retention rates, better alumni involvement, and more campus engagement.

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CHAPTER 1

INTRODUCTION

Approximately 59% of students who began the process of earning a bachelor's degree

at a four-year university in 2009 completed that degree within six years (U.S. Department of

Education, 2017). This means almost half of the students who pursued a higher education

degree did not earn one from the institution at which they started their career. This is a

concerning statistic, as retention is one of the criterion for institutional accreditation (Higher

Learning Commission, 2018). Additionally, higher education stakeholders continue to ask for

more accountability as to the benefits and positive outcomes of a college education (National

Conference of State Legislators, 2018). This increased accountability can lead to more public

and private funding and a better institutional reputation. The mission of higher education is to

educate students, and having students graduate is one of the strongest measures available to

ensure that higher education is doing its job (Newman, Couturier, & Scurry, 2004).

One factor that may affect a student's willingness to stay at an institution is the

student's feelings toward that institution, defined in this study as psychological ownership.

This research study focused on the feelings of psychological ownership held by students at an

institution of higher education. Previous research examined psychological ownership within

organizations and among employees (O'Driscoll, Pierce, & Coghlan, 2006; Pierce & Jussila,

2011; Pierce, Kostova, & Dirks, 2001; Van Dyne & Pierce, 2004), yet the relationship

between students and the institutions they attend has received little attention. The relationship between students and the higher education institutions they attend is complicated by students' investment of their money, their time, and their energy to the college experience. To add another layer to the discussion, students are also viewed as both consumers and customers of education.

The current quantitative research study explored the relationship between a student and the higher education institution attended. Specifically, the study investigated the relationship between students' feelings of psychological ownership for the institution they attend and independent variables including their satisfaction with the institution, their perception of their involvement, and several demographic factors. This chapter provides background for the study, the research problem, the purpose statement, hypotheses, null hypotheses, and an overview of the methodology. The significance of the study, the role of the researcher, and definition of terms will also be addressed.

Background of the Study

The university's role in modern society has shifted in the past 50 years. Previously it was believed that participation in higher education was the primary way to learn and elevate oneself in society (Mayhew et al., 2016). However, deeper questions have emerged, including the connection between learning and making money and the importance of learning if it does not lead to a financial goal (Mayhew et al., 2016). These questions circle back to the central debate around the purpose of higher education, the private vs. public good.

Historically, one of the central roles of higher education was to serve the public good through developing research, training leaders for public service, educating citizens to serve democracy, increasing economic development, and critiquing public policy (Kezar,

Chambers, & Burkhardt, 2005). Recently a shift occurred as institutions began to focus more on revenue generation and benefits to individual students due to decreased state funding and state goals that do not prioritize higher education (Kezar, Chambers, & Burkhardt, 2005). This shift to a view focused more on the private, individual good of higher education affects both the general public's view of the role of higher education and the institution's articulation of the purpose of higher education in society (Chambers, 2005). A better articulation by institutions of the societal benefits of higher education could lead to a better understanding of those benefits to the general public, which could lead to more public support, including state funding and increased state priorities. While the focus of the purpose of higher education has shifted to the individual and economic gains provided by a college education, the effects of higher education and an educated population on society are still noted. Countries with well-educated populations are better off in terms of economics and individual well-being (Organisation for Economic Co-operation and Development, 2017).

The types of students who attend colleges and universities have also changed. Specifically, an increasing percentage of undergraduates of color and international students are attending college (Mayhew et al, 2016). Additionally, traditionally-aged college students (aged 18-22) are now a minority of those seeking an undergraduate degree (Mayhew et al., 2016). With the advent of technology, a college student no longer needs to be present on campus to be part of the institution (Mayhew et al., 2016).

Similarly, institutions have begun to change their philosophies as to how students interact with them. Institutions once approached students with the attitude that those students who deserved to succeed could figure out how to do it on their own and remain at the institution (Kuh, 2015). However, that view has been replaced with an approach where the

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institution has a moral, ethical, and educational obligation to provide students with an academically challenging environment that also supports the individual student (Kuh, 2015). This shift embraces efforts to integrate academics with co-curricular aspects, including service-learning and living-learning communities (Mayhew et al, 2016).

To provide a full picture of higher education, it is important to note the types of institutions that educate students. Of late, large flagship institutions, small private institutions, and for-profit institutions seem to receive the most media attention, but these types of institutions educate only a portion of the students in higher education. Mid-sized institutions have enrollments of 3,000 to 9,999 primarily undergraduate students (Carnegie Foundation for the Advancement of Teaching, n.d., "About Carnegie Classification"). There are over 250 institutions of this type and they enroll over two million students nationwide (Carnegie Foundation for the Advancement of Teaching, 2016). Mid-sized institutions account for approximately 39% of all public four-year institutions in the nation and educate 25% of all students attending public four-year higher education institutions (Carnegie Foundation for the Advancement of Teaching, 2016). Additionally, public, regional institutions are referred to commonly as state colleges and universities and educate almost four million students per year, representing 47% of all students at public four-year institutions (American Association of State Colleges and Universities, n.d., "Facts about State Colleges and Universities"). Over 400 institutions fall into this category and are categorized by their commitment to three ideals: access and opportunity, student-centeredness, and engagement of faculty, staff, and students with the communities and regions they serve (American Association of State Colleges and Universities, n.d., "Members by States & Territories").

Regional public institutions vary in their levels of autonomy and structure. Some are regional campuses connected to a larger state system and others are stand-alone institutions (American Association of State Colleges and Universities, n.d., "Members by States & Territories"). Due to this variance, the institutions that are not flagship state institutions may struggle more when state budget cuts occur. Additionally, they may not have the supplemental revenue streams of institutions with more established reputations or research funding. Declining state appropriations to higher education have weakened mid-sized, regional institutions and community colleges (Geiger, 2011). This has affected the services they are able to provide to students and the affordability and financial aid they are able to offer to students (Geiger, 2011).

Although no statistics were found that specifically describe the types of students who attended mid-sized regional public institutions, the information presented above shows the varying types and large number of students attending. Better understanding the feelings held by students attending mid-sized regional public institutions can help the institution better articulate the purpose it serves in society and can facilitate an experience for the individual student that helps the student want to remain at the institution to complete a degree.

<div align="center">**Research Problem**</div>

Research shows the connection members feel toward an organization is vital for the success of community organizations, businesses, military branches, and educational institutions (Gade, 2003; Mathieu & Zajac, 1990; McMullan & Gilmore, 2008; Meyer & Allen, 1997; Peterson, 2004). In educational institutions, students with strong feelings of connection to the institution often obtain higher grades, better test scores, and have higher persistence rates than students with less connection to and felt ownership in the organization

(Hixenbaugh, Dewart, & Towell, 2012; Nora & Cabrera, 1993; Oja, 2011; Robbins et al., 2004; Woosley & Miller, 2009). These outcomes have positive effects for both the individuals and institutions.

However, not all students feel the same level of connection to the institution even when students have similar backgrounds, participate in the same organizations, or attend the same institution (Braxton, Sullivan, & Johnson, 1997; Przymus, 2011; Vianden & Barlow, 2014; Wardley, Bélanger, & Leonard, 2013). Not only do students enter institutions with varying backgrounds and individual traits (Mayhew et al., 2016; Pascarella & Terenzini, 1991, 2005), but they also have different expectations of and experiences during college, which can affect their relationship to the institution (Vianden & Barlow, 2014; Wolf-Wendel, Ward & Kinzie, 2009). These differing expectations and experiences are as varied as the students who attend the institution and may relate to individual commitments outside college, financial aid status, satisfaction with the institution, reason for attending the institution, and demographics. These differences may affect the degree to which a student develops feelings toward the institution (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006; Pascarella & Terenzini, 1991, 2005; Tinto, 1975, 1993). Even with the same traits and similar experiences, students persist at different rates and have varying levels of institutional connection.

Previous research suggests that factors contributing to the wide range of individual levels of connection could be the campus environment, the student's level of involvement on campus, or a combination of personal, familial, and academic characteristics (Astin, 1985; Boyer, 1990; Kuh et al., 2006; Pascarella & Terenzini, 1991, 2005; Tinto, 1993). However, these characteristics do not explain the entire picture of a student's commitment to the institution. It could be that the student's commitment to the institution builds upon a deeper

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psychological facet. To understand better the student's relationship to the institution, this study looked at the relationship between students' feelings toward the institution and three additional factors of demographic characteristics, students' feelings of involvement on campus, and students' feelings of satisfaction with the institution. Better understanding the feelings of connection students feel toward institutions, defined in this study as psychological ownership, may help institutions create experiences that encourage student connection and persistence.

Purpose Statement

The purpose of this correlational quantitative study was to explore the feelings of psychological ownership held by students at a mid-sized regional public institution. Specifically, the study looked at student demographics, students' feelings of satisfaction with the institution, and students' perceptions of their involvement on campus in relation to their feelings of psychological ownership for the institution.

Research Questions

This study addressed the following specific research questions:

1) Do students develop feelings of psychological ownership toward the institution?

2) Is there a relationship between students' feelings of psychological ownership and individual demographics?

3) Is there a relationship between students' feelings of psychological ownership and their feelings of satisfaction with the institution?

4) Is there a relationship between students' feelings of psychological ownership and their perceptions of their involvement on campus?

Null Hypotheses

The following null hypotheses guided the study.

1) Students do not develop feelings of psychological ownership toward the institution.

2) There is no relationship between students' feelings of psychological ownership and individual demographics.

3) There is no relationship between students' feelings of psychological ownership and their feelings of satisfaction with the institution.

4) There is no relationship between students' feelings of psychological ownership and their perceptions of their involvement on campus.

Significance of the Study

The quantitative study potentially contributes to theory, research, and practice. This study sought to explore a new perspective on the relationship between students and the institution they attend. Although many studies exist which help understand better this relationship, they have typically been either qualitative in nature or focused on individual populations of students (Adler & Adler, 1988; Lindsey, 2013; Mael & Ashforth, 1992; Przymus, 2011; Wardley et al., 2013). This study examined the relationship students have with the institution they attend in a quantitative nature by looking across a broader classification of students at a single institution.

Also, research has explored how students behave on campus by measuring their student involvement or student engagement and how satisfied students are with their campus experience (Asatryan, Slevitch, Larzelere, Morosan, & Kwun, 2013; Groves, Sellars, Smith, & Barber, 2015; Kezar, 2006; Kezar & Kinzie, 2006; Vandewalle, Van Dyne, & Kostova,

1995). However, research has not fully explored the existence of the relationship between these concepts or how they correlate to a student's feelings toward the institution.

Although this study looked specifically at students enrolled at a mid-sized regional public institution, many other types of higher education institutions exist. There are opportunities for similar research to occur at other types of institutions to see if and how the students at different types of institutions experience psychological ownership.

Once a more holistic understanding of the student's relationship with the institution occurs, practitioners can create programs or experiences which will develop this relationship. If students are involved, but do not feel psychological ownership toward the institution, perhaps establishing specific programs will help students gain more from their involvement experiences. Or, if the feelings of psychological ownership held by non-traditional students are lower than those feelings held by traditional-aged students, then practitioners may be able to implement programs specifically for non-traditional students.

Results of this study can serve as a catalyst for other research. If students are satisfied with their college experience, but do not feel psychological ownership, then perhaps qualitative research can offer additional insight to help understand why. An additional opportunity offered by this study is further exploration into how students with similar demographics relate to the institutions they attend in terms of psychological ownership.

Overview of the Methodology

After receiving permission from the Institutional Review Board at both Oklahoma State University and the research site, all students were sent a survey consisting of 18 questions relating to individuals' feelings of psychological ownership toward the institution, perceptions of their involvement at the institution, feelings of satisfaction with the institution,

and demographic information. Psychological ownership was measured using the Psychological Ownership Questionnaire developed by Avey, Avolio, Crossley, & Luthans (2009). To measure student involvement, respondents were provided an agreed-upon definition of student involvement and asked to self-report their level of student involvement. Student satisfaction was measured using one Likert-scale question addressing the student's overall feelings of satisfaction with the institution. Demographic information was collected using questions from the National Survey of Student Engagement (National Survey of Student Engagement, 2017).

The current study was a correlational relationship study designed to examine the relationship between students' feelings of psychological ownership toward the institution they attend (dependent variable) and the independent variables of students' perceptions of involvement, students' feelings of satisfaction, and demographic factors. Descriptive statistics looked at all demographic information and a one-sample t-test was used to evaluate Hypothesis 1. Hypothesis 2 was analyzed using an independent samples t-test and a One-Factor ANOVA fixed effects model. Pearson's Correlation Coefficient was used to evaluate Hypotheses 3 and 4. Both simple linear regression and multiple regression were used to analyze the interaction of the variables. Finally, the measure of the effect size and/or association, the measure of power, and any necessary post-hoc analysis were conducted.

Role of the Researcher

In an effort to provide full disclosure, the researcher works at a mid-sized regional public institution that was not the research site. Her employer is her alma mater and the only mid-sized regional public institution at which she has worked. Her interest in the subject of students' feelings of psychological ownership stems from her previous work at other

institutions, including small private institutions and large public institutions. This previous experience at other types of institutions sparked her interest in this topic as the students at the other types of institutions seemed to have a stronger relationship with the institutions. Those experiences led her to explore these relationships.

Definition of Terms

- Institutional Commitment – the extent to which a student feels attachment to the institution (Bean, 2005)

- Institutional Connection/Connectedness – students' feelings of overall fit with the institution (Wilson & Gore, 2013)

- Institutional Loyalty – a bond formed either to an organization or to some person or group within it (Adler & Adler, 1988)

- Mid/Medium-Sized Institution – a higher education institution with a student enrollment of 3,000 to 9,999 primarily undergraduate students (Carnegie Foundation for the Advancement of Teaching, n.d., "About Carnegie Classification")

- NSSE – National Survey of Student Engagement (National Survey of Student Engagement, 2017)

- Organizational Identification – how individuals define themselves in terms of membership in the organization (Ashforth & Mael, 1989)

- Psychological Ownership – when individuals feel as though the target of ownership (material or immaterial in nature) or a piece of it is "theirs" (i.e., "It is MINE!") (Pierce et al., 2001)

- Public Institution – funding is partially provided by the state which supplements the cost of attending the institution

- School Spirit – the need to foster social unity and to distinguish oneself from people outside the institution (Terzian, 2004)

- Student Engagement – two components: (1) the amount of time and effort students put into their studies and other activities that lead to the experiences and outcomes that constitute student success and (2) how institutions of higher education allocate their human and other resources and organize learning opportunities and services to encourage students to participate in and benefit from such activities (Wolf-Wendel et al., 2009)

- Student Involvement – the amount of physical and psychological energy students devote to their academic experience (Astin, 1984). More succinctly, student involvement is the time, effort, and energy students invest in their collegiate experiences, to include both academic and social participations with peers, faculty, and staff.

Delimitations

Several delimitations to the study existed based on the choices made by the researcher. First, this research was conducted at a single institution, not multiple institutions, limiting the generalizability of the results. Additionally, the construction of the survey itself served as a delimitation. One specific psychological ownership measurement was chosen instead of other tools. Participants were also asked to self-evaluate their level of involvement based on a definition as opposed to measuring their involvement from well-regarded instruments (like the NSSE and CIRP surveys). The self-report nature of the study is limiting, as the results are only as accurate as the responses of the individuals. Finally, the online survey method may have hindered some students from participating.

Summary

This chapter introduced the subject of a student's relationship to the institution attended from a perspective of psychological ownership. This quantitative research study investigated the relationship between students' feelings of psychological ownership for the institution they are attending and various independent variables. This chapter provided the background for the study, the research problem, purpose statement, hypotheses, null hypotheses, overview of the methodology, significance of the study, role of the researcher, definition of terms, and delimitations.

Chapter Two presents a review of the literature that shaped the foundation of the study. The chapter discusses the literature relating to a student's relationship to the institution attended in the following areas: the theory of psychological ownership and its applications and implications, clarification of related terms, and the possible influencing factors of psychological ownership addressed in this research, including demographics, student involvement, and student satisfaction.

Chapter Three will describe the specific methodological process that was used and the reasons for choosing these processes. Specifically presented will be the purpose of the study, research questions, null hypotheses, theoretical framework, survey participants, design of the study, the survey instrument, data collection procedures, data analysis, and the limitations.

Chapter Four will begin by summarizing the data cleaning and re-coding methods, the response rate, and the demographic characteristics of the respondents. The results for each hypothesis test will be discussed, along with any additional testing that was done.

Chapter Five will discuss the findings of the research, including their relationship to previous research. Finally, the implications of this research for further research, theory, and practice will be addressed.

CHAPTER 2

LITERATURE REVIEW

Chapter One provided a brief overview of the concept of psychological ownership and its applications to various areas of society. The information provided in the chapter also highlighted the role of higher education in modern society and the importance of a student's relationship to the institution he or she is attending. Additionally, the use of examples with regard to psychological ownership throughout society placed a highly ethereal concept in more understandable terms. Chapter One also provided an overview of the information that will be presented in the following chapters.

This chapter presents a review of the literature regarding psychological ownership and its relationship to other variables included in the study. First, the theory of psychological ownership will be explained and explored. This includes the roots of psychological ownership (why it occurs in individuals) and the routes to psychological ownership (how individuals come to feel psychological ownership). The differences between job-based and organization-based psychological ownership will be examined, as will the application to various relationships and the implication of psychological ownership. Within the literature, examples including employees and customers in the business setting and students at higher education institutions will be examined.

There are many terms used to describe a student's relationship to the institution that require some clarification and connection to the context of higher education. The related terms of school spirit, institutional connection/connectedness, institutional commitment, institutional loyalty, and organizational identification will be compared and contrasted with the concept of psychological ownership to understand better the association between the terms. Finally, a discussion on the possible factors relating to students' feelings of psychological ownership will be presented, specifically, the variables of demographics and their impact on the student experience, feelings of student satisfaction, and feelings of student involvement.

Psychological Ownership: Theoretical Foundations

Psychological ownership explores the relationships between individuals and objects, either material or abstract, and occurs when individuals feel something is "theirs" (Pierce, Kostova, & Dirks, 2001). At the core of this concept is a feeling of possession and a psychological connection to an object (Pierce et al., 2001). Initially, psychological ownership focused on the relationship between individuals and physical objects, but has since expanded to include inanimate objects, ideas, and communal property or concepts (Pierce et al., 2001). The theory of psychological ownership is composed of two elements: human needs, which serve as the building blocks of psychological ownership (roots of) and pathways to developing psychological ownership (routes to). Additionally, psychological ownership is classified into two categories, job-based, which focuses on the individuals' feelings toward their particular job, and organization-based, which refers to the individuals' feelings toward the organization as a whole (Mayhew, Ashkanasy, Bramble, & Gardner, 2007).

Roots of Psychological Ownership

The roots of psychological ownership refer to why psychological ownership occurs in individuals and what facilitates the development of psychological ownership in individuals, but does not refer to how psychological ownership occurs (Pierce et al., 2001). These roots encompass both genetic factors and experiences and serve as the glue that attaches individuals to objects. These roots are classified by self-regulation, or the way in which individuals select goals. Self-regulation looks at the relationship between the motivation of individuals and how they go about achieving goals. This is important when examining psychological ownership because individuals with different motivations may experience different feelings toward targets of ownership (Avey, Avolio, Crossley, & Luthans, 2009). Self-regulation falls into two categories: promotion-focused and prevention-focused (Avey et al., 2009). A promotion-focused individual may pursue goals that reflect aspirations and dreams. Conversely, an individual who is prevention-focused emphasizes goals that reduce punishment (Higgins, 1997, 1998). Both prevention and promotion are necessary in some circumstances, and the emphasis of goal selection may shift, depending on the context of an individual's circumstances (Avey et al., 2009). When applying the concept of promotion and prevention to psychological ownership, individuals who are more prevention-oriented may experience different feelings toward the targets of ownership than those who are promotion-focused (Avey et al., 2009).

Within the prevention and promotion-focused categories of psychological ownership lie the roots of psychological ownership. Research shows four promotion-focused motives and one prevention-focused motive of psychological ownership, which are explained below. It is important to note that only one motive needs to be present for individuals to begin

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feeling psychological ownership; it is not necessary for all motives to be present (Pierce & Jussila, 2011).

Promotion-focused. A focus on promotion motivations may be more desirable when looking to motivate development and improvement within individuals. The promotion-focused roots of psychological ownership are efficacy and effectance, self-identity, having a sense of place/belongingness, and accountability (Avey et al., 2009; Pierce et al., 2001).

Efficacy and effectance. Efficacy and effectance refer to the individual's desire and ability to control and interact with the environment (Baxter, Aurisicchio, & Childs, 2015: Pierce et al., 2001). In relation to psychological ownership in the proposed study, these encompass the need to feel in control and capable in an organization or institution (Van Dyne & Pierce, 2004). These feelings allow individuals to explore and alter their environments (Pierce et al., 2001). The desire to experience self-efficacy leads individuals to want to take control of their environment and alter that environment through their own actions (Pierce & Jussila, 2011). For students in higher education, the efficacy and effectance motivation could be met by choosing their own classes, voting in a student government election, or planning an all-campus event.

Self-identity. Self-identity describes the need to define oneself through relationships with objects (Baxter et al., 2015: Pierce et al., 2001). Through interactions and explorations with their environment and the symbols and objects associated with it, individuals begin to discover more about themselves. This process leads individuals to use the objects and symbols associated with their environment to communicate their identity to others (Pierce & Jussila, 2011). More succinctly, the self-identity motivation allows individuals to use ownership to help define themselves and express themselves to others (Pierce et al., 2001).

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For students in higher education, this self-identity motivation could be satisfied by an individual wearing an article of clothing that bears the institution's name, being a fixture at an athletic event, or having a unique campus identity.

  Sense of place/belongingness. Having a sense of place is the desire to feel one belongs (Pierce et al., 2001). The place or object becomes a "home" for the individual through feelings of belongingness and situates within a specific time and place, not necessarily a physical location. Individuals strive to feel they are part of a particular place, which can be realized when individuals inhabit something and it no longer is an object to them, but is a part of them (Pierce & Jussila, 2011). Additionally, one is more likely to feel at home when an emotional investment exists. When individuals feel ownership for an organization, their social and emotional needs are being met and they feel they "have a place" and belong (Avey et al., 2009). For college students, the need to have a sense of place can be fulfilled by a strong positive relationship with a faculty member, membership in an organization they feel strongly about, or an on-campus job.

  Accountability. Accountability refers to the expected right to hold others accountable and the expectation to be held accountable for one's influence on the target (Avey et al., 2009). This accountability applies to the actions and beliefs of both the individual and others related to their behaviors toward the organization or entity. Individuals expect to be held accountable for their actions or beliefs and expect to be able to hold others accountable for their actions and beliefs. This accountability may cause an individual to feel a responsibility to the organization, to invest time and energy to better the organization, or to assume risk on behalf of the organization (Pierce et al., 2001). Specifically in higher education, the accountability motive can be met by a student expecting information sharing from

administrators, the expectation a student can influence the decisions made at the institution, or a feeling of burden-sharing with the institution when times may be tough. The accountability motive may also cause individuals to hold others accountable for their possibly negative behavior, as through an individual notifying a faculty or administrator when a fellow student cheats on a test or violates a campus policy.

Prevention-focused. In addition to the four substantiated promotion-focused constructs, only one prevention-focused construct relates to the roots of psychological ownership: territoriality (Avey et al., 2009). Territoriality is the behavioral expression of an individual's feelings of ownership toward an object (Brown, Lawrence, & Robinson, 2005). Territoriality is not simply expressing attachment to an object, but ensuring others are aware of that relationship (Brown et al., 2005). When individuals form bonds over objects, they may seek to mark the items as "theirs" and express their territoriality in ways they believe other individuals will recognize and respect (Brown et al., 2005). Examples of territorial behaviors include setting high expectations of others who want to interact with the object, withholding information from those they see as threats, or ensuring others are aware the object is "theirs" (Brown et al., 2005) Within higher education, a territorial motive may be fulfilled by a student not feeling welcomed into an organization because of the established norms and leadership or a student with new ideas being seen as presenting a threat to the organization.

Although territoriality has negative connotations, positive characteristics are present as well. Examples include increased performance and retention if the individual feels protecting the object is the right thing to do or if the work is area-based and individualized, like a car salesman or a customer service manager for a particular area (Avey et al., 2009).

Other Constructs. To refine further the concept of psychological ownership in a specific context, South African researchers proposed other constructs related to the internal motivations that drive feelings of psychological ownership, specifically, the promotion-focused constructs of responsibility and autonomy (Olckers & du Plessis, 2012). The acceptance of responsibility includes a responsibility to invest time and energy to advance the mission of the organization (Olckers & du Plessis, 2012). This is according to the argument that the right to control an object stemming from psychological ownership leads to a sense of responsibility (Pierce et. al., 2001). Autonomy is defined as regulation of the self, by the self (Olckers & du Plessis, 2012). An employee's sense of ownership may be improved by creating an environment which empowers individuals and allows them to exercise control over their work environment. This empowerment and control over their own work is a characteristic that allows individuals to act autonomously in their job (Mayhew et. al, 2007; Olckers & du Plessis, 2012).

To test these additional constructs, a 69-item survey was created based on previous research, a review of the literature, and validation by nine subject matter experts (Olckers & du Plessis, 2012). The constructs included were self-efficacy, self-identity, belongingness, accountability, autonomy, responsibility, and territoriality. The subject matter experts agreed that these items should be included in a construct measure of psychological ownership within South Africa (Olckers & du Plessis, 2012). To validate the instrument, a study surveyed a diverse group of professional, highly-skilled, and skilled individuals employed in both the private and public sectors (Olckers, 2013). Results from the 713 respondents indicated that although seven items were initially included as constructs related to psychological ownership, only four of those constructs were confirmed: identity, responsibility, autonomy

and territoriality (Olckers, 2013). These unreliable results may be explained by interpretation of the questions by the respondent, the structure of the study, or the specific choice of participants. The results of this study show that a complete picture of the constructs included in psychological ownership may still be unknown.

Routes to Psychological Ownership

Shifting from why psychological ownership occurs, the discussion now moves to how organizational members come to feel psychological ownership toward an object or entity, or the routes to psychological ownership. Three established routes to psychological ownership are controlling the target, intimate knowledge of the target, and investing the self in the target (Pierce et al., 2001). Once again, not all three routes need to be present to develop feelings of psychological ownership. If only one route is present but represents a very strong connection, the individual may have strong feelings of psychological ownership. Each route is subsequently discussed in detail.

Controlling the target. Control of the target refers to how much control individuals feel they have over the object or entity (Baxter et al., 2015: Pierce et al., 2001). The greater the amount of control one has over the target, the stronger the feelings of ownership (Pierce et al., 2001). In higher education settings, having a choice in which institution to attend, leading a student organization, and conducting research with faculty are ways through which students may experience greater feelings of control, leading to greater psychological ownership.

Intimate knowledge of the target. Intimate knowledge of the target comes about through association and active participation with the object or target (Baxter et al., 2015; Pierce et al., 2001). People can come to feel something is theirs by being heavily associated

and familiar with a target (Pierce & Jussila, 2011). Upper class students may develop stronger feelings of ownership than underclassmen simply because they have spent more time at the institution. Additionally, students that serve on institutional committees or hold on-campus jobs may feel more strongly toward the institution because they are more knowledgeable about the institution.

Investing oneself in the target. Investing oneself in the target can occur in many ways, including devoting time, contributing ideas, sharpening skills, and focusing energies on the object or entity (Baxter et al., 2015; Pierce et al., 2001). However, not all activities require the same level of investment. Just because students live on campus or are involved on campus does not mean they automatically feel strong levels of psychological ownership (Pierce & Jussila, 2011). Attending a basketball game does not require the same level of investment that is required for leading a student organization. These varying levels of involvement experiences can lead to different levels of psychological ownership.

Job-Based vs. Organization-Based

In addition to the foundational elements of the roots of and the routes to psychological ownership, it is important to discuss the types of psychological ownership: job-based and organization-based. Job-based psychological ownership focuses on the individuals' feelings toward their particular job, whereas organization-based psychological ownership refers to individuals' feelings toward the institution or organization as a whole (Mayhew et al., 2007). The occupation, skill level requirement, and job level of the individual may affect whether the individual develops job-based psychological ownership or organization-based psychological ownership.

For example, carpenters or teachers may experience stronger feelings of psychological ownership than accountants or receptionists because the work requires more individuality and creativity in the job (Mayhew et al, 2007). Thus, accountants or receptionists may feel more strongly toward their job than the organization. Conversely, senior managers or directors may experience stronger feelings of psychological ownership than entry-level positons because they know more about the institution, leading to stronger feelings of organization-based psychological ownership (Mayhew et al., 2007).

In a higher education context, job-based psychological ownership can be related to students feeling strongly toward a student organization they are involved with, their major, or an athletic team, but not with the institution itself. Students also may experience stronger feelings toward the department of their field of study than they do toward the larger institution. Campus size could also affect a student's feelings of psychological ownership. On a smaller campus, it may be easier for students to feel organization-based psychological ownership because they interact with more areas of campus, as opposed to students at larger institutions where they may interact only with a small portion of campus.

Among higher education faculty, research suggests it may be easier for professors and academicians to develop feelings of psychological ownership for their department (job-based) rather than for the university at large (organization-based). This may be in part because the academic exerts more control within the department than they do the university (Pierce et al., 2001). Likewise, professors may have stronger feelings of psychological ownership for graduate students than for undergraduate students because they interact more closely with them for a longer period of time (Pierce et al., 2001). This relates to the psychological ownership concept of having intimate knowledge of the target. The professors

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have longer, more focused interactions with graduate students than with undergraduates. Application of these results may relate to other contexts within higher education, including the student's feelings for the institution.

Application to the Current Study

For the current study, the theory of psychological ownership was the foundational aspect by which the researcher measured a student's relationship with the institution. The study also looked specifically at organization-based psychological ownership. The hypotheses focused on the student's feelings toward the institution as a whole, not individual departments or organizations.

Psychological ownership attempts to examine an individual's relationship with an entity on the basis of possession. The study sought to examine not if the student feels connected to the institution, but if the student feels ownership and possession of the institution. Has the student developed deeper feelings for the institution?

Now that the foundational aspects of psychological ownership have been presented, the application of psychological ownership will be discussed. The next section will focus on how the theory of psychological ownership is applied both outside of higher education and within the campus environment.

Psychological Ownership: Application

Psychological ownership heavily influences relationships. These relationships may be between individuals and objects, between individuals and organizations (i.e. institutions), or among individuals themselves. The impact of these relationships can benefit both individuals and organizations. This section seeks to explain the application of the theory of psychological ownership to these relationships.

Although ownership is traditionally explained as a relationship between an individual and a physical object, research also explores feelings of ownership between individuals and inanimate objects and concepts (i.e. between children and nursery rhymes and songs) (Isaacs, 1933), between researchers and their findings (Heider, 1958), between individuals and the music they stream digitally (Sinclair & Tinson, 2017), and between individuals and the natural resources they interact with (Matilainen, Pohja-Mykrä, Lähdesmäki, & Kurki, 2017).

Previous research also illustrates that relationships can exist between individuals and organizations. Looking at participants in a company's employee shareholding program, results indicated that participating in that program did not affect an employee's overall feelings of psychological ownership toward the company (McConville, Arnold, & Smith, 2016). Of the respondents who indicated the employee program had an effect on their psychological ownership, few provided details as to how it influenced those feelings. Even with these employees, the changes in feelings were only small (McConville et al., 2016). These results may indicate that the previously accepted concept of monetary compensation (Buchko, 1992; Florkowski, 1987; Klein, 1987) is not a primary motivating factor for psychological ownership.

Regarding students within higher education, psychological ownership exists within the classroom. One aspect in which college students can feel psychological ownership is toward group projects in a classroom. One study looked at students working in groups during a class project. The group project required students to sell an item online; some groups had their choice of items to sell and some groups had items assigned to them (Wood, 2003). The results show students learned more from the group projects in which they had more ownership, which included searching for, deciding upon, and bringing to class the item they

were to sell (Wood, 2003). By allowing the students to choose their own items to sell, they connected with the object, contributing to the human needs of self-identity and efficacy and effectance. Students could re-evaluate items that did not sell and make changes to try to sell them again. This control over the target also contributes to their positive feelings of psychological ownership. This research suggests allowing students to make suggestions about their assigned work or encouraging them to contribute their own ideas or materials to projects can contribute to psychological ownership in the classroom (Wood, 2003).

Psychological ownership applies to many areas throughout society. Although no specific research explains the relationship between students and higher education institutions, studies do show the relationship between individuals and organizations. This foundational research may indicate that psychological ownership exists within other settings as well, including between students and the higher education institutions they attend, which this study explored.

Implications of Psychological Ownership

Research suggests psychological ownership can affect significantly both the organization and the individual. The individual has been the focus up to this point because the research focuses on the individual perspective and the concept itself is an individualized concept. Other research studies examining psychological ownership focus on the influence of the individual's feelings of psychological ownership on the organization, through evaluating the individual's behaviors, attitudes, and feelings toward the organization. This influence can result in both positive and negative outcomes and links to gains in organizational commitment (Vandewalle, Van Dyne, & Kostova, 1995), job satisfaction (Avey et al., 2009;

Mayhew et al., 2007; Van Dyne & Pierce, 2004), citizenship behavior (Vandewalle et al., 1995), and organizational retention (Avey et al., 2009).

This section provides examples of the implications of psychological ownership on both the individual and the organization. The first part of the section focuses on the implications of psychological ownership on employees and customers in a business setting, looking specifically at job satisfaction, employee retention and commitment, productivity and job performance, and brand loyalty. The second part of the section focuses on current and former students in higher education, looking at retention, the student experience, and alumni involvement. Each subsection contains information about the specific concept, examples of the concept from research, and how the concept relates to higher education.

Employees and Customers in a Business Setting

The psychological ownership research focuses primarily on the business setting, including looking at feelings and actions of both employees and customers. This section looks specifically at four proposed effects of psychological ownership that influence employees and customers, including job satisfaction, employee retention/commitment, productivity/job performance, and brand loyalty.

Job satisfaction. The foundational element of psychological ownership is possession research, which states that individuals develop positive evaluations of their own possessions and judge the objects they own more favorably than other objects (Beggan, 1992; Nuttin, 1987). Within the work environment, possession can be related to job satisfaction, in that when individuals feel possessive toward their organization (have influence and control, intimately know the organization, and feel they are invested in the organization), they should experience higher levels of satisfaction with their job and with the organization (Pierce &

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Jussila, 2011). The two questions related to job satisfaction are "How does my job make me feel?" and "What do I think of my job?" (Pierce & Jussila, 2011). The answers to these questions often show signs of psychological ownership and possession of the organization.

Many studies report a positive correlation between psychological ownership and job satisfaction (Dunford, Schleicher, & Zhu, 2009; Groesback, 2001; Mustafa, Martin, & Hughes, 2016; Peng & Pierce, 2015). Although situated within higher education, one study focused on the employees at a school, specifically lecturers in public business schools in Malaysia. More than 300 lecturers representing fourteen public business schools across Malaysia were surveyed regarding their job satisfaction, job commitment, job performance, and feelings of psychological ownership (Md-Sidin, Sambasivan, & Muniandy, 2010). Findings showed a link between the feelings of psychological ownership and job performance. Additionally, psychological ownership had strong, positive relationships with both job commitment and job satisfaction (Md-Sidin et al., 2010). These results may point to similar findings among students, which this study explored.

Employee retention/commitment. An individual's commitment to an organization reflects both the type (organization- versus job-based) and strength of the individual's psychological attachment to the organization. The concept of organizational commitment simply asks "Why am I here?" and/or "Should I remain with this organization?" (Pierce & Jussila, 2011). Individuals with strong commitments will maintain their membership, but the "Why?" varies between individuals. Some individuals will stay with the organization because they want to be there and the relationship with the organization feels good (Pierce & Jussila, 2011). This relates directly to the individuals' need to have a sense of place. Others will remain with the organization because they feel they have a sense of duty with the

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organization (Pierce & Jussila, 2011). This could be because they feel the organization invests in them and allows them the opportunity to share organizational information and invest themselves in the organization. Others still may feel a need to remain with the organization, as they will lose too much if they leave (Pierce & Jussila, 2011). This could be because the organization fills the individual's need for self-identity or because the individual invested so much of him/herself into the organization.

A study involving employees at eight Taiwanese high-tech companies examined the relationship between employee participation in decision-making, psychological ownership, organizational commitment, and knowledge sharing behavior. Results showed that a positive relationship exists between employee participation in decision-making and psychological ownership (Han, Chiang, & Chang, 2010). Within this relationship, organizational commitment mediates the relationship between psychological ownership and knowledge sharing (Han et al., 2010). This helps demonstrate that to produce psychological ownership and organizational commitment, organizations need to allow members to participate in decision-making. Closely associated with this concept is the shared governance concept within higher education. Shared governance encourages students, faculty, and staff to share in the decision-making process of the institution. Specifically, students typically have a voice in the institution through the Student Government Association.

Two studies placed organizational commitment within the realm of higher education. One study, discussed previously, related to Malaysian business lecturers; the other examined the feelings university staff held toward the institution that employed them. Staff members answered 21 questions related to their feelings toward the institution and their motivations for working at the institution. Results showed that staff members' positive feelings toward

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the institution were positively related to the employees' intent to remain at the institution and negatively related to their actual turnover from the institution (O'Reilly & Chatman, 1986).

Productivity/job performance. Employees' feelings of responsibility for their job can lead to higher productivity and better job performance. When entrusted with the care of an object, individuals are more likely to exercise control of the object and invest themselves in taking care of the object and protecting the object (Pierce & Jussila, 2011). The object can be the organization as a whole or the job the employee holds within the organization. As employees complete tasks that lead them to feel responsibility for things, the employees begin to feel psychological ownership for their job, which can lead to stronger job performance. Employees who feel psychological ownership toward their jobs and/or organizations will experience a responsibility for the organization or job and will take ownership of the work outcomes which will lead to stronger job performance (Pierce & Jussila, 2011). A sense of ownership for the organization drives the individual to want to spend time and energy to benefit the organization (Van Dyne & Pierce, 2004). This leads to a positive relationship between psychological ownership and job performance.

Research focusing on telecommunications workers in Pakistan found a significant, positive relationship between psychological ownership and employee performance. Performance measures included meeting deadlines and improvement of job quality over time (Ghafoor, Qureshi, Khan, & Hijazi, 2011).

Within higher education, 347 teaching/research faculty from 14 Malaysian Universities were surveyed to examine their psychological ownership, job satisfaction, job commitment, and job performance (Md-Sidin et al., 2010). Psychological ownership, job satisfaction, and job commitment were determined by using established measurements in

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which respondents indicated their answers on a Likert scale. Job performance was assessed using student teaching evaluations and performance measures in the following areas: journal publications, professional presentations, instructional support, professional services, and college or university support (Md-Sidin et al., 2010). Based on the results of the job performance assessment, three main dimensions of job performance were identified: teaching, publication, and supervisory activities. Results of the complete study show psychological ownership has significant, positive relations with job satisfaction, job performance, and job commitment (Md-Sidin et al., 2010). Specifically related to job performance, the three dimensions of teaching, publication, and supervisory activities require faculty to have intimate knowledge of the subject and invest significant time, which leads to stronger feelings of psychological ownership (Md-Sidin et al., 2010).

Brand loyalty. Although most psychological ownership research focuses on employees and their relationship to the organizations in which they work, some focuses on consumers and the relationships with the products they buy and the establishments they frequent. Patrons can feel psychological ownership toward their favorite restaurant, their brand of cellular phone, or the type of coffee they drink. These strong feelings can lead consumers to recommend the brand to others, exclusively purchase a product, or talk badly about a competing product. These behaviors link directly to the territorial behaviors discussed regarding the roots of psychological ownership. To understand better the relationship between restaurants and their patrons, researchers asked patrons several questions regarding their relationship with the restaurant they most frequently patronized (Asatryan & Oh, 2008). Related to the precursors of psychological ownership, results showed customer participation (how much the customer is involved in producing and delivering the

service), customer-company identification (how closely the patron identifies with the values of the restaurant), and customer sense of belonging (having a close affinity to or relationship with a place) are all positively related to psychological ownership (Asatryan & Oh, 2008).

Related to the consequences of psychological ownership, strong feelings of psychological ownership were positively related to relationship intention (the willingness to be a repeat customer), word-of-mouth communication (positive informal commutation with other customers or potential customers), willingness to pay more (how much customers are willing to pay for services), and competitive resistance (the customer's tendency to disregard advertising from competitors in favor of the preferred brand or service) (Asatryan & Oh, 2008). These results are important to understand because it shows psychological ownership is not just about those who work for a company, but also can affect those who frequent the business. Related to higher education, this research is even more important as students are viewed as consumers of the product of education. The student's focus has shifted to "having a degree" as opposed to "being a learner" (Molesworth, Nixon, & Scullion, 2009). This shift has caused higher education institutions to change their approach to recruiting and retaining students.

Current and Former Students within Higher Education

In relation to higher education institutions, psychological ownership could affect some of the critical issues facing education. This section specifically looks at three proposed effects of psychological ownership within the context of higher education: retention, the student experience, and alumni.

Retention. One of the most commonly discussed issues in higher education is retention (Harper & Quaye, 2015). Institutional administrators strive for higher student

retention rates because retention can affect funding, college rankings, institutional prestige, and accreditation (Higher Learning Commission, 2018; National Conference of State Legislators, 2018; U.S. News & World Report, 2017). Outside of higher education, research shows strong, positive relationships are vital between promotion-oriented psychological ownership and employee commitment, job satisfaction, and intentions to stay with the organization (Avey et al., 2009). The same may apply to students at higher education institutions.

Although many themes may help explain why students remain at the institution, a theory was developed by Cabrera, Castañeda, Nora, & Hengstler (1992) that combined two well-known student retention models by Bean (1990) and Tinto (1975). This theory suggested the following seven themes may be the best predictors: financial attitude, encouragement from friends and family, academic integration, GPA, social integration, institutional commitment, and goal commitment, all which may lead to student persistence. From this list of possible predictors, two concepts related to psychological ownership emerge: institutional commitment and social integration. Institutional commitment is defined as an "individual's dedication and allegiance to a particular institution or the desire to achieve the goal of a degree in a particular setting" (Burrus et al., 2013, p. 20). Several actions illustrate a student's institutional commitment, including feeling a sense of belonging and graduating from a particular institution. A sense of belonging is synonymous with the underlying concept of psychological ownership, the sense of place. The efficacy and effectance concept of psychological ownership mirrors the importance of graduating from the institution (Cabrera et al., 1992).

Likewise, social integration is the student's social involvement in college, including the type and quality of interactions a student has with peers and faculty (Burrus et al., 2013). This construct relates to psychological ownership through the routes to psychological ownership discussed previously. When students are involved more with the institution, they understand better the institution, which can lead to more personal investment in the institution (Bean, 1983). A stronger commitment to a university leads to a greater likelihood of persistence (Elkins, Forrester, & Noel-Elkins, 2011). Higher levels of institutional commitment can also lead to increased retention rates and higher graduation rates (Pascarella & Terenzini, 1991, 2005).

The student experience. Psychological ownership can also benefit the student's experience at the institution. Strong feelings of psychological ownership for the organization can lead to students' feelings of responsibility for the organization. This can cause students to be protective toward the organization and want to invest time and energy to benefit the institution (Pierce et al., 2001; Van Dyne & Pierce, 2004).

Additionally, psychological ownership correlates positively to extrarole behaviors, which are discretionary behaviors not rewarded formally by the organization (Katz & Kahn, 1978). In higher education, extrarole behaviors could be volunteering with a campus-wide service project, serving in a leadership role in a student organization, or doing research with a professor. One study examined the feelings students held toward the institution and the behaviors associated with those feelings (O'Reilly & Chatman, 1986). Researchers surveyed students graduating from an undergraduate business program at a university. In addition to asking about the students' feelings toward the program and the institution, students also answered questions about their participation in student clubs and organizations. Results

showed that students' positive feelings toward the institution were related positively to the extrarole behaviors they exhibited while students (O'Reilly & Chatman, 1986).

Looking at the experiences of students at two-year and four-year institutions, researchers found that the most significant factors affecting a student's feelings toward the institution were academic integration and growth as well as social integration and growth (Strauss & Volkwein, 2004). Specifically, classroom experiences, friendships, and social activities relate strongly to a student's positive feelings toward the institution. Students who engage both socially and academically have a better experience on campus and remain committed to the institution than those who do not engage (Mayhew et al, 2016; Pascarella & Terenzini, 1991, 2005).

In England, a survey of 200 high schoolers found positive correlations between students' psychological sense of school membership and their resilience, self-efficacy, and leadership skills (Kapoor & Tomar, 2016). Although not conducted specifically in a college environment, the results relate to the current study based on the use of an educational institution and students of near traditional college age. A strong sense of psychological school membership allows students to understand better and use the social support networks provided to them to assist with stress or other threats to their education, affecting their resiliency. Similarly, these positive feelings of school membership can help students create strong relationships with peers which can provide a supportive environment where individuals can try new things, which can affect both their self-efficacy and their leadership skills.

Alumni. Outside of higher education, research shows employees with strong feelings of psychological ownership may display an altruistic spirit (Van Dyne & Pierce, 2004). This

same concept applies to institutions of higher education where research shows students who graduate with a strong positive relationship with the institution tend to be alumni who are more generous (Sung & Yang, 2009). Alumni contribute to the institution in a multitude of ways, with monetary donations to the university being the most researched. However, alumni also give of their time by contacting state government officials on behalf of the institution, hosting foundation events, participating in special events hosted by the institution's alumni association, mentoring new alumni, and recruiting potential students (Weerts, Cabrera, & Sanford, 2010).

To examine the feelings students hold toward the institution and the behaviors associated with those feelings, researchers surveyed students graduating from a graduate business program (O'Reilly & Chatman, 1986). Researchers examined both student feelings toward the graduate program and the institution. The researchers then cross tabulated the data from the development office regarding the contributions pledged by the same students. Results showed that the students' positive feelings toward the institution relate positively to the amount pledged to the institution (O'Reilly & Chatman, 1986).

With state and federal revenue streams slowing, the concept of a student's positive relationship with an institution matters both financially and socially (Mitchell & Leachman, 2015), especially as student loyalty may lead to alumni loyalty, which can lead to institutional donors and advocates (Hennig-Thurau, Langer, & Hansen, 2001).

Clarification of Related Terms

Although psychological ownership is the term explored in this study, it is not widely used within the context of higher education. However, many other terms are used to define and describe students' relationship with the higher education institution they attend. It is

important to compare the concept to other terms that are more prevalent in the higher education literature to clarify the use of the term *psychological ownership* in the study and to understand better how psychological ownership fits with the current more familiar terms. Common terms used to describe a student's relationship with an institution include *school spirit*, *institutional connection*, *institutional commitment*, *institutional loyalty*, and *institutional identification*. Each term has nuances that help to distinguish the term. This section begins by defining each term and sharing research results of that term as related to students and institutions. Finally, the section addresses the relationship between the terms and psychological ownership.

School Spirit

School spirit is the need to foster social unity and to distinguish oneself from people outside the institution (Terzian, 2004). Although the idea is often abstract, research categorizes school spirit into four areas: ethos, traditions and rituals, sense of community, and participation, loyalty, and pride. Ethos is the character or spirit of a culture that connects individuals to a group and expresses the group's values and ideologies which create an emotional connection (Kezar, 2007). Traditions and rituals teach students about the history of the institution, help build community, and generate pride and enthusiasm (Van Jura, 2015). A sense of community encompasses a feeling of togetherness and stems from out-of-class experiences (Cheng, 2004; Elkins et al., 2011). Collectively, participation, loyalty, and pride provide a solid groundwork which creates unity within an institution (Terzian, 2004).

In a nationwide study using faculty at unrelated institutions, researchers more broadly measured school spirit by examining facets of school spirit at distinct institutions. While the purpose of the study was to engage students in research and allow them to compare data

across different institutions, the use of school spirit as the measurement tool produces relevant results. Students in classes at 20 higher education institutions across the United States measured school spirit by looking at the percentage of students wearing school apparel, the percentage of cars in the parking lots having stickers related to the institution, alumni donation rate, spirit associated with the institution's athletic programs, and attitudes of pride commitment to the school ("Measuring School Spirit," 2004). Since the purpose of the study was to help students collect, analyze, and compare data, researchers did not focus on the specifics of the school spirit results. However, correlations among all factors were positive. Because the sources were highly independent and the data collection methods were similar, the results of this particular study are significant ("Measuring School Spirit", 2004).

Qualitative research at a small, private, Christian institution sought to analyze school spirit to facilitate its growth on campus. Three thematic categories were significant to students' feelings toward the institution: people, place, and purpose. The people included professors, other students at the institution, and even admired guests invited to speak at the institution (Lindsey, 2013). The place category included the physical attributes of campus, including cleanliness, food options, and the small physical size (Lindsey, 2013). Purpose referred to the mission and purpose of the institution (Lindsey, 2013). For Lindsey (2013), this included the spiritual/religious mission of the institution and the strong academic programs (Lindsey, 2013). Additionally, when asked about the definition of school spirit, responses coincided with the previously-mentioned research indicating participation, loyalty, and pride (Lindsey, 2013). This research served to confirm the previous study identifying the aspects of school spirit. This research also recognized the role the institution plays in school spirit.

School spirit is the term with the least amount of depth and focuses more on gut feelings. Its common association with athletic teams can prevent this term from broad application to institutions as a whole. Also, school spirit is a term used often in high schools as well as other K-12 options and as a simple term applying to both students and fans of the institution. An individual does not need to attend an institution to have school spirit for the institution.

Institutional Connection/Connectedness

Institutional connection/connectedness refers to a student's feelings of overall fit with the institution (Wilson & Gore, 2013). It also includes the student's perception that they are accepted, valued, respected, supported, and included by those at the institution (Wilson & Gore, 2013). The peer and faculty social support at the institution are at the core of the institutional connection (Wilson & Gore, 2013).

Much of the research into institutional connectedness stems from common education and the connectedness of middle and high school students with their schools (Libbey, 2004). The psychological nature of this research seeks to connect students' feelings toward their school with better behavior at school and less risky behavior outside of school.

Research indicates high levels of involvement at an institution do not always equate to institutional connectedness. One study showed that although minority students at community colleges were not in organizations on campus, they still felt connected to faculty, staff, and peers (Przymus, 2011). This suggests that feeling connected to the people of an institution can foster institutional connection outside of what is considered to be the "normal" avenues.

With the focus on a simple connection, the term does not include an expectation for the student to act on this connection. The student can feel connected, but that does not necessarily correlate to actions by the student to affect positively or improve the institution. Initially, the focus on faculty, staff, and peers implies that the institution itself is not as important as the people at the institution. The student may feel connection with people no matter what institution they attend or whether they feel strongly about the mission, direction, or goals of the institution.

Institutional Commitment

Literature about retention defines institutional commitment as the extent to which a student feels attachment to the institution (Bean, 2005). This encompasses a student's sense of belonging to, satisfaction with, overall impression of, and willingness to attend the institution again (Strauss & Volkwein, 2004).

The strongest influences on institutional commitment are individual student variables including classroom experiences, quality of faculty-student interaction, and involvement on campus (Strauss & Volkwein, 2004). In a study comparing the institutional commitment of students attending four-year institutions and two-year institutions, the institutional variables of mission, size, and selectivity were not strong influences of institutional commitment (Strauss & Volkwein, 2004). The student's academic and social experiences were almost five times more likely to influence institutional commitment than other student and organizational variables (Strauss & Volkwein, 2004).

Comparing the differences in feelings of institutional commitment between traditional-aged and non-traditional-aged students, results showed traditional-aged students had stronger feelings of institutional commitment (Wardley, Bélanger, & Leonard, 2013).

Research also showed that the academic environment was important to the institutional commitment of non-traditional students and the institution's support systems were more important to traditional-aged students (Wardley et al., 2013).

Institutional commitment focuses on the student's willingness to stay at the institution and attempts to address the question, "Should I maintain membership in this organization? And if so, why? Because I should? Because I need to? Or because I want to?" (Pierce et al., 2001). However, these questions only relate to the student's intent to stay at the institution (retention). The term institutional commitment does not consider the student's feelings toward the institution. If student motivations are high enough and students possess enough drive, they can show enough commitment to earn a degree and graduate from a particular institution, but may not exhibit strong enough feelings to warrant a commitment to that institution. Research studies also include commitment as a factor in determining an individual's feelings of psychological ownership rather than as an individual concept (Asatryan, Slevitch, Larzelere, Morosan, & Kwun, 2013; O'Reilly & Chatman, 1986).

Institutional Loyalty

Institutional loyalty is a bond formed either to an organization or to some person or group within it. That bond forges either individually or collectively and consists of feelings of attachment, of belonging, and of strongly wanting to be part of something (Adler & Adler, 1988). Institutional loyalty also involves the readiness to contribute part of one's self to the institution and incorporates trust, the voluntary alignment of self with the group, and a willingness to follow the leadership or guidelines of the organization (Adler & Adler, 1988).

 Researchers investigated what personal and institutional characteristics best predict students' loyalty toward the institutions. Over 1,000 undergraduate, traditional-aged students

completed a survey about their feelings toward the institution (Vianden & Barlow, 2014). Categories addressed included quality of institutional aspects, level of student engagement, institutional satisfaction, and initial impressions of the institution. Similar to institutional commitment, findings showed student behaviors and attitudes were stronger predictors of loyalty than student demographic or institutional differences. Gender was the only statistically significant demographic factor predicting loyalty, with women being more loyal than men (Vianden & Barlow, 2014). Additionally, students' behaviors and attitudes predict loyalty better than institutional factors or students' precollege variables (Vianden & Barlow, 2014). Finally, prospective students who ranked the institution highly before enrolling showed a significantly lower intent to leave than students who ranked the institution lower (Vianden & Barlow, 2014). These results demonstrate how important initial impressions and student attitudes are to the individual's feelings of loyalty toward the institution.

A study explored the concept of institutional loyalty by focusing on thirty-eight student athletes in a major college basketball program. Researchers conducted a participant-observation study over five years and following several classes of student-athletes throughout their college years. Five conceptual elements emerged as critical to the development of loyalty: domination, identification, commitment, integration, and goal alignment (Adler & Adler, 1998). Results showed that the strongest bonds were formed by organizations that could stimulate all five of the conceptual elements. Additionally, individuals who meet those five criteria of those five components will develop more loyalty. This shows that feelings of loyalty vary not only from person to person, but also from group to group (Adler & Adler, 1988). This could help explain some of the variability in levels of student engagement among different types of students even at the same institution.

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Although the term institutional loyalty is more complex and nuanced than previous terms, it only goes as far as to indicate an individual has the potential to contribute to the group, not that the individual actually contributes. In addition, it emphasizes alignment with an organization, not necessarily a willingness to change the group. Institutional loyalty does not always include a positive relationship with a group. Hazing creates loyalty with members, but not necessarily a positive feeling toward the organization or the members of the organization.

Organizational Identification

Derived from the psychological Social Identity Theory, organizational identification is how individuals define themselves in terms of membership in the organization (Ashforth & Mael, 1989). Stronger organizational identification leads to incorporating an individual's self with the organization's norms, values, and interests (Ashforth & Mael, 1989; Mael & Ashforth, 1992).

Much of the research on organizational identification has occurred outside of higher education within the business world, focusing on the organizational identification within the context of company mergers (Amiot, Terry, Jimmieson, & Callan, 2006; Hogg, Van Knippenberg, & Rast, 2012; Van Knippenberg, Van Knippenberg, Monden, & de Lima, 2002). Within higher education, much of the organizational commitment research looks at the clarification of terminology (Mael & Tetrick, 1992; Van Knippenberg & Sleebos, 2006).

However, within the higher education research, a few studies overlay this construct within the context of alumni involvement and/or giving. Alumni from an all-male, religious institution in the northeastern United States completed surveys about their feelings toward their alma mater (Mael & Ashforth, 1992). Results showed individuals who identified with

the institution were more likely to give back to the college, whether through financial contributions, willingness to allow one's son to attend the institution, willingness to recommend the institution to others, and other smaller connections, such as attending college banquets or special lectures (Mael & Ashforth, 1992). Although not looking specifically at psychological ownership, this study indicates the importance of a current student's relationship with the institution in setting the tone for that relationship after graduation. This links directly to the implications of psychological ownership on alumni activities discussed earlier.

In another study, a survey of alumni from a public university in the southeastern United States gauged their level of organizational identification and their behaviors, feelings, and motivations related to donating monetarily to the institution (Coulter, 2014). Results showed that gender differences did not affect feelings of organizational identification, but those involved in Greek life were more likely to experience feelings of organizational identification (Coulter, 2014). Related to donative behavior, results showed that those who donated money to the institution were more likely to have higher levels of organizational identification (Coulter, 2014).

Organizational identification addresses the question, "who am I in relation to the organization?" (Pierce et al., 2001). The term reflects identification with a group, not necessarily actions of an individual in relation to the group. It is more of a descriptor of a relationship, not a feeling toward an entity. However, individuals can experience identification, even if they are not current members of the organization, as with sports teams of which they are not a member or products or companies they do not own (Bhattacharya & Sen, 2003; Mael & Ashforth, 1992; Wann & Branscombe, 1990). A few studies even

included identification as a factor in determining psychological ownership (Asatryan et al., 2013; O'Reilly & Chatman, 1986).

Association of Terms

Although the terms previously discussed share similar aspects with psychological ownership, the foundational aspect of possession is absent in the other concepts. Psychological ownership is a reflection of possessiveness and a sense of control over the psychologically owned objects, not simply a relationship with an organization or object. The depth of psychological ownership sets it apart from the other terms.

Additionally, the two prongs of the psychological ownership theory, individual characteristics and pathways to development, are not present in the other terms. This suggests there are more ways to encourage and build psychological ownership in individuals. Psychological ownership also creates a sense of responsibility for the organization not duplicated within the other terms (Vandewalle et al., 1995)

Psychological ownership includes both motives and activities, as well as feelings and actions. A student's feelings toward a particular institution are not enough to indicate psychological ownership; there must be an action from the student to meet the psychological ownership criteria. Likewise, if students are engaged in an activity, but their motivation is not positive, the student may not feel psychological ownership. For example, if a student is required to attend a campus event, the student may not feel psychological ownership because the motivation does not come from the student, but from a place of restriction due to the lack of free will of the student.

The researcher believes the terms listed above fall on a continuum with the more superficial term school spirit on one end and the more identity-based organizational

identification on the other. The researcher suggests psychological ownership is more descriptive of the complete student experience and falls past organizational identification on the continuum. See Figure 1 for a visual representation of the relationship between the terms previously discussed.

School Spirit	Institutional Commitment	Institutional Identification
Institutional Connection	Institutional Loyalty	Psychological Ownership
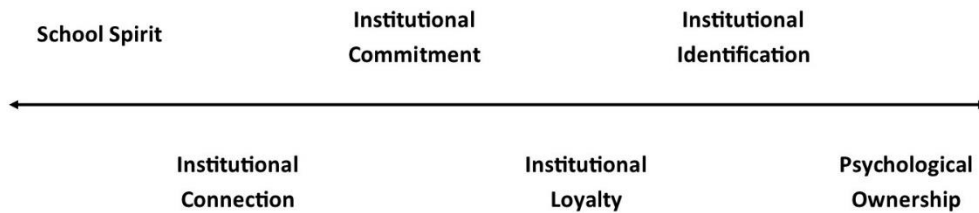
Figure 2.1 Relationship between the terms related to a student's relationship with the institution

Possible Influencing Factors

Due to the many types of students attending an institution with varying experiences, needs, and expectations, not all students at an institution feel the same level of psychological ownership. Similarly, just because a student has a positive experience at the institution or is satisfied with the experience does not mean that student feels psychological ownership. Understanding more about the relationship between these factors can help institutions better understand their students. This understanding can aid institutions in creating unique experiences suited to the population of students at the institution. These unique experiences potentially can help build strong feelings of psychological ownership for the institution, leading to higher retention rates, a better student experience, and more connected alumni. Below is a discussion of some of those influencing factors.

Demographics

The most recent data available for undergraduate student enrollment is from fall 2016. According to the National Center for Education Statistics, approximately 16.9 million students were enrolled in undergraduate degree programs, with enrollment expected to increase by 3% to 17.4 million students by 2027 (U.S. Department of Education, 2018). Female students made up 56% of total undergraduate enrollment, with male students making up the remaining 44%. The racial makeup of students was as follows: 53.8% were white, 18.9% were Hispanic, 13% were black, 6.5% were Asian/Pacific Islander, 0.76% were American Indian/Alaska Native, and 7% were of two or more races or ethnicity unknown. There were 10.4 million (61.5%) full-time students and 6.4 million (37.9%) part-time students (U.S. Department of Education, 2018).

Four-year institutions constituted 10.8 million (64%) undergraduates enrolled while the remaining 36% (6.1 million) were enrolled at two-year institutions. With the rise in online education, 5.2 million students (almost 1/3 of all enrollees) participated in distance education, with 2.2 million (approximately 13% of all undergraduate enrollment) participating exclusively in online programs (U.S. Department of Education, 2018).

The average price of attending a 4-year public institution (with in-state tuition status) was $14,100 for students choosing to live with family members. For students choosing to live on campus, that cost rose to $23,700 and was $24,000 for those students living off-campus and not with family members (U.S. Department of Education, 2018).

According to the most recent Carnegie Classification statistics, of the 4,664 institutions, 716 are public 4-year institutions and 2,369 are private 4-year institutions; the remaining 1,579 institutions are two-year, specialty, or for-profit institutions. The majority of

4-year institution attendees attend full-time and the majority (61%) of institutions are considered "inclusive" in their admissions policy, which means they "extend educational opportunity to a wide range of students with respect to academic preparation and achievement" (Carnegie Foundation for the Advancement of Teaching, n.d., "Undergraduate Profile Classification," paragraph 11). Approximately half of all four-year institutions are considered primarily nonresidential, meaning less than 25% of students live on campus (Carnegie Foundation for the Advancement of Teaching, 2016).

  Impact of demographics. With this wide array of students attending many different types of institutions, it is clear that not all students experience the same feelings toward the institution they attend. Pascarella & Terenzini (2005) reported that where a student lives, what they are involved with on campus, how much time they spend on campus, intercollegiate athletic participation, a student's employment status and location, gender, and race all have an effect on the student's college experience. If all of these things affect a student's experience, these demographic factors may also affect other things as well, including feelings of psychological ownership.

  However, psychological ownership scholars believe that feelings of ownership can manifest in anyone, but the strength of those feelings may vary depending on the individual (Pierce & Jusilla, 2011). Although at this time there is no research that states which students will feel more strongly toward the institution, there are some demographic categories that may be significant predictors.

  Regarding the age of the student, studies show the importance or specialness of an object varies depending on the individual's age classification. Adolescents tend to place more meaning on items that have a personal history to the individual or hold a utility value and

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those individuals in other life stages may place more meaning on items that hold strong memories or are items that reflect their self-expression (Csikszentmihalyi & Rochberg-Halton, 1981; Kampter, 1991). These findings show that age may be a factor in differing levels of feelings of psychological ownership.

Psychological ownership studies show that in family-owned firms in Sweden, the length of tenure with a company relates positively to an individual's feelings of psychological ownership toward the organization (Raffelsberger & Hallborn, 2009). This may indicate that students who have been associated with the institution for a longer period of time may experience stronger feelings of psychological ownership. These could be students that are upperclassmen or students that have attended the institution since their freshman year, as opposed to students that transfer into the institution.

Culture may also affect a student's feelings of psychological ownership. Students from different cultures may view ownership differently. The individualism-collectivism cultural belief is an example of differing views on ownership and possession. Individualist societies emphasize self-sufficiency and control, whereas collectivistic societies emphasize the goals of the community and an individual's knowledge and acceptance of his/her place in the community (Furby, 1976, 1978; Spiro, 1955). If a student is from a collectivist society, possession may not be important, thus affecting feelings of psychological ownership.

Due to the varying types of students attending college, it is easy to see how the demographic background of a student may affect the student's college experience and have an impact on that student's feelings of psychological ownership for the institution.

Student Satisfaction

Another area that could affect students' feelings of psychological ownership for the institution is the students' feelings of satisfaction both with the institution and with their experience at the institution. Student satisfaction refers to students' subjective evaluation of their experiences with the institution (Oliver & DeSARBO, 1989). Students are satisfied when the actual experience meets or exceeds their expectation (Elliott & Shin, 2002). Research regarding student satisfaction faced some challenges, as higher education officials are hesitant to classify students as customers of the institution (Mark, 2013). Usage of the term *customer* causes some administrators to feel students are expecting the institution to pander to their needs, with the institution expected to take on "the customer is always right" mantra. However, customers are now seen as a partner to the provider and partially accountable for their own satisfaction (Mark, 2013). Additionally, research shows that students are only satisfied when they feel they get what they pay for: a quality education in a field of study with a credential that is valued in the labor market (Mark, 2013).

Two approaches exist to measure a student's level of satisfaction with the institution: a single-item or multi-item measurement. The single-item approach asks students one question regarding their satisfaction with the institution, either a simple yes or no question or a Likert-scale question. This is simple to answer and analyze, but it does not indicate which educational attributes matter to the student (Elliot & Shin, 2002).

The alternative approach is through a multi-item measurement. Students answer questions about their satisfaction with each attribute of the institution and also about the importance of that attribute to the student. The most data can be found in the difference between the two ratings. This allows the institution to focus on the important attributes that

the students are not satisfied with and spend less time addressing the unimportant attributes (Elliot & Shin, 2002).

The multi-item approach identified eleven (11) factors that determine a student's satisfaction with the institution: campus support services, service excellence, campus climate, instructional effectiveness, safety and security, academic advising, financial aid, student centeredness, concern for individuality, campus life, and registration effectiveness (Ruffalo Noel-Levitz, 2017). However, one research study found only two of these factors predict the overall level of student satisfaction with the institution: student centeredness, which relates to the institution's effort to make the student feel important, and instructional effectiveness, which assesses a student's academic experience and includes curriculum and a commitment to academic excellence (Elliot, 2002). That is, students need to feel they are important to the university and they need to experience intellectual growth to feel satisfied with their experience.

Student Involvement

Often, the terms *student involvement* and *student engagement* are used interchangeably, but they actually have two distinct meanings. Student involvement is the amount of physical and psychological energy students devote to their academic experience (Astin, 1984). Involvement occurs along a continuum and students invest energy at differing levels in varying areas of campus. Although involvement encompasses both academic and social aspects, much of the research focuses on the social side of the student's collegiate experience, primarily extracurricular involvement. Student development theory states the more involved the student is, the more successful the student will be in college (Astin, 1984; Bean, 1990; Kuh, 2008; Pascarella & Terenzini, 2005; Tinto, 1993).

Involvement focuses on the individual and how the individual is involved within his or her institution. Campuses across the country have embraced the concept of student involvement and have created programs and offices to encourage student involvement on campus. Research links almost every positive outcome of college to student involvement (Harper & Quaye, 2015; Pascarella & Terenzini, 1991, 2005; Wolf-Wendel, Ward, & Kinzie, 2009).

On the other hand, engagement addresses what the student does and what the institution does to encourage the student (Wolf-Wendel et al., 2009). Engagement also includes students' educational processes and outcomes. The term identifies what actions the institution can embrace to increase a student's engagement. Engagement encourages institutional reflection and looks closely at the institution's role in channeling students' participation (Wolf-Wendel et al, 2009). Involvement does not focus on the institution, rather, it looks solely at students' actions. Engagement suggests more complexity than merely involvement.

Although involvement and engagement have nuances that distinguish them from each other, the scholars behind the terms agree there are no fundamental differences between the terms involvement and engagement (Wolf-Wendel et al., 2009). Foundational scholars feel engagement is an outgrowth of involvement, but not a departure from the basic idea. Kuh states

> From a measurement point of view I don't think it makes any difference if you are talking about involvement or engagement and quality of effort. [The concepts of involvement and engagement] are temporal representations of pretty much the same thing. (Wolf-Wendel et al., 2009, p 417)

Because the concepts overlap and the terms are used interchangeably throughout the literature, the research presented here will utilize both.

Various studies assessed student engagement at higher education institutions. Two articles reported the results of one multi-institution case study that examined institutional practices that promoted student engagement and the relationship between institutional approaches to student engagement and institutional mission (Kezar, 2006; Kezar & Kinzie, 2006). Twenty institutions were chosen to participate in the case study based on results from the NSSE survey and individual institution projected graduation rates. Diversity in institutional selection was highlighted with institutions being large, small, public, private, residential, commuter, primarily full-time, and primarily part-time (Kezar, 2006; Kezar & Kinzie, 2006). Using document analysis, interviews, focus groups, and observations, researchers sought to better understand what policies and practices explained the better than predicted NSSE engagement scores and graduation rates (Kezar, 2006; Kezar & Kinzie, 2006). Regarding institutional size, analysis showed mid-sized institutions had no significantly different practices or policies than large-sized institutions (Kezar, 2006). Additionally, a deeper dive into the mission statements of the participating institutions found that Master's degree granting institutions did not have distinctive mission statements than other institution types (Kezar & Kinzie, 2006). This is important to note as the site for the proposed study is a mid-sized, Master's degree granting institution.

A mixed-methods study examined two cohorts of students and found autonomy, relatedness, and competence were all important factors relating to student engagement (Groves, Sellars, Smith, & Barber, 2015). However, the most important factor in encouraging students to engage was their instructors (Groves et al., 2015). This suggests just how

important the academic piece of a student's experience is to student engagement and the college experience.

Relative to the current research, one of the consequences of psychological ownership is extrarole or citizenship behavior. These are behaviors performed by the individual in relation to the organization and are not expected, required, or compensated (Pierce & Jussila, 2011). Examples include the employee looking for ways to save the organization money, helping a new employee better understand the organization, or volunteering to be on a committee. Multiple studies found some sort of positive relationship between psychological ownership and extra-role or citizenship behaviors (O'Driscoll, Pierce, & Coghlan, 2006; Peng & Pierce, 2015; Vandewalle et al., 1995; Yang, Li, & Yuan, 2010). One study examined workers in seven different for-profit industries by asking both employees and their supervisors to evaluate their psychological ownership and citizenship behaviors (O'Driscoll, Pierce, & Coghlan, 2006). Results showed organization-based psychological ownership had a significant positive relationship with perceived extra-role behavior by both the employees and the supervisors (O'Driscoll, Pierce, & Coghlan, 2006). Another study asked employees in four high-tech companies in Shanghai to answer questions related to their feelings of psychological ownership, experienced job control, job satisfaction, turnover intentions, and extra-role behaviors within the organization (Peng & Pierce, 2015). Relevant to the proposed research, findings showed that job-based psychological ownership was related positively to extra-role behavior but organization-based psychological ownership was not (Peng & Pierce, 2015).

These findings are significant because student involvement opportunities are not required by the university, but students can choose to participate. For the average student,

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there is no requirement for involvement. Students can choose whether to spend time on

campus-related items and how much time to spend on them. Students have the full choice to

spend time studying, on campus, in clubs and organizations, at athletic events, or interacting

with faculty and peers. This categorizes student involvement similarly to extra-role or

citizenship behaviors, as they are not requirements placed on the student by the institution.

Combination of Factors

A few studies examined a combination of factors affecting a student's feelings of

psychological ownership. These studies looked at both the pre-cursors and perceived effects

of psychological ownership. Even more important to the proposed research is that these

studies occurred with college students.

Hospitality and business undergraduate students from four programs in the United

States and Canada were surveyed to test a model of students' feelings of psychological

ownership. The model proposed that student involvement, perceived control, identification,

and sense of belonging produced stronger feelings of psychological ownership (Asatryan et

al., 2013). The model also proposed that stronger feelings of psychological ownership led to

stronger levels of commitment and satisfaction. Results show sense of belonging and

institutional identification help to form more complex psychological feelings among college

students (Asatryan et al., 2013). Specifically, identification and commitment were directly

related; sense of belonging had both a direct and an indirect impact on satisfaction (Asatryan

et al., 2013). Additionally, the relationship between psychological ownership and student

satisfaction was positive and significant (Asatryan et al., 2013). These results show that

institutions may benefit from creating environments which encourage the identification and

sense of belonging of students. These stronger feelings lead to stronger feelings toward the institution, including student satisfaction.

Another study focusing on college students looked at a sample of 797 adult resident students and their spouses living in a co-operative housing environment at the University of Minnesota-Minneapolis (Vandewalle et al., 1995). Respondents answered questions about their feelings of psychological ownership toward, commitment to, and satisfaction with living at the co-operative (Vandewalle et al., 1995). Also measured were the in-role behaviors, those formally required by the co-operative, and extra-role behaviors, those not required of the co-operative. Results showed respondents with higher levels of psychological ownership were more likely to engage in extrarole behavior and the relationship between extrarole behavior and psychological ownership was stronger than the relationship between psychological ownership and in-role behavior (Vandewalle et al., 1995). Findings also showed a moderately strong positive relationship between satisfaction and extrarole behavior, but not as strong as the relationship between psychological ownership and extrarole behavior (Vandewalle et al., 1995). These results show psychological ownership makes a difference in the behavior of organizational members.

These studies are significant to the current research as the proposed study is looking at the relationship between psychological ownership, student satisfaction, and student involvement (extrarole behaviors). While the studies included other factors of commitment and institutional identification, the presence of the similar elements in the proposed research study make them significant. Additionally, these studies show strong support that the concept of psychological ownership can be applied to higher education.

Conclusion

The purpose of this chapter was to review the existing literature that led to the development of this study regarding the relationship between students and the higher education institution they attend, specifically psychological ownership. This chapter began with a description of theoretical foundations of psychological ownership, including the roots of, routes to, and types (job-based versus organization based). Following a discussion of the theoretical foundations, the application of psychological ownership to relationships and the implications of psychological ownership to employees and customers and to current and former students in higher education was addressed. Next, the terms describing students' relationships with the institution they attend were presented, including the association of these terms to the term psychological ownership. Finally, the possible influencing factors of student demographics, satisfaction, and involvement were discussed.

This review of the literature sought to explain the concept of psychological ownership and begin to place it in the context of higher education. With the concerns of low retention rates, low graduation rates, and declining state and federal funding, it is vital to understand the student's relationship with the institution to continue to provide a quality experience for students. The more institutions understand about their students' experiences, the better the institutions can serve the needs of those students. The following chapter will provide a detailed explanation of the methodology used in this study, including the choices made and the justifications for those choices.

CHAPTER 3

METHODOLOGY

Having presented the literature surrounding the concepts contributing to the research

problem in Chapter Two, this chapter describes the research methodology used in the study.

Included are the purpose of the study, research questions, null hypotheses, theoretical

framework, survey participants, design of the study, the survey instrument, data collection

procedures, data analysis, and the limitations.

General Design Strategy

This quantitative study utilized internet survey responses to explore the relationship

between students' feelings of psychological ownership toward the institution they attend and

the variables of student demographics, students' feelings of satisfaction with the institution,

and the students' perceptions of their involvement on campus. This research looked at a

cross-section of students at one moment in time in an effort to understand better student

feelings toward the institution.

A quantitative research method was chosen because it allows the researcher to use the

results to generalize from a sample, in this case self-selected students, to a population, all

students enrolled at the institution (Cresswell, 2014). When information is needed directly

from individuals regarding what they know, believe, or think about a given topic, surveys

serve as the best data collection method available (Fink, 2012). Internet data collection through an established research software allows for reduced error due to data input mistakes (Umbach, 2005). It also allows participants to complete the survey at their leisure and facilitates the tailoring of survey communication to participants in a structured and timely manner (Umbach, 2005).

Purpose of the Study

The purpose of this quantitative study was to explore the feelings of psychological ownership held by students at a mid-sized regional public institution. Specifically, the study looked at students' feelings of psychological ownership for the institution and the correlation with other factors, including demographics, students' feelings of satisfaction with the institution, and students' perceptions of their involvement on campus.

Research Questions

This study addressed the following research questions:

1) Do students develop feelings of psychological ownership toward the institution?

2) Is there a relationship between students' feelings of psychological ownership and individual demographics?

3) Is there a relationship between students' feelings of psychological ownership and their feelings of satisfaction with the institution?

4) Is there a relationship between students' feelings of psychological ownership and their perceptions of their involvement on campus?

Null Hypotheses

The following null hypotheses guided the study.

1) Students do not develop feelings of psychological ownership toward the institution.

2) There is no relationship between students' feelings of psychological ownership and individual demographics.

3) There is no relationship between students' feelings of psychological ownership and their feelings of satisfaction with the institution.

4) There is no relationship between students' feelings of psychological ownership and their perceptions of their involvement on campus.

Conceptual Framework

Psychological ownership was used to provide a framework with which to view a student's relationship with the institution. Although many factors can influence a student's relationship with the institution, this study specifically looked at the factors of student demographics, student satisfaction with the institution, and student perceptions of individual student involvement on campus. Additionally, the student's relationship with the institution falls on a continuum, with school spirit, the most superficial, at the top of the continuum and psychological ownership, the deepest, on the bottom. This conceptual framework was created specifically for this study by the researcher according to information presented in the literature review. See Figure 3.1 for a visual representation.
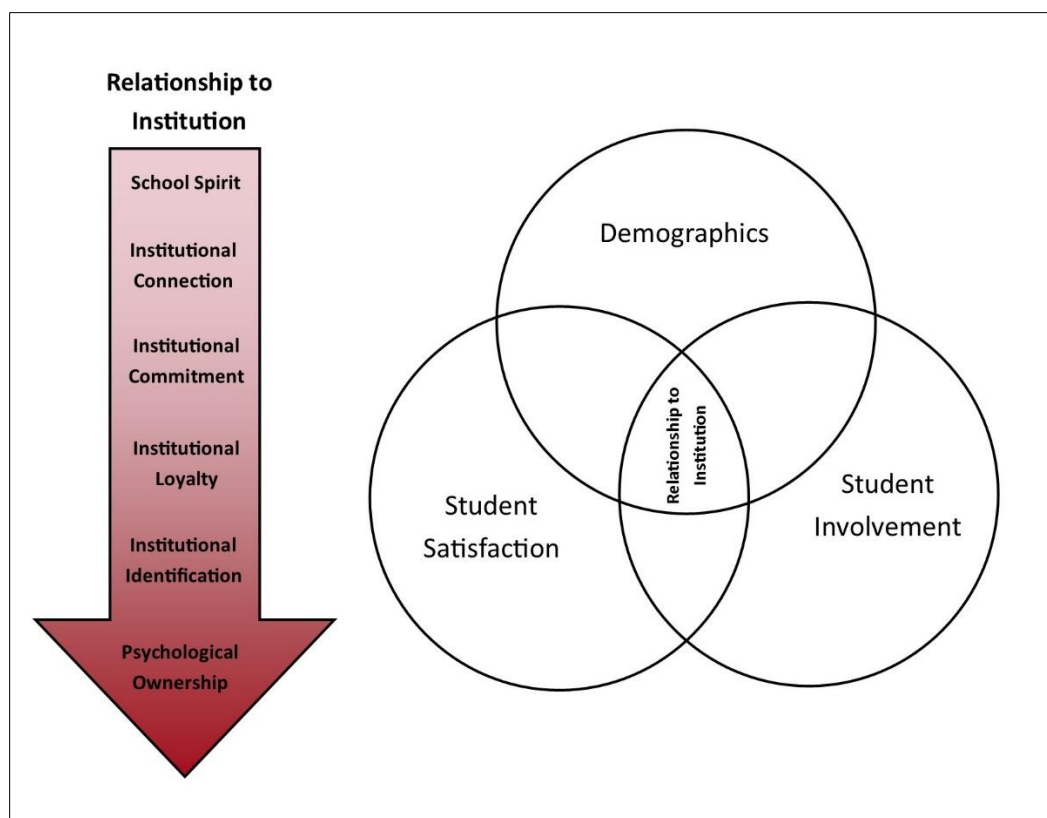
Figure 3.1 Visual representation of the Theoretical Framework

The Institution

Location and Setting for the Study

The location for the study was a mid-sized regional four-year public institution located in the southeast region of the United States. It is one of 25 public institutions of higher education in the state and is one of six academic institutions governed by the regional university system in the state. Established over 100 years ago, it was a normal school for ten years, providing a preparatory education including two-years of college leading to teacher certification. In 1919, the institution became a teacher's college and began to confer bachelor's degrees; twenty years later, degree programs in Arts and Sciences were added and the institution was designated as a state college. A fifth-year program for teachers was the

first graduate work offered in 1954. As of fall 2018, the total campus enrollment was approximately 3,600, with 81% being undergraduate students. The male to female ratio is 42% to 58%.

Student makeup. Eighty-six percent of students at the selected institution hail from within the state, 6% of students are from out-of-state, and an additional 7.6% are international students. The diversity breakdown is as follows: 12.7% Native American, 5.1% Asian, 6.2% Black or African American, 5.8% Hispanic, 0.4% Native Hawaiian or Pacific Islander, 60.9% White, 6.6% two or more races, and 2.2% unknown. Almost 29% of students are aged 25 and older and the average age of all students is 24.

Student life. Thirty-one percent of students live in on-campus residence halls. The institution is an NCAA Division II member of the Great American Conference and offers five men's sports and six women's sports. The institution hosts approximately 80 student organizations, two nationally-affiliated sororities, and three nationally-affiliated fraternities, with 6% of undergraduate men and women joining.

Academics. The institution offers 36 bachelor's degrees, four certificate programs, and fourteen master's degrees. It employs 147 full-time faculty, 62 part-time faculty, and has an 18:1 student to faculty ratio. The university hosts five academic colleges: (1) education and psychology; (2) health and sciences; (3) liberal arts and social sciences; (4) business; and (5) graduate studies. Special academic programs offered by the institution include an honors program, a study abroad program, and an exchange student program.

Financial. Estimated tuition and fees are $6,600 per year for in-state students. In 2016-2017, approximately 81% of the student population received some type of financial

assistance, which equated to $20.9 million of aid. The institution's foundation is valued at approximately $33 million.

Participants

With the approval of the Institutional Review Board of Oklahoma State University and in conjunction with the host institution's Academic Affairs office, all students on campus were included in the study. Because an internet based survey was conducted and the institution's all-student e-mail listserv was utilized to distribute the survey, the researcher included all students in the study as opposed to sampling. As of fall 2018, the chosen institution enrolled approximately 3,600 students.

To encourage participation, for every 25 students who completed the survey within the first two days, one participant was randomly selected to receive a $5 Amazon gift card. From days three through seven of the survey operating time, one participant was randomly selected from every 50 participants to receive a $5 Amazon gift card. For days seven through twelve, one participant was selected from every 100 respondents to receive a $5 Amazon gift card. At the conclusion of the survey period, a total of ten students were randomly selected to receive a gift card. These gift cards were distributed via mail.

Design of the Study

This correlational research relied on quantitative, internet-based, self-reported survey methodology using a pre-developed survey instrument. Correlational research involves collecting data to determine whether and to what degree a relationship exists between two or more variables (Gay et al., 2012). Correlational research does not seek to establish causality, but instead to explore the relationship between the variables (Gay et al., 2012).

Independent and Dependent Variables

A student's feelings of psychological ownership served as the dependent variable. The independent variables were student demographic information, students' feelings of student involvement, and students' feelings of satisfaction with the institution. The measurement and analysis of each variable are subsequently discussed.

<div align="center">

Survey Instrument

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The survey instrument consisted of 18 questions relating to respondent feelings of psychological ownership toward the institution, feelings of student involvement at the institution, feelings of satisfaction with the institution, and demographic information. The survey was divided into four sections, with each section addressing a different variable. The content of the individual sections is subsequently discussed. The survey instrument can be found in Appendix A.

Psychological Ownership

Many models have been proposed to measure feelings of psychological ownership. Van Dyne & Pierce (2004) suggested a seven-item scale with the wording of the questions focused on possessive vocabulary. After testing the model, the authors suggested a four-item scale to use in subsequent studies.

In an effort to provide a more comprehensive tool to measure psychological ownership and include newly-researched constructs, Avey, Avolio, Crossley, & Luthans (2009) developed a five-factor, 16-item matrix relating to four positive, promotion-oriented dimensions of psychological ownership (self-efficacy, accountability, sense of belongingness, and self-identity) and one prevention-focused form of psychological ownership (territoriality). The 16 items consist of three items for each of the four components

for the promotion-oriented ownership scales and four items for the feelings of territoriality (Avey et al., 2009). Responses are given on a 6-point Likert scale ranging from *strongly disagree* to *strongly agree*. Statements included: "I feel this organization's success is my success", "I feel I belong in this organization", and "I am confident I can make a difference in this organization."

Cronbach's alpha is used as the measure of reliability and the calculated internal reliabilities for the components are: self-efficacy (α=.90), accountability (α=.81), sense of belongingness (α=.92), self-identity (α=.73) and territoriality (α=.84) (Avey et al., 2009). Validity refers to the extent to which an instrument measures what it claims to measure. Confirmatory factor analysis found the instrument to be a strong fit for the concept of psychological ownership (Avey et al, 2009).

The Avey et al. (2009) survey was altered with permission of the author to fit better the population participating in the study. The term "organization" was replaced with the term "institution" so respondents were clear that the questions were referring to the institution as a whole, not specific organizations within the institution. Another alteration concerned one of the questions related to territoriality, asking specifically about the respondent's workspace. As not all students have a workspace on campus, that question was eliminated from the survey. Permission to use the Psychological Ownership Questionnaire can be found in Appendix B. Permission to alter the Psychological Ownership Questionnaire is located in Appendix C. Permission to distribute the Psychological Ownership Questionnaire online is in Appendix D.

A study by Olckers proposed a 7-factor model which included the previous five constructs and the additional constructs of responsibility and autonomy. Upon testing the

new model, results showed only four of the constructs were significant: territoriality, identity, responsibility, and autonomy (Olckers, 2013). The discrepancy in models and results can be due to the very specific population of respondents to the proposed 7-factor model, skilled and professional workers in South Africa. Due to this lack of significance, this model was not used. These results show a comprehensive model for measuring psychological ownership may still be in development. More constructs of psychological ownership also may still be undiscovered. According to the available research, the 5-factor model is the most comprehensive.

Student Involvement

While looking for an instrument to measure student involvement, multiple options were considered, including the CIRP Freshman Survey, the National Survey of Student Engagement, and the Student Satisfaction Inventory. However, each of these instruments assesses a student's levels of involvement according to researcher-defined measures, as opposed to students determining their own level of involvement. Because the focus of the current study was on the individual students' perceptions of their involvement, the previously mentioned instruments were not selected. Instead, the researcher chose to provide the following definition of student involvement to the participants: the time, effort, and energy students invest in their collegiate experiences, to include both academic and social participations with peers, faculty, and staff. After being provided the definition, students were asked to self-report their level of student involvement on a five point Likert scale from "not involved at all" to "extremely involved." The self-reporting focus of this question avoided inferences made by the researcher about the student (Appleton, Christenson, Kim, & Reschly, 2006).

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Student Satisfaction

A student's satisfaction with the institution was measured using one question

addressing the student's overall satisfaction with the experience at the institution, with

responses on a five-point Likert scale from *very dissatisfied* to *very satisfied*. This question

obtained a general understanding of the students' levels of satisfaction with the institution

thus far. The more in-depth student satisfaction surveys (like the Student Satisfaction

Inventory) were not used because the individual aspects of the student's satisfaction are not

as important to the researcher as the student's overall feelings of satisfaction with the

institution. Research also shows that more in-depth surveys of student satisfaction were no

more reliable than using a single overall satisfaction measure (Scarpello & Campbell, 1983;

Wanous, Reichers, & Hudy, 1997; Yi, 1990).

Demographics

Student demographic questions were replicated, with permission, from the National

Survey of Student Engagement (NSSE). The NSSE is administered to all bachelor's degree-

seeking first-year and senior students at participating institutions. The NSSE assesses the

extent to which students engage in educational practices associated with high levels of

learning and development (National Survey of Student Engagement, 2018). The

questionnaire collects information in five categories: (1) participation in educationally

purposeful activities, (2) institutional requirements and the academic rigor associated with

the coursework, (3) perceptions of the college environment, (4) estimates of educational

personal growth since starting college, and (5) background and demographic information

(National Survey of Student Engagement, 2018). Permission to use the NSSE demographic

questions is in Appendix E. Institutions choosing to distribute the NSSE can benchmark their

results to results of other institutions. These demographic questions were included because they provide a robust picture of the student attending the institution, their commitments both within and outside the institution, and their physical presence on campus. Each of these categories could influence a student's feelings of psychological ownership toward the institution. An additional question was included asking about the student's classification on campus, as NSSE does not include that as part of their questionnaire because their survey is specifically distributed to freshmen and seniors on campuses.

Procedures

The Institutional Review Board from both Oklahoma State University and the survey site were contacted to receive consent to survey the students. The institutional review coordinator at the selected institution distributed the research invitations to all students via an all-student e-mail list.

Students received an introductory e-mail from the Vice-President of Student Development at the chosen institution the week prior to the survey being administered, the Tuesday before Thanksgiving. This prepared students for the survey and allowed the administration to explain the importance of the survey to the students. This e-mail can be found in Appendix F. The institutional review coordinator sent an invitation e-mail to all students the Tuesday following Thanksgiving. The e-mail provided a link to a Qualtrics online survey which participants could complete at their leisure sometime within the following 12 days. The email also indicated that participation would take approximately 10 minutes. This e-mail can be found in Appendix G. Before beginning the survey, participants were shown a screen asking for informed consent. The student could choose if they wished not to participate, at which point they were taken to the end of the survey. If the student

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selected that they wished to participate, they began the survey. The informed consent form can be found in Appendix H. The participant began by taking the 15-item Psychological Ownership Questionnaire (Avey et al., 2009). Upon completion of these items, students were asked about their perceptions of their student involvement, their satisfaction with the institution, and demographic information. Respondents were able to include themselves in a drawing for a $5 Amazon gift card, if they chose. Upon completion of the entire survey, participants saw a thank-you screen and results were inputted automatically into the online database. The survey with three sample items from the Psychological Ownership Questionnaire can be found in Appendix A.

All students were sent reminders via the all student email list on the Thursday following the initial invitation. This reminder e-mail can be found in Appendix I. A final reminder e-mail was sent to all students on the following Tuesday. This reminder e-mail can be found in Appendix J.

Pilot Study

A pilot study was conducted to identify any unanticipated problems including item understanding and clarity. This small-scale study followed similar procedures outlined above to test the practicality and feasibility of the methods planned for the full-scale study. Additionally, responses were used to calculate validity and reliability of the proposed instrument. After obtaining IRB approval, juniors at the institution in which the researcher works were e-mailed asking for their participation and including a link to the survey. Research shows that 30-40 responses is a sufficient sample size; the researcher closed the survey after 50 responses were received (Hertzog, 2008; Johnason & Brooks, 2010; Mooney & Duval, 1993).

Findings showed students did develop psychological ownership toward the institution, rejecting Null Hypothesis 1. However, due to the small sample size, there were not enough respondents to determine a relationship between feelings of psychological ownership and student demographics, failing to reject Null Hypothesis 2. Further analysis revealed a relationship between feelings of psychological ownership and both satisfaction with the institution and student involvement at the institution, rejecting Null Hypothesis 3 and 4. Finally, multiple regression analysis showed both student satisfaction and feelings of student involvement predicted feelings of psychological ownership at the $p < 0.05$ level.

Based on the distribution, collection, and findings of the pilot study, in conjunction with a conversation with the researcher's doctoral committee, adjustments were made to the survey distribution. An introductory letter from the Vice-President of Student Development was included in order to give students context for completing the survey and to encourage their participation. Additionally, while research is mixed on the best day to send emails, many researchers conclude that Tuesdays and Thursdays are the best days to send email surveys for a response (Dillman, Smyth, & Christian, L., 2014; Ellering, 2018; Lewis & Hess, 2017). Based on these findings, all e-mails were sent to students on Tuesday and Thursday. Finally, the incentive to participate in the survey was initially a spirit prize related to the institution, in order to connect with the survey topic. However, students with no psychological ownership toward the institution may not have been motivated by the chance to win a spirit prize, so they may have chosen not to participate. To counteract this, the incentive for participating was changed to a $5 Amazon gift card, in order to attract more students.

Data Analysis

After all data automatically was inputted into the database, IBM SPSS Statistics 25 (Statistical Package for Social Sciences), a commercially-available statistical software tool, was used to analyze the results. Descriptive statistics were used to study the demographic information and to understand better the makeup of respondents (Lomax & Hahs-Vaughn, 2012).

To determine if students developed feelings of psychological ownership toward the institution (Hypothesis 1), composite psychological ownership scores were computed by summing the Likert scale values for the 15 psychological ownership questions. Descriptive statistics was performed to summarize the findings (Lomax & Hahs-Vaughn, 2012). Additionally, a one-sample t-test was used to compare the midpoint of the study with the responses to determine if they differed significantly.

To examine the relationship between feelings of psychological ownership and demographics (Hypothesis 2), an independent sample T-test was performed to compare the sample means of two different populations, specifically the demographic questions relating to transfer status, international student status, student athlete status, and current or former military status (Lomax & Hahs-Vaughn, 2012). Additionally, a one-factor ANOVA fixed-effects model was performed to examine the demographic questions with more than two response options, specifically the questions related to credit hour enrollment, online credit hour enrollment, gender identity, race/ethnicity, living location, sexual orientation, classification, and hours spent on activities (Lomax & Hahs-Vaughn, 2012). Although it is preferable for the researcher to assign participants randomly to the varying levels of the independent variables, due to the nature of the study, this was not an option.

To address the relationship between psychological ownership and student satisfaction and student involvement (Hypotheses 3 and 4), Pearson Correlation Coefficient was utilized. Both the dependent and independent variables are continuous, making the Pearson Correlation Coefficient the most appropriate measure of correlation (Muijs, 2004).

Because the dependent variable of psychological ownership is continuous, multiple linear regression and Pearson Correlation Coefficient were used to understand better the relationship between the various independent variables of demographics, student satisfaction, and student involvement and psychological ownership (Lomax & Hahs-Vaughn, 2012). Finally, the measure of the effect size and/or association, the measure of power, and any necessary post-hoc analysis was conducted on the above-mentioned procedures (Lomax & Hahs-Vaughn, 2012).

Limitations

Delimitations of the study were addressed in Chapter Two, including survey construction and distribution, and choice of research site. Similarly, limitations were encountered during the research process. First, a low (10%) response rate may have led to inaccurate or unreliable results. Also, the timing of the study distribution was not ideal. Due to IRB and institutional approval, surveys were not distributed until immediately following Thanksgiving break, with the welcome e-mail being sent the Tuesday prior to the Thanksgiving break. Finally, individual e-mail addresses were not released to the researcher. This eliminated the use of individualized e-mails, which can affect the response rate.

Summary

This quantitative study analyzed the relationship between students' feelings of psychological ownership toward their institution and the independent variables of student

demographics, students' feelings of satisfaction with the institution, and the students' perceptions of their student involvement on campus. This chapter presented an overview of the research methods of the study. It stated the purpose of the study, research questions, null hypotheses, theoretical framework, survey participants, design of the study, the survey instrument, data collection procedures, data analysis, and the delimitations.

CHAPTER 4

RESULTS

As stated in Chapter One, this study examined the relationship between students'

feelings toward the institution they attended, using psychological ownership as the metric.

Students' feelings toward the institution can affect student retention, which also can affect

the institution's accreditation, accountability, and reputation. The literature review in Chapter

Two provided specific information about the construct of psychological ownership and the

roots of and routes to those feelings. Additionally, the implications of psychological

ownership were highlighted, both within and outside of higher education. Finally, the

possible influencing factors of demographics, student satisfaction, and student involvement

were described.

This correlational quantitative study explored the feelings of psychological ownership

held by students at a mid-sized regional public institution. Specifically, the study looked at

student demographics, students' feelings of satisfaction with the institution, and students'

perceptions of their involvement on campus in relation to their feelings of psychological

ownership for the institution.

This chapter begins by restating the research questions, followed by a discussion on

the response rate and data cleaning methods. Analysis begins by stating the demographic

characteristics of study respondents followed by the results for each hypothesis. The chapter concludes with a discussion on additional testing.

Research Questions

This study addressed the following research questions:

1) Do students develop feelings of psychological ownership toward the institution?

2) Is there a relationship between students' feelings of psychological ownership and individual demographics?

3) Is there a relationship between students' feelings of psychological ownership and their feelings of satisfaction with the institution?

4) Is there a relationship between students' feelings of psychological ownership and their perceptions of their involvement on campus?

Null Hypotheses

The following null hypotheses guided the study:

1) Students do not develop feelings of psychological ownership toward the institution.

2) There is no relationship between students' feelings of psychological ownership and individual demographics.

3) There is no relationship between students' feelings of psychological ownership and their feelings of satisfaction with the institution.

4) There is no relationship between students' feelings of psychological ownership and their perceptions of their involvement on campus.

Response Rate and Data Cleaning Methods

The survey was distributed to all students via an all-student e-mail listserv. As of fall 2018, the total student population at the institution was approximately 3,600 students. Of

those students, 448 students began the survey, creating a 12.36% response rate. All but three

consented to participate, creating a 99.3% participation rate of those who began the survey.

As the study specifically looked at feelings of psychological ownership, any respondents that

did not complete the psychological ownership matrix were not included in analysis. Of the

445 respondents choosing to participate in the survey, 44 respondents did not complete any

part of the psychological ownership questionnaire and 12 did not answer all parts of the

psychological ownership questionnaire, disqualifying them from inclusion in data analysis. A

total of 389 respondents were included in the analysis, which is approximately 10.8% of the

entire student body and 86.8% of all students who began the survey.

To conduct a more robust analysis, some recoding and reclassifying of the variables

were completed. Specifically, the following variables were addressed: date of birth, living

situation, and number of hours worked. Originally, respondents were asked to input their

birth year, which was then recoded into two new variables. One new variable subtracted the

year of birth from the current year (2019) to calculate the respondent's approximate age.

Although this could underestimate a respondent's age by 6 months, it is congruent with the

demographic question from the NSSE survey (Dillman, Smyth, & Christian, 2014).

Additionally, birth year was entered into one of the following categories: 17-22, 23-29, 30-

39, 40-49, 50-59, and 60 and above. This process created additional variables, allowing age

to be used as both a scale and ordinal variable.

A new demographic category was also created from the question asking about

respondents' living situation. Responses were grouped into *On-Campus* and *Off-Campus*.

On-Campus included the original categories of *Campus housing (other than a fraternity or*

sorority house) and *Fraternity or sorority house*. The Off-Campus category included the

original responses of *House, apartment, or other residence within walking distance to campus; House, apartment, or other residence farther than walking distance to campus; Not applicable. No campus, entirely online program, etc.;* and *Not applicable. Homeless or in transition*. This new variable allowed the researcher to compare those students living on-campus to those students living off-campus.

Finally, another new variable was created to include both on-campus and off-campus work hours. The researcher analyzed both the *Hours spent working off-campus* and the *Hours spent working on-campus*. The new variable totaled the hours spent working in both categories, to create a new variable indicating if students worked a total of 20 hours per week both on- or off-campus.

Descriptive Statistics

After recoding, descriptive statistics were used to understand better the demographics of the respondents. Regarding classification, 120 respondents (30.8%) were underclassmen (Freshmen and Sophomores) while 178 respondents (45.7%) were upperclassmen (Junior or Seniors). Graduate students constituted 23.4% of respondents. The average age of respondents was 27.69, with median equaling 23.00 and mode being 21. Additionally, respondents were overwhelmingly of full-time status, 80.5% full-time compared to 19.5% part-time status. A fairly even split occurred between students who began their college careers at the institution (55.5%) versus those who transferred in (44.5%). Table 4.1 shows the entire demographic breakdown of respondents.

Table 4.1

Demographic Information on Respondents

Demographic Variable	$N =$	Percent
Classification		
Freshman	75	19.3
Sophomore	45	11.6
Junior	69	17.7
Senior	109	28.0
Graduate	91	23.4
Full-Time Status		
Full-Time	305	80.7
Part-Time	73	19.3
Transfer Status		
Started Here	208	55.5
Started Elsewhere	167	44.5
Gender		
Male	117	31
Female	253	66.9
Other	4	1.1
Prefer not to respond	4	1.1
Sexual Orientation		
Straight	336	88.9
Bisexual	18	4.8
Gay	1	0.3
Lesbian	7	1.9
Questioning or Unsure	3	0.8
Another Sexual Orientation	5	1.3
Prefer not to respond	8	2.1
Age Category		
17-22	203	54.1
23-29	70	18.7
30-39	56	14.9
40-49	28	7.5
50-59	12	3.2
60+	6	1.6
International Status		
International Student	14	3.7
Domestic Student	363	96.3
Ethnicity		
American Indian or Alaska Native	53	14
Asian	11	2.9
Black or African American	13	3.4
Hispanic or Latino	12	3.2
Native Hawaiian or other Pacific Islander	1	0.3
White	235	62.2

Other	1	0.3
Prefer not to Respond	7	1.9
More than 1 Ethnicity	45	11.9
Social Greek Affiliation		
Yes	30	7.9
No	348	92.1
Student Athlete		
Yes	22	5.8
No	356	94.2
Military Status		
Yes	16	4.2
No	362	95.8
Living Situation		
Campus housing (other than a fraternity or sorority house)	91	24.1
House, apartment, or other residence within walking distance to campus	35	9.3
House, apartment or other residence farther than walking distance to campus	217	57.4
Not applicable. No campus, entirely online program, etc.	34	9.0
Not applicable. Homeless or in transition.	1	0.3
On/Off Campus Living		
On-Campus	91	24.1
Off-Campus	287	75.9

Institutions are required to make available demographic information on their students. Because this information was available on the institution's website, Table 4.2 compares the percentage breakdown of the survey respondents compared to the total student body of the study site as of fall 2018. The institutional information is based on the Fall 2018 Enrollment Statistics and Demographics released by the institution, unless noted where the 2017-2018 Common Data Set was used. Not all demographic information was available, but the available information is presented below.

Table 4.2

Comparison of Percentages of Sample Size Versus Population

Demographic Variable	Sample %	Population %
Classification		
Freshman	19.3	30.9
Sophomore	11.6	12.1
Junior	17.7	15.6
Senior	28.0	22.4
Graduate	23.4	17.6
Full-Time Status		
Full-Time	80.7	75.0
Part-Time	19.3	25.0
Gender		
Male	31.0	42.0
Female	66.9	58.0
Other	1.1	
Prefer not to respond	1.1	
Age		
Average Age	27.7	27.7
International Status		
International Student	3.7	7.1
Domestic Student	96.3	92.9
Ethnicity		
American Indian or Alaska Native	14.0	12.7
Asian	2.9	5.1
Black or African American	3.4	6.2
Hispanic or Latino	3.2	5.8
Native Hawaiian or other Pacific Islander	0.3	0.4
White	62.2	60.9
Other	0.3	2.2
Prefer not to Respond	1.9	
More than 1 Ethnicity	11.9	6.6
Living Situation[+]		
On-Campus	24.1	31
Off-Campus	75.9	69
Social Greek Affiliation[+]		
Yes	7.9	3
No	92.1	97

[+] indicates information retrieved from the 2017-2018 Common Data Set

The survey also asked respondents questions regarding how they spent their time,

both in class and out of class. Questions asked were: (a) how many credit hours students

were enrolled in, (b) how many of those were online, (c) how many hours they worked, (d)

how many hours they spent commuting, and (e) how many hours they spent caring for dependents. Respondents were not specifically asked to indicate how much time they spent on homework or being involved on campus or studying. However, these themes can be included in the definition of involvement provided on the survey: the time, effort, and energy students invest in their collegiate experience, to include both academic and social participation with peers, faculty, and staff. Involvement will be further discussed when addressing Hypothesis Four.

There was no way to verify student enrollment, thus it was assumed that any individual on the student listserv is currently enrolled. However, some respondents indicated they were enrolled in "0" number of courses. This could be because students only took classes during the first eight weeks of the semester, or the student listserv is not up-to-date, or they were enrolled in courses at the beginning of the semester and then dropped out. Analysis was conducted including and excluding the students indicating they were enrolled in "0" hours. The only variable that showed any change with the exclusion was satisfaction, which will be discussed when addressing Hypothesis Three. Therefore, all respondents were included in the analysis because the institution had categorized them as a student.

As shown in Table 4.3, almost half (48.1%) of all respondents worked more than 20 hours per week at a job. Additionally, almost half (47.4%) were taking no online courses. The data for several characteristics had a majority of respondents at both ends of the time scale, including off-campus job hours, where 64.9% of respondents worked either no hours off-campus or more than 30 hours off-campus. Similarly, 80.9% of respondents spent either no time caring for dependents or more than 30 hours doing so.

Table 4.3 shows a full breakdown of how respondents spent their time.

Table 4.3
How Students Spend Time

Demographic Variable	*N =*	Percent
Number of courses		
0	15	4.0
1	18	4.8
2	38	10.1
3	60	15.9
4	66	17.5
5	96	25.5
6	46	12.2
7 or more	38	10.1
Number of courses totally online		
0	179	47.4
1	98	25.9
2	61	16.1
3	29	7.7
4	4	1.1
5	0	0.0
6	6	1.6
7 or more	1	0.3
On-campus job hours		
0	293	79.2
1-5	3	0.8
6-10	16	4.3
11-15	8	2.2
16-20	44	11.9
21-25	3	0.8
26-30	1	0.3
More than 30	2	0.5
Off-campus job hours		
0	132	35.4
1-5	10	2.7
6-10	17	4.6
11-15	16	4.3
16-20	37	9.9
21-25	30	8.0
26-30	21	5.6
More than 30	110	29.5
Job more than 20 hours		
0 Hours	86	23.2
1-20 hours	106	28.6
21 and more	178	48.1
Hours spent commuting		
0	113	30.1

1-5	152	40.5
6-10	57	15.2
11-15	23	6.1
16-20	11	2.9
21-25	4	1.1
26-30	5	1.3
More than 30	10	2.7
Hours spent caring for dependents		
0	221	59.6
1-5	26	7.0
6-10	16	4.3
11-15	8	2.2
16-20	10	2.7
21-25	4	1.1
26-30	7	1.9
More than 30	79	21.3

Based on this information, the majority of respondents were white (61.4%), straight (88.7%), of traditional undergraduate student age (54.4%), and did not work an on-campus job (79.2%). Further analysis will determine if this demographic information is relevant to psychological ownership.

Testing of Hypotheses

Data were analyzed using a variety of tests to answer the study's four specific research questions. First, descriptive statistics and one-sample t-tests were used to compute total psychological ownership scores and scores for the individual psychological ownership constructs. Then, independent samples t-tests, ANOVA tests, and Spearman rho correlations were calculated to assess whether demographic factors were related to psychological ownership scores. Spearman rho was chosen as opposed to the Pearson correlation because of the ordinal nature of the variables (Abu-Bader, 2010). Additionally, ANOVA tests and Pearson *r* were conducted to examine the relationship between psychological ownership and student involvement and student satisfaction. Appropriate effect size calculations were

completed to determine the differences between populations. Where significant differences were found, appropriate post hoc tests were conducted to determine the specific differences. Finally, both simple linear regression and multiple regression were conducted to explore prediction factors related to psychological ownership.

Null Hypothesis One: Students do not develop feelings of psychological ownership toward the institution.

To measure psychological ownership, respondents were asked to complete a 15-item matrix to assess their feelings of psychological ownership toward the institution. To compute a total psychological ownership score, the Likert scale responses were summed. Psychological ownership scores ranged from 15 to 90, representing the lowest and highest possible scores. Scores of 68 and higher indicate respondents *Agree* or *Strongly Agree* and scores of 53-67 indicate *Somewhat Agree*, indicating some sort of psychological ownership. A review of the histogram for psychological ownership scores showed a non-normal distribution, and a Shapiro-Wilk test corroborated. However, both skewness and kurtosis were +/- 2.0, which is a relatively normal range (Lomax & Hahs-Vaughn, 2012). Additionally, the mean, median, and mode scores were similar at 60.32, 63.00, and 63.00 respectively. Interquartile percentage ranged from 54.00-67.00 and $SD = 10.612$.

In addition to summing the Likert scores for respondent's feelings of psychological ownership, a one-sample t-test was conducted which compared individual respondent's scores with the scale midpoint. There was a significant difference between respondents' feelings of psychological ownership and the midpoint of the Psychological Ownership scale ($t (388) = 14.536$, $p < .01$), with respondents' average score being 7.82 points higher than the midpoint of the scale.

In addition to the total psychological ownership score, scores were also computed for the individual constructs of territoriality, accountability, self-efficacy, belongingness, and self-identity. Scores of 14 and higher in the individual categories indicate *Agree* and *Strongly Agree* while scores of 11-13 indicate *Somewhat Agree*. The Shapiro-Wilk test showed a non-normal distribution, but skewness and kurtosis were +/- 2.0, which is a relatively normal range (Lomax & Hahs-Vaughn, 2012).

Additionally, the motivation scores of promotion and prevention were computed. For the prevention category a score 14 and higher indicates *Agree* and *Strongly Agree* while scores of 11-13 indicate *Somewhat Agree*. For the promotion category, a score of 56 and higher indicates *Agree* and *Strongly Agree* while scores of 44-55 indicate *Somewhat Agree*. Again, the Shapiro-Wilk test showed a non-normal distribution, but skewness and kurtosis were +/- 2.0, which is a relatively normal range (Lomax & Hahs-Vaughn, 2012).

Table 4.4 shows the mean, median, mode, and standard deviation of the motivations and individual constructs.

Table 4.4
Descriptive Statistics for Individual Constructs of Psychological Ownership

Category		Mean	Median	Mode	*SD*
Prevention		6.49	6.00	6.00	2.887
	Territoriality	6.49	6.00	6.00	2.887
Promotion		53.83	56.00	60.00	10.773
	Accountability	12.8	13.00	15.00	3.312
	Self-Efficacy	14.15	15.00	15.00	2.834
	Belongingness	13.99	15.00	18	3.609
	Self-Identity	12.89	14.00	15.00	3.796

The mean, median, and mode of all promotion-focused psychological ownership factors were at or above the Somewhat Agree level, while the same is not true for the

prevention-focused factors. Additionally, one-sample t-tests were conducted on each individual subscale to compare individual respondent's scores with the scale midpoint. All subscales showed statistically significant differences from the subscale midpoints. For territoriality, that difference was negative, $t(388) = -27.409$, $p < .01$ with respondents' average scores being 4.01 points below the scale midpoint. However, all other subscales had positive results: Accountability, $t(388) = 13.722$, $p < .01$ with respondents' average scores being 2.30 points above the scale midpoint; Self-Efficacy, $t(388) = 25.429$, $p < .01$ with respondents' average scores being 3.37 points above the scale midpoint; Belongingness, $t(388) = 19.059$, $p < .01$ with respondents' average scores being 3.49 points above the scale midpoint; Self-Identity, $t(388) = 12.402$, $p < .01$ with respondents' average scores being 2.39 points above the scale midpoint. The same test was performed for the promotion motivation, with respondents' average scores being 11.83 points above the score midpoint, $t(388) = 21.663$, $p < .01$.

Although scores in the individual subcategory of prevention/territoriality were not found to be at or above the *Somewhat Agree* level or significantly above the midpoint of the scale, the promotion motivation and all subcategories related to it were found to be positive. Additionally, the average of all total psychological ownership scores was at or above the *Somewhat Agree* level, and the respondents' total psychological ownership scores were found to be significantly above the scale midpoints. Therefore, students do feel psychological ownership for the institution and Null Hypothesis One is rejected.

Null Hypothesis Two: There is no relationship between students' feelings of psychological ownership and individual demographics.

In addition to completing the psychological ownership matrix, respondents also answered fourteen questions relating to their personal demographics, their student status, and how they spend their time both inside and outside the classroom. Correlations, independent *t*-tests, and one-way ANOVA tests were conducted to explore the relationship between these characteristics and the students' feelings of psychological ownership.

Table 4.5 reports the results of the independent sample t-tests of the categorical demographic variables. Shaded cells indicate significance was calculated.

Table 4.5
Independent Samples t-Test Relating Psychological Ownership and Demographics

Characteristic	$df =$	$t =$	p
Full-Time Status	376	1.394	$p > .05$
Transfer status	373	0.750	$p > .05$
On-Campus vs Off-Campus Living	376	0.467	$p > .05$
Student-Athlete	376	-0.541	$p > .05$
Military Status	376	0.009	$p > .05$
Social Greek Affiliation	376	-1.16	$p > .05$
International Student Status	375	2.135	$p < .05*$

* indicates significance at the .05 level, two-tailed

Only international student status indicated any significance with international students feeling more psychological ownership than domestic students, with a Cohen's $d =$ .669, indicating a medium effect size.

For the ordinal demographic characteristics, Spearman rho correlation and one-way ANOVA tests were calculated to determine significance. Before conducting one-way ANOVA tests, all demographics were tested for normality and homogeneity of variance; assumptions were met on all demographics. Where significance was found, η^2 was also

calculated. Additionally, post hoc analysis determined where the differences occurred. The

Scheffe test was chosen for the post hoc analysis due to the unequal sample sizes within the

groups and the conservative nature of the Scheffe test (Argyrous, 2011).

Table 4.6 reports the Spearman rho correlations calculated between total

psychological ownership scores and appropriate variables.

Table 4.6
Spearman rho Correlations for Total Psychological Ownership and Ordinal Variables

	$df =$	$r_s =$	$p =$
Classification	389	-.077	.128
# of Total Courses	377	.091	.079
# of Online Courses	378	-.022	.663
Job 20 hours per week	370	.024	.641
On-Campus Job Hours	370	.162	.002**
Off-Campus Job Hours	373	-.037	.475
Dependent Care Hours	371	.013	.798
Commuting Hours	375	.081	.117
Age Category	375	.023	.658

** indicates significance at .01 level, two-tailed

Only on-campus job hours showed any correlation with total psychological ownership

scores. No other correlations were found between demographics and psychological

ownership.

Table 4.7 reports the results of the one-way ANOVA of the ordinal demographic

variables. Shaded cells indicate significance was observed.

Table 4.7
ANOVA Tests Comparing Psychological Ownership and Demographics

Characteristic	$df =$	$F =$	Sig.
Classification	4, 384	1.240	$p > .05$
# of Courses	7, 369	1.147	$p > .05$
# Online Courses	6, 371	1.170	$p > .05$
Work 20+ Hours	2, 367	0.218	$p > .05$
Hrs at On-Campus Job	7, 362	1.740	$p > .05$
Hrs at Off-Campus Job	7, 365	1.092	$p > .05$

Hrs Caring for Dependents	7, 363	0.343	*p* > .05
Hours Commuting	7, 367	1.142	*p* > .05
Gender	3, 374	8.226	*p* < .05
Sexual Orientation	6, 371	2.397	*p* < .05
Age	5, 369	0.497	*p* > .05
Ethnicity	8, 369	2.894	*p* < .05
Living Situation	4, 373	4.919	*p* < .05

ANOVA testing showed significance for gender. Eta squared was $\eta^2 = .062$, indicating a small effect size. Post hoc analysis found significant differences between the following groups: *Male* (*M* = 62.02, *SD* = 10.44) greater than *Other* (*M* = 45.25, *SD* =21.962); *Male* (*M* = 62.02, *SD* = 10.44) greater than *Prefer not to Respond* (*M* = 45.25, *SD* = 2.872); *Female* (*M* = 60.21, *SD* = 9.974) greater than *Other* (*M* = 45.25, *SD* = 21.962); and *Female* (*M* = 60.21, *SD* = 9.974) greater than *Prefer not to respond* (*M* = 45.25, *SD* = 2.872). Due to the small category sizes, further re-coding was done to collapse all gender categories into *Male* and *Female*. An independent samples t-test showed no significant differences between males and females, t (368) = 1.575, p > .05.

Sexual orientation also showed significance during the ANOVA test. Regarding effect size, $\eta^2 = .037$ indicating a small effect size. Although significant, one category had fewer than 2 responses, so post-hoc analysis could not be completed as it was. Data were re-categorized, grouping *Gay* and *Lesbian* together, eliminating the category with less than one response. ANOVA testing was completed with the new category (F (5,372) = 2.392, p < .05). Effect size was small with an η^2 = .037. Post hoc testing showed no significant differences between groups. Due to the small category sizes, further re-coding was done to collapse all sexual orientation categories into *Straight* and *Not Straight*. An independent samples t-test

showed significant differences between respondents who identified as straight (M = 60.87, SD = 10.576) and not straight (M = 56.81, SD = 10.258), t (376) = 2.351, p < .05.

The *Ethnicity* category also showed significance. The effect size was small with an η^2 = .059. Although significant, two categories had only one response per category, so post-hoc analysis could not be completed as the data were categorized. Data were re-categorized to combine the two small categories of *Native Hawaiian or Other Pacific Islander* and *Other* to create one category with two responses. ANOVA testing was completed with the new categorization (F (7,370) = 3.316, p < .05). Eta squared was .059, indicating a small effect size. Post hoc testing showed differences between the following groups: *Asian* (M = 66.55, SD = 7.815) greater than *Prefer not to respond* (M = 46.00, SD = 3.742); and *More than one* (M = 62.69, SD = 9.593) greater than *Prefer not to respond* (M = 46.00, SD = 3.742).

For further analysis, a new variable was created, which simplified the Ethnicity category. The variable was grouped into *White*, *Non-White*, and *Prefer not to respond*. ANOVA testing showed a significant difference (F (2,375) = 7.596, p < .05), and post hoc Scheffe test showed *White* (M = 60.17, SD = 10.419) and *Non-White* (M = 61.57, SD = 10.632) were both greater than *Prefer not to respond* (M = 46.00, SD = 3.742), but *White* was not significantly different than *Non-White*. Due to the small category sizes, further re-coding was done to collapse all ethnicity categories into *White* and *Non-White*. An independent samples t-test showed significant no differences between white and non-white, t (369) = -1.237, p > .05.

Significant differences were also found with living situation (F (4, 373) = 4.919, p < .05). Effect size was small with η^2 = .05. Although significant, one category only had one response, so post hoc analysis could not be completed as the data were currently categorized.

ANOVA testing was done after removing that single response in the *Not applicable. Homeless or in transition* category. The new ANOVA was not significant (F (3,373) = .175, $p > .05$).

Additionally, analysis was completed to compare each characteristic to all individual factors contributing to psychological ownership, including, prevention/territoriality, promotion, accountability, self-efficacy, belongingness, and self-identity. Results of this testing can be found in Table 4.8. Shaded cells indicate significance was found.

Results of these additional t-tests and ANOVA tests were consistent with previous results of statistical significance for the characteristics of living situation, ethnicity, sexual orientation, and gender. However, this extended analysis also showed significance between prevention/territoriality and many other characteristics, including social Greek status, transfer status, on/off campus living, number of classes, number of classes online, off-campus work hours, time with dependents, time spent commuting, and age category. The correlation and effect size for each individual appropriate characteristic and the territoriality/prevention construct are noted in Table 4.9.

Table 4.8

t-Test and ANOVA Results for Demographics and Individual Constructs of Psychological Ownership

	df	Prevention/ Territoriality		Promotion		Accountability		Self-Efficacy		Belongingness		Self-Identity	
Military	376	$t = -1.144$	$p > .05$	$t = 0.314$	$p > .05$	$t = 1.131$	$p > .05$	$t = 0.730$	$p > .05$	$t = -0.160$	$p > .05$	$t = -0.480$	$p > .05$
Student-Athlete	376	$t = 1.381$	$p > .05$	$t = -0.901$	$p > .05$	$t = -1.508$	$p > .05$	$t = -0.146$	$p > .05$	$t = -1.371$	$p > .05$	$t = 0.144$	$p > .05$
Social Greek	376	$t = 2.264$	$p < .05$	$t = -0.716$	$p > .05$	$t = 0.507$	$p > .05$	$t = -0.420$	$p > .05$	$t = -0.715$	$p > .05$	$t = -1.477$	$p > .05$
Transfer Status	373	$t = 3.436$	$p < .05$	$t = -0.170$	$p > .05$	$t = -0.044$	$p > .05$	$t = -1.025$	$p > .05$	$t = 0.520$	$p > .05$	$t = -0.167$	$p > .05$
Full-Time Status	376	$t = 1.180$	$p > .05$	$t = 1.054$	$p > .05$	$t = -2.136$	$p < .05$	$t = -0.048$	$p > .05$	$t = 2.756$	$p < .05$	$t = 2.290$	$p < .05$
International Status	375	$t = 1.714$	$p > .05$	$t = 1.635$	$p > .05$	$t = 0.753$	$p > .05$	$t = 1.662$	$p > .05$	$t = 1.036$	$p > .05$	$t = 1.748$	$p > .05$
On/Off Living	376	$t = 2.603$	$p < .05$	$t = -0.232$	$p > .05$	$t = -1.562$	$p > .05$	$t = -0.679$	$p > .05$	$t = 0.992$	$p > .05$	$t = 0.263$	$p > .05$
# of Classes	7, 369	$F = 3.427$	$p < .05$	$F = 1.280$	$p > .05$	$F = 1.001$	$p > .05$	$F = 1.394$	$p > .05$	$F = 1.414$	$p > .05$	$F = 1.702$	$p > .05$
# of Classes Online	6, 371	$F = 2.908$	$p < .05$	$F = 1.488$	$p > .05$	$F = 1.455$	$p > .05$	$F = 1.292$	$p > .05$	$F = 1.529$	$p > .05$	$F = 1.235$	$p > .05$
On-Campus Work Hrs	7, 362	$F = 1.707$	$p > .05$	$F = 1.268$	$p > .05$	$F = 0.252$	$p > .05$	$F = 0.759$	$p > .05$	$F = 1.655$	$p > .05$	$F = 1.400$	$p > .05$
Off-Campus Work Hours	7, 365	$F = 2.701$	$p < .05$	$F = 1.030$	$p > .05$	$F = 0.874$	$p > .05$	$F = 1.245$	$p > .05$	$F = 1.330$	$p > .05$	$F = 1.129$	$p > .05$
Time with Dependents	7, 363	$F = 5.470$	$p < .05$	$F = 0.546$	$p > .05$	$F = 0.796$	$p > .05$	$F = 0.628$	$p > .05$	$F = 1.434$	$p > .05$	$F = 0.481$	$p > .05$
Time Spent Commuting	7, 367	$F = 4.008$	$p < .05$	$F = 1.073$	$p > .05$	$F = 1.079$	$p > .05$	$F = 0.595$	$p > .05$	$F = 1.572$	$p > .05$	$F = 1.222$	$p > .05$
Gender	3, 374	$F = 5.723$	$p < .05$	$F = 8.124$	$p < .05$	$F = 4.347$	$p < .05$	$F = 2.649$	$p < .05$	$F = 8.929$	$p < .05$	$F = 7.783$	$p < .05$
Sexual Orientation	6, 371	$F = 0.269$	$p > .05$	$F = 2.544$	$p < .05$	$F = 1.334$	$p > .05$	$F = 1.866$	$p > .05$	$F = 2.469$	$p < .05$	$F = 2.119$	$p < .05$
Age Category	5, 369	$F = 7.467$	$p < .05$	$F = 1.069$	$p > .05$	$F = 1.957$	$p > .05$	$F = 0.805$	$p > .05$	$F = 0.411$	$p > .05$	$F = 0.918$	$p > .05$
Ethnicity	8, 369	$F = 2.360$	$p < .05$	$F = 3.063$	$p < .05$	$F = 1.147$	$p > .05$	$F = 1.797$	$p < .05$	$F = 2.209$	$p < .05$	$F = 3.883$	$p < .05$
Living Situation	4, 373	$F = 3.029$	$p < .05$	$F = 4.173$	$p < .05$	$F = 3.918$	$p < .05$	$F = 5.149$	$p < .05$	$F = 2.635$	$p < .05$	$F = 1.703$	$p > .05$
Work 20+ hrs per week	2, 367	$F = 2.889$	$p > .05$	$F = .594$	$p > .05$	$F = 1.852$	$p > .05$	$F = 0.382$	$p > .05$	$F = 0.512$	$p > .05$	$F = 0.267$	$p > .05$

Table 4.9

Correlation and Effect Size for Significant Differences in Demographics and Territoriality/Prevention Psychological Ownership Construct

Characteristic	Spearman rho	Effect Size
Social Greek status		$d = .403$
Transfer Status		$d = .355$
On/Off Campus Living		$d = .324$
# of classes	.143**	$\eta^2 = .061$
# of online classes	-.149**	$\eta^2 = .045$
Off-campus work hours	-.176**	$\eta^2 = .049$
Time spent with dependents	-.081	$\eta^2 = .095$
Time spent commuting	.177	$\eta^2 = .071$
Age category	-.306**	$\eta^2 = .092$

*indicates significance at the .05 level, two-tailed
** indicates significance at the .01 level, two-tailed

Summarily, only hours worked at an on-campus job showed any correlation to total feelings of psychological ownership. Independent t-tests and ANOVA tests showed statistically significant differences between population means regarding psychological ownership and the demographic factors of international student status, gender, sexual orientation, ethnicity, and living situation. However, when categories were collapsed to account for small samples sizes, only international student status and sexual orientation retained statistical significance. When demographics were analyzed in relationship to the prevention and promotion motivations and their individual subcategories which comprise psychological ownership, additional statistically significant relationships were found between individual demographic categories and the construct of prevention/territoriality. With mixed results, Null Hypothesis Two is partially rejected.

Null Hypothesis Three: There is no relationship between students' feelings of psychological ownership and their feelings of satisfaction with the institution.

Satisfaction was measured by asking respondents a single question related to overall satisfaction with the institution. Answers were offered on a Likert scale ranging from 1 (*Very*

Dissatisfied) to 5 (*Very Satisfied*). Of the 389 respondents, 79.5% (309 respondents) were either satisfied or very satisfied with the institution. The frequency of satisfaction scores can be found in Table 4.10.

Table 4.10
Frequency of Satisfaction Scores

	Frequency	Percent
Very dissatisfied (1)	5	1.3
Dissatisfied (2)	16	4.1
Neutral (3)	59	15.2
Satisfied (4)	180	46.3
Very Satisfied (5)	129	33.2

One-way ANOVA testing was done to compare psychological ownership scores and categories of feelings of satisfaction with the institution. A significant difference was found between categories of satisfaction (F (4, 384) = 41.319, $p < .05$). The Pearson r was computed to be .546, with significance at the .01 level, indicating a large correlation. The effect size was also large with $\eta^2 = .301$. Post hoc analysis using the Scheffe test showed significant differences between several of the categories, but no pattern was detected.

When respondents who answered they were enrolled in "0" classes were removed from analysis, significant differences were found between categories of satisfaction (F (4,357) = 35.753, $p < .01$). This Pearson r was computed to be .534 with significance at the .01 level, indicating a large correlation. Post-hoc analysis using the Scheffe tests showed *Very Satisfied* ($M = 66.40$, $SD = 8.636$) and *Satisfied* ($M = 60.20$, $SD = 8.239$) were both significantly greater than all other categories, including *Neutral* ($M = 52.94$, $SD = 10.096$), *Dissatisfied* ($M = 47.64$, $SD = 8.237$), and *Very Dissatisfied* ($M = 38.50$, $SD = 18.448$).

Because statistical significance variance was found between groups and a strong positive correlation was calculated, Null Hypothesis Three is rejected. There is a relationship between psychological ownership and feelings of satisfaction with the institution.

Null Hypothesis Four: There is no relationship between respondents' feelings of psychological ownership and their feelings of student involvement with the institution.

Respondents were provided the following definition of student involvement: the time, effort, and energy students invest in their collegiate experiences, to include both academic and social participation with peers, faculty, and staff. Respondents were then asked how involved they felt, based on the provided definition. Answers ranged from 1 (*Not involved at all*) to 5 (*Extremely involved*). Of the 389 total respondents, 56.7% (219 individuals), indicated they were at least moderately involved. The frequency of involvement scores can be found in Table 4.11.

Table 4.11
Frequency of Involvement Scores

	Frequency	Percent
Not involved at all (1)	75	19.4
Slightly involved (2)	92	23.8
Moderately involved (3)	137	35.5
Very involved (4)	61	15.8
Extremely involved (5)	21	5.4

One-way ANOVA testing was done to compare psychological ownership and categorical feelings of involvement with the institution. A significant relationship was found (F (4, 381) = 3.349, $p < .05$). The Pearson r was computed to be .274 with significance at the .01 level, indicating a small positive correlation. Additionally, the $\eta^2 = .089$, indicating a medium effect size.

Post hoc analysis using the Scheffe test, showed *Not involved at all* ($M = 54.37$, $SD = 12.139$) was significantly lower than all other categories, including *Slightly involved* ($M = 59.90$, $SD = 9.257$), *Moderately involved* ($M = 62.21$, $SD = 8.845$), *Very involved* ($M = 62.62$, $SD = 10.974$), and *Extremely involved* ($M = 64.76$, $SD = 12.502$).

With ANOVA significance and a positive correlation calculated, Null Hypothesis Four is rejected. There is a relationship between students' feelings of involvement and psychological ownership.

Supplemental Analysis

To further explain the relationship between psychological ownership and the independent variables of satisfaction and involvement, additional analysis was conducted. A simple linear regression was calculated to predict psychological ownership based on satisfaction. A significant regression equation was found ($F (1,387) = 164.421$, $p < .05$), with an R^2 of .298, indicating a slight positive prediction. The regression equation for psychological ownership is as follows: psychological ownership = 33.375 + 6.639(Satisfaction). Satisfaction explained 29.8% of the variance in the data and significantly predicted psychological ownership ($\beta = .546$, $p < .05$).

Additionally, a simple linear regression was calculated to predict psychological ownership based on students' feelings of involvement. A significant regression equation was found ($F (1,384) = 31.071$, $p < .05$), with an $R^2 = .075$, indicating a very slight positive prediction. The regression equation for psychological ownership is as follows: psychological ownership = 53.508 + 2.589(Involvement). Involvement explained 7.5% of the variance in the data and significantly predicted psychological ownership ($\beta = .274$, $p < .05$).

A multiple linear regression was then calculated to predict psychological ownership based on satisfaction and students' feelings of involvement. A significant regression equation was found (F (2,383) = 100.472, $p < .05$), with an R^2 = .344, indicating a slight positive prediction. The multiple regression equation for psychological ownership is as follows:

Psychological ownership = 29.301 + 6.518 (Satisfaction) + 1.709 (Involvement). Collectively, involvement and satisfaction explained 34.4% of the variance in the data and both satisfaction (β = .527, $p < .05$) and involvement (β = .181, $p < .05$) significantly predicted psychological ownership.

A multiple regression was performed including all demographic independent variables and both satisfaction and involvement to determine which factors predicted feelings of psychological ownership. Results indicated the independent variables accounted for 35.8% of the of the total psychological ownership score (F (27, 316) = 38.074, $p < .05$). See Table 4.12 for a complete regression table.

Table 4.12
Regression Summary for Total Psychological Ownership

Variables	b	Std. error	β	t	p
(Constant)	35.760	12.371		2.891	.004
Satisfaction	6.152	.594	.497	10.352	.000
Involvement	1.403	.478	.157	2.933	.004
Classification	-.880	.469	-.127	-1.878	.061
Full-Time?	-.194	1.448	-.008	-.134	.894
# of Courses	.025	.372	.005	.067	.947
Online Courses	-.271	.437	-.033	-.620	.536
Transfer	.453	1.019	.023	.445	.657
Job More than 20 Hours	.181	1.740	.015	.104	.917
On-Campus Job Hours	.902	.511	.134	1.763	.079
Off-Campus Job Hours	-.092	.510	-.027	-.181	.857
Dependent Care Hours	-.150	.196	-.043	-.764	.446
Commuting Hours	.685	.330	.101	2.073	.039

Collapsed Gender (male and female)	-3.151	.982	-.147	-3.207	.001
Sexual Orientation	-13.804	8.440	-1.275	-1.636	.103
Collapsed Orientation (straight and not-straight)	-2.209	2.505	-.062	-.882	.379
Orientation Adjusted (group gay and lesbian)	14.389	8.392	1.323	1.714	.087
Birth Year Category	-.383	.643	-.048	-.595	.552
Collapsed Age (< and > 22)	4.308	1.821	.215	2.365	.019
International Status	-3.152	2.843	-.060	-1.109	.268
Ethnicity	2.140	4.175	.486	.513	.609
Ethnicity Adjusted (combine 2 categories)	-1.901	4.168	-.432	-.456	.649
Collapsed Ethnicity (black and white)	2.010	1.036	.097	1.940	.053
Greek	1.077	1.661	.030	.649	.517
Living	1.213	1.335	.164	.908	.364
On/Off Living	-4.329	3.873	-.185	-1.118	.265
Student Athlete	-.070	2.122	-.002	-.033	.974
Military Status	.863	2.510	.017	.344	.731

To fully evaluate all subcategories of psychological ownership, additional multiple regressions were performed including all demographic independent variables and both satisfaction and involvement to determine which factors predicted the individual subcategories and motivations of psychological ownership. For the prevention motivation and territoriality, results indicated the independent variables explained 20.9% of the of the total prevention/territoriality score ($F (27, 316) = 4.362, p < .05$). Table 4.13 shows a complete summary.

Table 4.13

Regression Summary for Prevention/Territoriality

Variables	b	Std. error	β	t	p
(Constant)	19.555	3.919		4.990	.000
Satisfaction	-.833	.188	-.236	-4.422	.000
Involvement	-.025	.152	-.010	-.162	.871
Classification	-.477	.148	-.241	-3.215	.001
Full-Time?	-.048	.459	-.007	-.104	.917
# of Courses	-.192	.118	-.123	-1.627	.105
Online Courses	-.017	.138	-.008	-.126	.900
Transfer	.101	.323	.018	.312	.755
Job More than 20 Hours	-.858	.551	-.244	-1.556	.121
On-Campus Job Hours	.315	.162	.164	1.948	.052
Off-Campus Job Hours	.224	.162	.234	1.388	.166
Dependent Care Hours	-.014	.062	-.014	-.231	.817
Commuting Hours	.409	.105	.212	3.910	.000
Collapsed Gender (male and female)	-.767	.311	-.125	-2.463	.014
New Sexual Orientation	-.786	2.674	-.254	-.294	.769
Collapsed Orientation (straight and not-straight)	-.408	.794	-.040	-.514	.607
Orientation Adjusted (group gay and lesbian)	1.180	2.659	.380	.444	.658
Birth Year Category	-.262	.204	-.115	-1.285	.200
Collapsed Age (< and > 22)	-.350	.577	-.061	-.606	.545
International Status	-1.434	.901	-.096	-1.593	.112
Ethnicity	-.709	1.322	-.564	-.536	.592
Ethnicity Adjusted (combine 2 categories)	.666	1.320	.530	.504	.614
Collapsed Ethnicity (black and white)	.248	.328	.042	.755	.451
Greek	-1.061	.526	-.103	-2.016	.045
Living	.801	.423	.379	1.892	.059
On/Off Living	-2.467	1.227	-.369	-2.011	.045
Student Athlete	.099	.672	.008	.147	.883
Military Status	.446	.795	.030	.561	.575

For the promotion motivation concept of accountability, results indicated the independent variables explained 6.1% of the of the total accountability score (F (27, 316) = 1.828, $p < .05$). A complete regression table can be found in Table 4.14.

Table 4.14
Regression Summary for Accountability Subcategory

Variables	b	Std. error	β	t	p
(Constant)	5.910	4.835		1.222	.222
Satisfaction	.637	.232	.159	2.742	.006
Involvement	.118	.187	.041	.630	.529
Classification	.010	.183	.004	.053	.958
Full-Time?	.706	.566	.087	1.248	.213
# of Courses	.046	.145	.026	.320	.750
Online Courses	.205	.171	.078	1.201	.231
Transfer	-.155	.398	-.024	-.390	.697
Job More than 20 Hours	-.139	.680	-.035	-.204	.839
On-Campus Job Hours	.236	.200	.109	1.181	.238
Off-Campus Job Hours	.039	.199	.036	.197	.844
Dependent Care Hours	.017	.077	.015	.228	.820
Commuting Hours	.283	.129	.130	2.196	.029
Collapsed Gender (male and female)	-1.195	.384	-.172	-3.112	.002
Sexual Orientation	-5.907	3.298	-1.688	-1.791	.074
Collapsed Orientation (straight and not- straight)	-.442	.979	-.039	-.452	.652
Orientation Adjusted (group gay and lesbian)	6.046	3.280	1.720	1.844	.066
Birth Year Category	.112	.251	.044	.447	.655
Collapsed Age (< and > 22)	.729	.712	.113	1.024	.307
International Status	.524	1.111	.031	.472	.637
Ethnicity	.655	1.631	.460	.401	.688
Ethnicity Adjusted (combine 2 categories)	-.589	1.629	-.414	-.362	.718
Collapsed Ethnicity (black and white)	.583	.405	.087	1.439	.151
Greek	-.163	.649	-.014	-.252	.801
Living	.321	.522	.134	.615	.539

On/Off Living	-1.267	1.514	-.167	-.837	.403
Student Athlete	.640	.829	.045	.771	.441
Military Status	.453	.981	.027	.462	.644

For the promotion subcategory of self-efficacy, results indicated the independent variables explained 18.9% of the of the self-efficacy score (F (27, 316) = 13.967, $p < .05$).

Please see Table 4.15.

Table 4.15
Regression Summary for Self-Efficacy Subcategory

Variables	b	Std. error	β	t	p
(Constant)	9.708	3.778		2.569	.011
Satisfaction	1.386	.182	.412	7.637	.000
Involvement	.260	.146	.107	1.777	.077
Classification	.011	.143	.006	.080	.936
Full-Time?	.124	.442	.018	.281	.779
# of Courses	.042	.113	.028	.369	.712
Online Courses	.006	.133	.003	.045	.964
Transfer	.350	.311	.064	1.124	.262
Job More than 20 Hours	.000	.532	.000	.001	1.000
On-Campus Job Hours	.174	.156	.095	1.113	.267
Off-Campus Job Hours	-.003	.156	-.003	-.020	.984
Dependent Care Hours	-.060	.060	-.063	-1.001	.317
Commuting Hours	.018	.101	.010	.182	.856
Collapsed Gender (male and female)	-.524	.300	-.090	-1.746	.082
Sexual Orientation	-4.165	2.578	-1.415	-1.616	.107
Collapsed Orientation (straight and not-straight)	-.629	.765	-.065	-.822	.412
Orientation Adjusted (group gay and lesbian)	4.139	2.563	1.400	1.615	.107
Birth Year Category	-.068	.197	-.031	-.346	.730
Collapsed Age (< and > 22)	.944	.556	.174	1.697	.091
International Status	-.773	.868	-.054	-.890	.374
Ethnicity	1.391	1.275	1.163	1.091	.276
Ethnicity Adjusted (combine 2 categories)	-1.303	1.273	-1.090	-1.024	.307

Variables	b	Std. error	β	t	p
Collapsed Ethnicity (black and white)	.002	.316	.000	.005	.996
Greek	.371	.507	.038	.732	.465
Living	-.042	.408	-.021	-.104	.917
On/Off Living	.066	1.183	.010	.056	.956
Student Athlete	-.650	.648	-.055	-1.004	.316
Military Status	-.445	.767	-.031	-.581	.562

Results indicated the independent variables explained 45.3% of the total score of the promotion subcategory of sense of place/belongingness (F (27, 316) = 11.529, $p < .05$). Table 4.16 shows a complete regression summary.

Table 4.16
Regression Summary for Sense of Place/Belongingness Subcategory

Variables	b	Std. error	β	t	p
(Constant)	2.334	3.812		.612	.541
Satisfaction	2.486	.183	.602	13.575	.000
Involvement	.499	.147	.167	3.383	.001
Classification	-.155	.144	-.067	-1.076	.283
Full-Time?	-.596	.446	-.071	-1.337	.182
# of Courses	.012	.114	.007	.106	.916
Online Courses	-.258	.135	-.095	-1.915	.056
Transfer	-.048	.314	-.007	-.152	.879
Job More than 20 Hours	.309	.536	.075	.577	.565
On-Campus Job Hours	.152	.158	.068	.968	.334
Off-Campus Job Hours	-.107	.157	-.095	-.678	.498
Dependent Care Hours	-.072	.060	-.062	-1.198	.232
Commuting Hours	-.057	.102	-.025	-.560	.576
Collapsed Gender (male and female)	-.425	.303	-.059	-1.406	.161
Sexual Orientation	.158	2.600	.044	.061	.952
Collapsed Orientation (straight and not-straight)	-.215	.772	-.018	-.279	.781
Orientation Adjusted (group gay and lesbian)	-.284	2.586	-.078	-.110	.913
Birth Year Category	-.163	.198	-.061	-.821	.412
Collapsed Age (< and > 22)	1.586	.561	.237	2.826	.005

International Status	-.371	.876	-.021	-.424	.672
Ethnicity	.951	1.286	.647	.740	.460
Ethnicity Adjusted (combine 2 categories)	-.889	1.284	-.606	-.693	.489
Collapsed Ethnicity (black and white)	.302	.319	.043	.945	.345
Greek	.795	.512	.066	1.553	.121
Living	-.071	.411	-.029	-.173	.863
On/Off Living	-.193	1.193	-.025	-.161	.872
Student Athlete	.494	.654	.034	.756	.450
Military Status	-.443	.773	-.025	-.572	.567

For the promotion motivation concept of self-identity, results indicated the independent variables explained 42.8% of the total score (F (27, 316) = 10.523, $p < .05$). See Table 4.17 for a complete summary.

Table 4.17
Regression Summary for Self-Identity Subcategory

Variables	b	Std. error	β	t	p
(Constant)	-1.747	4.191		-.417	.677
Satisfaction	2.476	.201	.557	12.299	.000
Involvement	.552	.162	.172	3.403	.001
Classification	-.268	.159	-.108	-1.690	.092
Full-Time?	-.380	.491	-.042	-.774	.439
# of Courses	.116	.126	.059	.922	.357
Online Courses	-.207	.148	-.071	-1.396	.164
Transfer	.205	.345	.028	.595	.552
Job More than 20 Hours	.868	.590	.197	1.473	.142
On-Campus Job Hours	.024	.173	.010	.137	.891
Off-Campus Job Hours	-.246	.173	-.204	-1.423	.156
Dependent Care Hours	-.020	.066	-.016	-.308	.758
Commuting Hours	.031	.112	.013	.274	.784
Collapsed Gender (male and female)	-.240	.333	-.031	-.720	.472
Sexual Orientation	-3.103	2.859	-.798	-1.085	.279
Collapsed Orientation (straight and not-straight)	-.514	.849	-.040	-.606	.545

Orientation Adjusted (group gay and lesbian)	3.308	2.843	.847	1.164	.246
Birth Year Category	-.003	.218	-.001	-.012	.990
Collapsed Age (< and > 22)	1.400	.617	.195	2.268	.024
International Status	-1.098	.963	-.058	-1.140	.255
Ethnicity	-.149	1.414	-.094	-.105	.916
Ethnicity Adjusted (combine 2 categories)	.214	1.412	.136	.152	.880
Collapsed Ethnicity (black and white)	.876	.351	.117	2.497	.013
Greek	1.136	.563	.088	2.019	.044
Living	.205	.452	.077	.453	.651
On/Off Living	-.468	1.312	-.056	-.357	.722
Student Athlete	-.652	.719	-.042	-.907	.365
Military Status	.852	.850	.045	1.001	.317

A final multiple regression was calculated which combined all promotion constructs.

Results indicated the independent variables explained 40.2% of the of the total promotion

score ($F (27, 316) = 9.523$, $p < .05$). A full regression summary can be found in Table 4.18.

Table 4.18
Regression Summary for Promotion Motivation

Variables	b	Std. error	β	t	p
(Constant)	16.205	12.051		1.345	.180
Satisfaction	6.985	.579	.559	12.066	.000
Involvement	1.428	.466	.158	3.064	.002
Classification	-.403	.457	-.058	-.882	.379
Full-Time?	-.146	1.411	-.006	-.103	.918
# of Courses	.216	.362	.039	.598	.550
Online Courses	-.253	.426	-.031	-.595	.552
Transfer	.352	.992	.017	.355	.723
Job More than 20 Hours	1.039	1.695	.084	.613	.540
On-Campus Job Hours	.586	.498	.086	1.177	.240
Off-Campus Job Hours	-.316	.497	-.093	-.637	.525
Dependent Care Hours	-.135	.191	-.038	-.709	.479
Commuting Hours	.275	.322	.040	.856	.392

Collapsed Gender (male and female)	-2.384	.957	-.110	-2.491	.013
Sexual Orientation	-13.018	8.221	-1.191	-1.583	.114
Collapsed Orientation (straight and not-straight)	-1.801	2.440	-.050	-.738	.461
Orientation Adjusted (group gay and lesbian)	13.209	8.175	1.204	1.616	.107
Birth Year Category	-.121	.627	-.015	-.193	.847
Collapsed Age (< and > 22)	4.658	1.774	.231	2.626	.009
International Status	-1.718	2.769	-.033	-.620	.535
Ethnicity	2.849	4.066	.641	.701	.484
Ethnicity Adjusted (combine 2 categories)	-2.567	4.060	-.578	-.632	.528
Collapsed Ethnicity (black and white)	1.762	1.009	.084	1.746	.082
Greek	2.138	1.618	.059	1.322	.187
Living	.413	1.301	.055	.317	.751
On/Off Living	-1.862	3.773	-.079	-.494	.622
Student Athlete	-.169	2.067	-.004	-.082	.935
Military Status	.417	2.445	.008	.171	.865

Because the prevention/territoriality scores were low, a correlation was conducted to determine the relationship between each of the individual motivations and subcategories that encompass total psychological ownership, total psychological ownership, and satisfaction and involvement. Results showed no correlation between prevention/territoriality and total psychological ownership, with the Pearson $r = .080$, with no significance. Conversely, the promotional motivation of psychological ownership was significant at the .001 level with Pearson $r = .964$. All other subcategories were highly correlated with each other and with total psychological ownership. A complete correlation summary can be found in Table 4.19.

Table 4.19

Correlation Summary of Individual Motivations and Subcategories, Total Psychological Ownership, Satisfaction, and Involvement

	Variables	1	2	3	4	5	6	7	8	9
1	Total Psychological Ownership	-								
2	Satisfaction	.546**	-							
3	Involvement	.274**	.176**	-						
4	Prevention/ Territoriality	.080	-.251**	.040	-					
5	Accountability	.636**	.213**	.046	-.012	-				
6	Self-Efficacy	.763**	.435**	.199**	-.160**	.407**	-			
7	Belongingness	.813**	.644**	.286**	-.228**	.297**	.587**	-		
8	Self-Identity	.838**	.594**	.273**	-.191**	.327**	.595**	.797**	-	
9	Total Promotion	.964**	.605**	.259**	-.189**	.629**	.795**	.862**	.876**	-

**indicates significance at the .01 level

ANOVA, t-tests, correlations, and regressions were calculated to analyze the relationships between all variables included in the study. Additionally, the motivations of prevention and promotion and their associated constructs were analyzed in relation to the individual variables to obtain a more complete picture of psychological ownership. A visual summary of the complete analysis can be found in Table 4.20.

Table 4.20
Visual Summary of Statistical Analysis

| Factor | Total PO | Prevention/ Territoriality | Promotion | | | | |
			Account-ability	Self-efficacy	Sense of Place	Self-Identity	Total Promotion
Classification		MR					
Full-Time Status			t		t, MR	t	
Transfer Status		t					
Gender	AN, MR	AN, MR	AN, MR	AN, MR	AN	AN	AN, MR
Sexual Orientation	AN				AN	AN	AN
Age Category		AN, SR					
Int'l Status	t						
Ethnicity	AN, MR	AN			AN	AN, MR	AN
Social Greek Affiliation		t, MR				MR	
Student Athlete							
Military Status							
Living Situation	AN	AN	AN	AN	AN		AN
On/Off Campus Living		t					
On-Campus Job Hours	SR, MR			MR	MR	MR	MR
Off-Campus Job Hours		AN, SR					

# of Courses		AN, SR, MR					
# of Courses Online		AN, SR			MR		
Hours spent Commuting	MR	AN, MR	MR				
Dependent Hours		AN					
Job 20+ hours							
Satisfaction	PC, R, MR	MR, PC	MR	MR	MR	MR	MR, PC
Involvement	PC, R, MR				MR	MR	MR	MR, PC

PC = Pearson Correlation

AN = ANOVA

t = t-test

SR = Spearman *rho*

R = Regression

MR = Multiple Regression

Conclusion

This chapter began by restating the research questions then stated the response rate, data cleaning methods, and demographic characteristics of respondents. The results for each hypothesis test were discussed, along with the additional testing that was done. Null Hypothesis One was rejected, indicating that students did develop psychological ownership for the institution. Null Hypothesis Two was met with mixed results, as some demographic variables affected psychological ownership while some did not. Additionally, further analysis concluded that the prevention motivation, but not overall psychological ownership, was individually significant to some characteristics. A relationship was found between psychological ownership and both satisfaction and involvement with the institution, thus Null Hypotheses Three and Four were rejected. Simple linear regression analysis showed that both satisfaction and involvement individually and collectively predicted psychological

ownership. Stepwise regression indicated satisfaction was consistently significant to the individual subcategories that encompass psychological ownership. Finally, correlation analysis showed that territoriality/prevention was not correlated to psychological ownership while the other subcategories and motivations were highly correlated.

Chapter Five will discuss the findings of this research. Additionally, the implications of this research for future research, theory, and practice will be addressed.

CHAPTER 5

CONCLUSIONS

Research shows that the connection members feel toward an organization is vital for

the success of community organizations, businesses, military branches, and educational

institutions (Gade, 2003; Mathieu & Zajac, 1990; McMullan & Gilmore, 2008; Meyer &

Allen, 1997; Peterson, 2004). In educational institutions, students with strong feelings of

connection to the institution often obtain higher grades, score better on tests, and have higher

persistence rates than students with weaker feelings of connection to and felt ownership in

the organization (Hixenbaugh, Dewart, & Towell, 2012; Nora & Cabrera, 1993; Oja, 2011;

Robbins et al., 2004; Woosley & Miller, 2009). However, not all students feel the same level

of connection to the institution, even when students have similar backgrounds, participate in

the same organizations, or attend the same institution (Braxton, Sullivan, & Johnson, 1997;

Przymus, 2011; Vianden & Barlow, 2014; Wardley, Bélanger, & Leonard, 2013). Even with

the same traits and similar experiences, students persist at different rates and have varying

levels of institutional connection.

This correlational quantitative study explored the feelings of psychological ownership

held by students at a mid-sized regional public institution. Specifically, the study looked at

student demographics, students' feelings of satisfaction with the institution, and students'

perceptions of their involvement on campus in relation to their feelings of psychological

ownership for the institution. This chapter summarizes the methods and findings of the research. These findings are then interpreted and implications for future research, theory, and practice are discussed.

Research Questions

This study addressed the following specific research questions:

1) Do students develop feelings of psychological ownership toward the institution?

2) Is there a relationship between students' feelings of psychological ownership and individual demographics?

3) Is there a relationship between students' feelings of psychological ownership and their feelings of satisfaction with the institution?

4) Is there a relationship between students' feelings of psychological ownership and their perceptions of their involvement on campus?

Null Hypotheses

The following null hypotheses guided the study.

1) Students do not develop feelings of psychological ownership toward the institution.

2) There is no relationship between students' feelings of psychological ownership and individual demographics.

3) There is no relationship between students' feelings of psychological ownership and their feelings of satisfaction with the institution.

4) There is no relationship between students' feelings of psychological ownership and their perceptions of their involvement on campus.

Research Summary

After receiving permission from the Institutional Review Board at both Oklahoma State University and the research site, all students were sent a survey consisting of 18 questions relating to the individuals' feelings of psychological ownership toward the institution, perceptions of their involvement at the institution, feelings of satisfaction with the institution, and demographic information. Psychological ownership was measured using the Psychological Ownership Questionnaire developed by Avey, Avolio, Crossley, and Luthans (2009). To measure student involvement, respondents were provided an agreed-upon definition of student involvement and asked to self-report their level of student involvement. Student satisfaction was measured using one Likert-scale question addressing the students' overall feelings of satisfaction with the institution. Demographic information was collected using questions from the National Survey of Student Engagement (National Survey of Student Engagement, 2017).

The current study is a correlational relationship study designed to examine the relationship between students' feelings of psychological ownership toward the institution they attend (dependent variable) and the independent variables of students' perceptions of involvement, students' feelings of satisfaction, and demographic factors. Descriptive statistics looked at all demographic information. For Null Hypothesis One regarding general feelings of psychological ownership, both descriptive statistics and a one-sample t-test were used for analysis. Null Hypothesis Two, regarding demographics and psychological ownership, was analyzed using independent samples t-tests and a One-Factor ANOVA fixed effects model. In addition to ANOVA testing, Pearson's Correlation Coefficient was used to evaluate Null Hypotheses Three and Four regarding feelings of satisfaction and student

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involvement. Finally, the measure of the effect size and/or association, the measure of power, and any necessary post-hoc analysis were conducted. Both simple linear regression and multiple regression were calculated to predict relationships between the independent and dependent variables.

Interpretation of Results

The current research identified several significant findings. Before discussing these, it is important to summarize briefly the participants in the study. Of the 389 respondents included in the analysis, 19.3% were freshmen, 11.6% were sophomores, 17.7% were juniors, 28% were seniors, and 23.4% were graduate students. The majority were full-time (80.7%), straight (88.9%), domestic (96.3%), white (62.2%), and aged 17-22 (54.1%). This indicates a fairly homogenous group of respondents. Regarding class schedules, over half of all respondents (58.5%) were enrolled in three to five courses, with almost half of all respondents (47.4%) not enrolled in any online courses. Almost half (48.1%) of all respondents worked more than 20 hours per week either on or off campus, and 70.6% of respondents spent less than five hours per week commuting to campus.

The findings of the analysis were mixed. Students developed feelings of psychological ownership toward the institution, rejecting Null Hypothesis One. However, demographic factors were not consistently statistically significant as some demographic variables affected psychological ownership while others did not, causing Null Hypothesis Two to be met with mixed results. Further analysis found statistical differences between the individual motivations of prevention and various demographic factors, which were not found between overall psychological ownership and individual demographic factors. Null Hypotheses Three and Four were both rejected as a relationship was found between

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psychological ownership and both satisfaction and involvement with the institution. Additional analysis sought to understand better the relationship between psychological ownership and both satisfaction and involvement. Through linear regression analysis, findings showed that satisfaction and involvement, both individually and collectively, predicted psychological ownership. Multiple regression analysis found that demographic variables, satisfaction, and involvement varied in their contributions to psychological ownership, with the greatest contributions overall being satisfaction and hours spent working on campus. Finally, correlational analysis showed that prevention/territoriality was not correlated with total psychological ownership scores, although all other subcategories of psychological ownership were. Notable findings are discussed in detail below.

Psychological Ownership

Findings from this study showed that students do develop psychological ownership for the institution they attend. This is consistent with other research that shows that individuals develop psychological ownership toward organizations (Dunford, Schleicher, & Zhu, 2009; McConville, Arnold, & Smith, 2016; Peng & Pierce, 2015). Specifically related to higher education, previous research found that psychological ownership exists for students in the college classroom (Wood, 2003), lecturers at a business school (Md-Sidin, Sambasivan, & Muniandy, 2010), and staff at higher education institutions (O'Reilly & Chatman, 1986). Although not using the term psychological ownership specifically, previous research determined that students do develop feelings toward the institution they attend ("Measuring School Spirit," 2004; Strauss & Volkwein, 2004; Vianden & Barlow, 2014). The presence of these feelings toward the institution warrants the inclusion of psychological ownership in the conversation regarding a student's relationship with the institution.

However, the current study suggests prevention/territoriality may not apply to higher education. Respondents' prevention scores were significantly lower than promotion scores, which is consistent with the literature on prevention and promotion motivations. Though promotion-focused individuals pursue development and change, and explore and create novel behaviors (Kark & Van Dijk, 2007), prevention-focused individuals look for stability, safety, and predictability (Avey et al., 2009). Prevention-focused motivations seek to assure security, maintain routines, and preserve the status quo (Kark & Van Dijk, 2007).

Furthering the findings of the current study regarding the prevention and promotion aspect of psychological ownership, college focuses on challenging students, developing students, and teaching students to think, relating directly to the promotion motivation of psychological ownership. The myriad of models and theories present which help to describe and explain the changes students experience during college supports this. Specifically, Chickering's seven vectors of student development provide a comprehensive framework with which to understand the changes experienced by students during college. The seven vectors are highways which students travel on the path of understanding themselves and their identities, in addition to working with other individuals and groups within society (Chickering & Reisser, 1993). Related to these vectors, the authors suggest that positive learning environments for students include an integration of work and learning, recognition and respect for individual differences, and a willingness to re-evaluate existing assumptions (Chickering & Reisser, 1993). These are all attributes of change during college, which are related to the promotion motivation of psychological ownership.

Similarly, previous research supports that students expect challenges in college. The Beginning College Survey of Student Engagement collects data about first-year and transfer

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students' prior academic and co-curricular experiences and about students' expectations for their upcoming year (Beginning College Survey of Student Engagement, 2019). Findings from the 2018 survey found that students expected to have conversations with people of diverse backgrounds and identities, seek out help from others, face difficult circumstances, and make hard choices (Beginning College Survey of Student Engagement, 2018). Another survey found that students expect to take responsibility for their own learning (Hicks, 2003). Qualitative research of nine high school seniors found that participants were expecting greater independence and responsibility (academically, socially, and personally), excited about independence, eager to meet new people and the new perspectives and ideas they would encounter, ready for self-discovery, and anticipated challenges and mistakes (Keup, 2007). These ideas are the crux of the promotion motivation. The expectations students have for college and the changes they experience during college, are in direct contrast to the prevention motivation. These expectations support the findings of the current study, which found that the promotion motivation was stronger than the prevention motivation of psychological ownership in a college setting.

For the individual's motivations, promotion-focused individuals are internally motivated by personal growth and development. These individuals do things because they want to, not because they have to (Van Dijk & Kluger, 2004). They want to be better versions of themselves. In contrast, prevention-focused individuals are externally motivated, mostly by social pressures, obligations, and social responsibilities (Aaker & Lee, 2001). They do not necessarily want to do things, but they do them out of obligation. Once again, college encourages students to choose what they want to do both inside and outside of the classroom. In her qualitative study of high school seniors, Keup (2007) found that students were excited

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for their independence and the choices they were going to be able to make in college. In another qualitative study regarding students at the end of their first year of college, participants mentioned their struggles with decision-making in college, from when or if to study, to what to get involved in, and how to spend their out-of-class time (Cossy, 2014). They discussed the differences between high school and college, where in high school there was someone encouraging you to participate or study, and you were on your own to make those decisions in college (Cossy, 2014). Due to all the choices allowed for and encouraged in college, it is natural that promotion feelings are stronger than prevention feelings, which aligned with the findings in this study.

However, it is important to note that questions in the current study did not address all student populations. Some hidden populations of students may not be represented in this research as the students' pre-college background was not asked. Questions did not assess foster alumni status, homelessness specifically, disability status, food insecure students, or other hidden populations. These populations may not have the same experience at college as their more visible counterparts (Cady, 2014; Grimes, Scevak, Southgate, & Buchanan, 2017; Hallett, 2010; Rios & Rocco, 2014). Without knowing the full profile of the students, territoriality can not be completely removed as a factor.

The current study found that the territoriality/prevention aspect of psychological ownership was weaker than the promotion aspect. There is an element of competition present within the territoriality concept of psychological ownership, in that individuals feel ownership for the object and ensure that others are aware of that relationship (Brown, Lawrence, & Robinson, 2005). This competition aspect may play a role in the findings of the current survey as it relates to the type of institution hosting the survey. The host institution

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was a four-year, regional-serving public institution and a member of the American Association of State Colleges and Universities. These institutions pride themselves on access and inclusion of students, which includes affordability, a historic commitment to underserved students, and an emphasis on student success (American Association of State Colleges and Universities, n.d., Strategic plan 2015-2020). Additionally, AASCU member institutions are dedicated to making higher education available to anyone who is willing to work hard to be successful (American Association of State Colleges and Universities, n.d., State colleges and universities: A smart investment for your future). Due to the mission of institutions like the host institution, there may be a lack of competition present for students who attend these institutions, which could explain the lack of territorial feelings. The competition that is present in more selective institutions may not be present in the more access- and success-focused institution that served as the study site. Institutions implement programs and work hard to help all students graduate, with funding, recognition, and academic standing based on what percentage of students graduate (Newman, Couturier, & Scurry, 2004; Harper & Quaye, 2015). Institutions want students to be successful. The lack of territorial feelings found in this study may only apply to specific types of institutions and may not be present in all institutions.

Psychological Ownership and Demographics

The findings of the study showed that as a whole, student demographics did not play a factor in student feelings of psychological ownership. This is not surprising in that Pierce and Jussila (2011) claim that everyone is capable of developing feelings of psychological ownership even if some factors may affect the strength of the feelings (Pierce, Kostova, & Dirks, 2001). It should also be noted, however, that some demographic factors may be

important, but the small sample size in this study did not indicate statistical significance. Some demographic categories had only a few responses, which may not be representative of the population. A sample size that is too small to detect differences can produce Type II errors, which may show there is no difference when one actually exists (Gay, Mills, & Airasian, 2012; Patel, Doku, & Tennakoon, 2003). In this study, some variables did show a significance between demographic categories, specifically, international student status, gender, sexual orientation, ethnicity, and living situation.

Regarding ethnicity, it is important to note that psychological ownership was first theorized for Western culture and is based on an individualistic premise. If students identify with an ethnic background that is more community-based and less individually-based, this may affect their feelings of psychological ownership. However, other research looked specifically at ethnicity (Olckers & Van Zyl, 2016), but found no correlation between feelings of psychological ownership and ethnicity. Of note is that the Olckers and Van Zyl study was performed with professional workers in South Africa and only used *Black* and *White* as ethnic categories. Similarly, when data in the current study were collapsed into *Black* and *White,* no statistically significant differences were found. This could mean that individual ethnic categories are related to feelings of psychological ownership, but not when collapsed into larger categories.

Relating to international student status, international students reported higher psychological ownership scores than domestic students. Previous research found that, as freshmen, international students were more engaged in educational activities than domestic students, though those differences did level out by their senior year (Zhao, Kuh, & Carini, 2005). Additionally, another study found international students scored higher than domestic

students in reported levels of student engagement (Korobova, 2012). However, engagement does not necessarily equate to a stronger sense of belongingness or sense of community. Two studies specifically comparing the experiences of international students to domestic students found that international students rated their sense of community or belongingness lower than domestic students (Glass, Buus, & Braskamp, 2013; Van Horne, Lin, Anson, & Jacobson, 2018). Psychological ownership may provide that link between an international student's positive feelings of social engagement and their lower feeling of connectedness or belonging, as it requires an action on the part of the student (social engagement), but includes a construct of belongingness.

Additionally, similar to ethnicity, the culture of the home country of the international student may play a role in the students' feelings of psychological ownership. Students from a collectivist society may expect to feel like part of the community, while students from more independent cultures may have different expectations (Lee, 2015).

Although correlation and ANOVA tests did not show significance for hours spent working on-campus, the multiple regression analysis showed that 3.9% of the total variance in total psychological ownership score can be explained by this variable. Additionally, approximately 1% of each of the promotion subcategories of self-efficacy, belongingness, and self-identity, and 3% of the total promotion scores can be explained by hours spent working on campus. Research shows that on-campus employment enhances involvement and integration into the campus community, which relates to the psychological ownership promotion construct of sense of place/belongingness (Beeson & Wessel, 2002; McKenzie, 1981). Also, working on campus can be an effective way for students to increase their sense of identity with the institution, directly relating to the psychological ownership promotion

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concept of self-identity (Noel-Levitz, Inc, 2010). Finally, on-campus employment can cause students to have inside knowledge of the institution, connecting to the intimate knowledge route to psychological ownership (Noel-Levitz, Inc., 2010). This higher education-based finding can help extend psychological ownership research beyond the non-higher education workplace and onto college campuses.

In the original theory of psychological ownership promoted by Pierce, Kostova, and Dirks (2001), the researchers espoused that the more time an individual interacted with an object or organization, the stronger the feelings of psychological ownership the individual had for the object or organization. Applying the same principle to higher education, it could be speculated that the longer a student interacts with an institution the stronger the feelings of psychological ownership would be. In other words, the longer a student is a student, it could be assumed that stronger feelings of psychological ownership would develop. For the current study, this would translate to higher classification (juniors and seniors) and potentially transfer student status. However, findings of the study were not congruent with this part of the Pierce et al. (2001) theory. Upperclassmen and transfer students did not exhibit significantly more psychological ownership than underclassmen.

Although this study did not find that demographics played a substantial role in feelings of psychological ownership, other research found differences. In a study of for-profit business employees, Ozler, Yilmaz, & Ozler (2008) found differences for gender and service period (which could correlate to classification) as it related to psychological ownership and organizational behaviors. The difference in findings from the Ozler et al. research and the current study could stem from the relationship between the participants and the organization. The current study focused on students in a higher education setting, where they are seen more

as customers or consumers, whereas the Ozler et al. study focused on employees (Mark, 2013). The fact that students pay to attend the institution and employees are paid to be at the organization may contribute to the opposing findings. Additionally, the differing environments of the studies could explain the variance. The Ozler et al. study was centered in a for-profit environment, whereas the current study was focused in a non-profit environment.

No other research was found that examined demographics in relationship to feelings of psychological ownership. Additionally, no other research was found that used such extensive demographic categories as the variables employed in this study.

The lack of support for the correlation between psychological ownership and demographics in the current study may indicate that all students are capable of developing feelings of psychological ownership toward the institution on some level, regardless of strength. This is congruent with the finding by the forefathers of psychological ownership, Pierce and others (2001, 2011), who state that psychological ownership can be applied to everyone, even if the strength of those feelings differ. Additionally, this lack of relationship between psychological ownership and demographics indicates the unique ability of psychological ownership to apply to all students across campus, regardless of demographic factors. Researchers van Zyl, van der Vaart, and Stemmet (2017) suggest a multileveled holistic approach to enhancing psychological ownership in employees. This will be discussed more in depth in the implications for practice section below.

Involvement and Satisfaction as Related Factors

Findings of the current study found that both satisfaction and involvement are positively related to psychological ownership. This is not surprising, as previous studies had similar findings (Dunford et al., 2009; Md-Sidin et al., 2010; O'Reilly & Chatman, 1986).

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However, the current study did not seek to show directionality of the relationship between involvement, satisfaction, and psychological ownership, therefore, findings did not indicate if either involvement or satisfaction were an antecedent of psychological ownership, or if stronger feelings of psychological ownership led to stronger feelings of satisfaction and involvement. Additionally, these findings did not indicate if there was a direct relationship between these variables or if there were unknown mitigating factors. This study simply sought to determine the existence of a relationship. These relationships will be subsequently discussed more in depth.

Satisfaction. Previous research found positive correlations between psychological ownership and satisfaction (Dunford et al., 2009; Groesback, 2001; Lee & Suh, 2015; Mayhew, Ashkansky, Bramble, & Gardner, 2007; Md-Sidin et al., 2010; Mustafa, Martin, & Hughes, 2016; Peng & Pierce, 2015; Van Dyne & Pierce, 2004). The current study found similar results and added the unique setting of higher education. This shows that some of the effects or consequences of the relationship between psychological ownership and satisfaction found in the business settings may translate to higher education.

Specifically, satisfaction was the factor that contributed the most variance to the total psychological ownership score (27.8%), promotion subcategory accountability (3%), promotion subcategory self-efficacy (17.5%), promotion subcategory belongingness (39.4%), promotion subcategory self-identity (36.8%), and the total promotion score (35.1%). Additionally, it was the second greatest contributor to the prevention/territoriality score (15.1%). This shows that satisfaction matters a lot when it comes to psychological ownership. These findings were just from asking a simple, one-item question related to overall satisfaction. With more focused satisfaction questions, more insights could be found.

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In other fields, higher employee satisfaction rates are linked with stronger feelings of psychological ownership and higher intentions to stay with the organization (O'Driscoll, Pierce, & Coghlan, 2006; Olckers & Enslin, 2016; Peng & Pierce, 2015). Relating to higher education, this could coincide with retention and graduation rates. Other research found direct positive links between satisfaction and likelihood to stay at the institution (Commonwealth of Australia, 2008). Specifically, one research report documented the link between individual student satisfaction and retention rates. Student satisfaction accounted for 17% of the variation in retention, whereas institutional features accounted for 1-4%, demographics accounted for 3-4%, and unknown factors accounted for 75% (Schreiner, 2009). Satisfaction is the largest contributor over which the institution has control. These findings are even less than the findings of the current study, which found satisfaction accounted for 27.5% of the total psychological ownership score. Although the current study clearly found a relationship between satisfaction and psychological ownership, the implications of that relationship were not explored. However, the presence of a relationship, as found in this research, may lead to initiatives to increase retention rates, as supported in previous research.

Another effect of satisfaction in relation to psychological ownership relates to duties performed outside of the job description, defined here as organizational citizenship behavior and extra-role behavior. Higher satisfaction rates are linked with stronger feelings of psychological ownership and the willingness to do more for the organization (Ozler et al., 2008; Vandewalle, Van Dyne, & Kostova, 1995). For higher education, this could tie to the concept of student involvement or engagement and alumni giving. Previous studies found higher satisfaction rates were linked to higher alumni giving rates (Miller, 2003).

Furthermore, Ruffalo Noel Levitz (2018) found a statistically significant correlation between student satisfaction and alumni giving. As the average institutional student satisfaction score increases, overall alumni giving scores increase (Ruffalo Noel Levitz, 2018). Additionally, institutions with higher student satisfaction scores also are more likely to have higher alumni participation rates (Bryant, Bodfish, & Stever, 2015). Once again, the current study found a clear relationship between psychological ownership and satisfaction, but the consequences of that relationship were not explored. However, based on previous research, psychological ownership and satisfaction could lead to higher rates of alumni giving and involvement.

Finally, much research exists on student satisfaction in higher education. Multiple surveys singularly measure this concept. Looking specifically at aggregated information from the National Student Satisfaction Inventory, differences were found between student feelings of satisfaction based on demographics, including race and ethnicity, classification, gender, age, work status, living situation, and transfer status (Ruffalo Noel Levitz, 2018). However, only 64% of respondents stated they were "satisfied' or "very satisfied" with their experience at the institution so far (Ruffalo Noel Levitz, 2018). This is a lower percentage than was found in the current study, which showed that 79.5% of respondents were either "satisfied" or "very satisfied" with the institution.

Although demographics affected feelings of satisfaction in the Noel Levitz research, they did not affect feelings of psychological ownership in the current study. This can create a challenge for campus administrators as the strategies to increase satisfaction may not be effective for strengthening feelings of psychological ownership. The discrepancy in demographics could be positive or negative for campus professionals. Positively, all students are equally capable of holding feelings of psychological ownership for the institution. This

places all students on the same level. However, negatively, there is no easy connection or correlation between type of student and feelings of psychological ownership. Differing strengths of feelings of psychological ownership could depend on the personality and motivation of the individual student (Pierce et al., 2011). This may mean campus administrators need to try many different types of strategies and interventions to affect diverse student populations in order to achieve stronger feelings of psychological ownership. This diversified, highly-personalized approach aligns with how many campuses approach other issues related to higher education, including retention, academic achievement, and student involvement (Gabriel, 2008; Moxley, Dumbrigue, & Najor-Durack, 2001; Yorke, Longden, & Society for Research into Higher Education, 2004).

Involvement. Although previous research has not explored a direct link between psychological ownership and student involvement in a higher education setting, research has demonstrated positive correlations between psychological ownership and extra-role behaviors (Katz & Kahn, 1978; O'Reilly & Chatman, 1986) and between social and academic engagement and student experience on campus (Mayhew et al, 2016; Pascarella & Terenzini, 1991, 2005; Strauss & Volkwein, 2004). Additionally, psychological ownership was positively related to both quality and quantity of interaction in a virtual community (Lee & Suh, 2015) and to the work behaviors of performance and organizational citizenship in U.S. workers (Van Dyne & Pierce, 2004). These factors directly relate to the definition of involvement provided to participants in the current study, "the time, effort, and energy students invest in their collegiate experiences, to include both academic and social participations with peers, faculty, and staff." Collegiate experiences encompass their extra-

role and out-of-class behaviors, their social and academic engagement, and their organizational citizenship behaviors.

However, not all research is supportive of the role psychological ownership plays in extra-role behavior. Mayhew et al. (2007) found that psychological ownership was not related to extra-role behavior, but this research was conducted with bosses and employees and may or may not apply to students in higher education. The use of employees who are paid to do a job compared to the students who pay to attend the institution and can be seen as consumers or customers may affect the relatability to the current study. Additionally, the for-profit environment in which the study was conducted could explain the difference in findings. Finally, in the study, extra-role behavior was determined by the supervisor of the employee. Depending on the structure of the organization, the supervisor may not always be aware of all of the actions of the employee. If the employee were to self-report their extra-role behavior, as was done in the current study, findings may be different. Additionally, if peers were to report the extra-role behavior, findings could vary as well.

Specific to the current study, it was discovered that any level of involvement was related to psychological ownership. This is important because students have the freedom to choose what they want to be involved with and their level of involvement. The current study found that any level of involvement correlates to stronger feelings of psychological ownership.

Studies show that higher levels of involvement are related to higher persistence rates (Hu, 2011; Kuh et al., 2006; Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008) and that both academic and social engagement matter (Hu, 2011). Tinto (2000) claims that engagement is the single most significant indicator of persistence and discusses the link between

institutional commitment and persistence. Other research also shows that how students engage with campus (involvement in student organizations, dependability to fellow students, and contributions in the classroom) can lead to more institutional commitment and engagement (Hu, 2011). Similarly, these examples of engagement can also tap into the routes to psychological ownership of the institution.

Relationship to Prior Research

Research to date on students' feelings about the institution they attend is extensive. However, the terminology used to describe this relationship is varied, but limited. Much of the research focuses simply on the students' feelings, using terms like *school spirit, institutional connection, institutional commitment, institutional loyalty,* and *institutional identification.* These terms describe a one-way relationship with the institution; the student taking any action is not included. Findings of the current study demonstrate that psychological ownership does fit into the conversation regarding how students feel and act toward the institution they attend, as it showed that the overall concept of psychological ownership did apply to students attending a higher education institution. This expands the concept of psychological ownership outside the business context and adds to the literature which continues to place it in a not-for-profit setting (Asatrayan, Slevitch, Larzelere, Morosan, & Kwun, 2013; Baxter, Aurisicchio, Childs, & Luthans, 2009; Kapoor & Tomar, 2016; Lee & Suh, 2015; Matilainen, Pohja-Mykrä, Lähdesmäki, & Kurki, 2017; Shu & Peck, 2018; Sinclair & Tinson, 2017).

However, because neither strong nor positive relationships were found between students and the territoriality/promotion motivation of psychological ownership, the psychological ownership questionnaire used in this study must be considered. The Avey et al.

(2009) questionnaire used in this study expanded on the original theory of psychological ownership by including the additional concepts of territoriality and accountability and grouping the concepts into promotion and prevention. However, other questionnaires exist with which to measure psychological ownership. The original instrument by Van Dyne and Pierce (2004) included just four questions using possessive vocabulary and was organization-based. Brown, Pierce, and Crossley (2011) based theirs on Van Dyne and Pierce's (2004) but placed it in the context of job/work ownership and included six questions. The current study applied the concept of psychological ownership to a new environment, higher education, using a new measurement tool in an effort to expand the psychological ownership concept.

In addition to learning more about students' feelings of psychological ownership, the current study also researched students' level of satisfaction with their current institution and their level of involvement with their current institution, individually. Related to satisfaction, previous research shows that psychological ownership is positively related to job satisfaction (Dunford, Schleicher, & Zhu, 2009; Groesback, 2001; Mustafa, Martin, & Hughes, 2016; Peng & Pierce, 2015), which aligns with the findings of this study showing that psychological ownership is related to student satisfaction. Related to involvement, psychological ownership has been found to be linked positively to the associated concepts of extra-role behavior, employee participation in decision-making, and organizational citizenship behaviors (Han, Chiang, & Chang, 2010; Lee & Suh, 2015; Ozler et al., 2008; VandeWalle et al., 1995). These concepts are pieces of student involvement, which was found to be related to psychological ownership in the current study.

Additionally, this study adds to the research that has previously looked at the collective intersection of psychological ownership, student satisfaction, and various aspects

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of student involvement (Asatryan et al., 2013; Vandewalle et al., 1995). While each of these studies was unique in their design and specific research questions, all showed a connection between feelings of psychological ownership, student satisfaction, and aspects of student involvement. Specifically, the previous research found strong correlations between satisfaction and psychological ownership: Asatryan et al. (2013) being .467 and Vandewalle et al. (1995) being .458. The current study found similar correlations of .456. Even with the connections found between these concepts, more information about the directionality and nature of the relationships between psychological ownership, student involvement, and satisfaction is needed.

Although much of the previous research regarding psychological ownership has been conducted with a variety of populations in various contexts, each study provides a relevant background for the specifics of the current study. The current study served as an entry-point into the higher education research for the concept of psychological ownership. Specifically looking at individual students' feelings toward the institution through this lens allows for a new avenue of research to understand better the student experience.

Implications

The findings of this research contribute to further research, advancement of the theory of psychological ownership, and the everyday practices of campus administrators. This section will discuss these specific implications.

Future Research

This study found that students did develop feelings of psychological ownership toward the specific institution studied. However, the respondents comprise a small sample of students at one institution. To more fully understand the implications, a larger group of

students should be included in subsequent studies. Additionally, studying students at different types of institutions would provide a more complete picture of psychological ownership and its connection to college students. A large scale study performed at different types of institutions would allow for comparisons across institution types and student demographics. A larger population of respondents might allow for a more in-depth study of student demographics and could discover some demographic differences that were not realized in this research study. Also, the location of the current study is a rural, Midwestern town; findings may not be the same in a large metropolis so conducting the study across geographic boundaries might provide greater insight.

To better understand this specific institution, additional research could be conducted using different research methods. From a qualitative standpoint, looking deeper into how this institution is helping students develop feelings of psychological ownership could help other institutions cultivate these feelings through the use of best practices. Interviewing students, conducting small focus groups, or conducting program reviews could provide valuable information about psychological ownership at this institution. From a quantitative perspective, additional research could determine if psychological ownership is specifically related to retention and alumni giving at this institution.

Finally, follow-up research could be done at this institution to see if feelings of psychological ownership change over time. Although this survey was focused on a specific moment in time, future research could compare these findings with similar research at a different moment in time. The ebb and flow of an academic year could yield vastly different findings. Further analysis of these new findings could determine if feelings of psychological ownership vary depending on time of the year or specific classification of the student. This

survey compared this year's seniors with this year's sophomores, but a longitudinal survey could compare students as they progress at the institution.

In a larger context, research is limited in how feelings of psychological ownership toward the institution affect the individual. This research included the concepts of satisfaction and involvement, but there are many other aspects of the student experience. Further research could help add to the depth of the literature regarding psychological ownership and related factors. Additionally, future research could study actual student involvement based on objective standards as opposed to the student's perceived level of involvement. These findings could then be used to find any relationship with psychological ownership and then used to compare actual versus perceived levels of involvement and what those differences mean.

Theory

This study found students did develop psychological ownership for the institution. This builds upon growing research which places psychological ownership in contexts outside of the business realm. However, the findings of this study may indicate that all aspects of psychological ownership may not be applicable in all organizational environments. The low prevention/territoriality scores found among respondents could imply that the higher education environment does not lend itself to constructs espoused by Avey et al. (2009). This may imply there is not one overarching psychological ownership theory that can be applied to all environments.

Additionally, other constructs and variables related to psychological ownership may still be unfounded. Psychological ownership is still a fairly new concept being researched and developed. Pierce et al. (2001) acknowledged this fact in their theoretical proposal of the

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psychological ownership construct. McIntyre, Srivastava, and Fuller (2009) proposed inclusion of personality traits, locus of control, and individualism to contribute to psychological ownership. Olckers and Du Plessis (2012) proposed the inclusion of autonomy and responsibility to the theory. These, and other yet-undiscovered, constructs may exist which will further expand and develop the theory.

Other aspects of psychological ownership theory are still emerging. This study looked at psychological ownership of the organization on an individual level, e.g., "this is my organization." However, emerging research explores collective psychological ownership, e.g., "this is our organization" (Pierce & Jussila, 2011). This construct includes a shared mind-set that is not present in individual psychological ownership. This is observed in the higher education setting already, specifically with athletic teams. Athletes can often be heard stating "*we* have a game tonight" or "that trophy signifies *our* win." If collective psychological ownership is present in athletics, it could be present with other students across campus. However, research is limited, showing that collective psychological ownership can exist independently of individual psychological ownership, but the two concepts can also affect one another. Further exploration of this theory in the higher education context may add to the breadth and depth of knowledge regarding the student experience.

Additionally, this study found a correlation between psychological ownership, student engagement, and satisfaction. However, this study did not determine if psychological ownership was a contributor to engagement or satisfaction or vice versa. Does psychological ownership lead to satisfaction and feelings of student engagement? Or do satisfaction and feelings of student engagement lead to psychological ownership? Better understanding the

nature of this relationship could help theorists and practitioners focus their efforts in effective areas.

Practice

Institutions are constantly searching for ways to retain and engage students. Psychological ownership provides a structure through which campus administrators can intentionally focus their energy and resources. This research showed that students feel promotion motivation more strongly than prevention motivations, allowing administrators to purposefully encourage these feelings through specific actions focused on the promotion motivation strategies. To enhance feelings of psychological ownership, higher education professionals should be intentional in specifically creating programs that target the promotion-based constructs of accountability, efficacy and effectance, sense of place/belongingness, and self-identity, and the individual constructs of psychological ownership, including control of the target, investment in the target, and intimate knowledge of the target. Outside of higher education, but within the non-profit area, research on publicly owned or communally-shared spaces and stewardship showed that implementing programs that targeted specific constructs of psychological ownership can affect positively the behaviors toward those resources. In one study, participants renting a kayak on a lake were asked to create their own nickname for the lake. This strategy focused on the individual need to invest oneself in the target (the lake). Of the 54 individuals who nicknamed the lake, 45% (22 individuals) picked up floating trash in the lake, compared to only 7% of participants who picked up trash in the group who were not asked to nickname the lake (Shu & Peck, 2018). This shows simple interventions designed to encourage psychological ownership can significantly affect the effort of the individuals to take care of those resources.

One way for institutions to encourage feelings of psychological ownership is to intentionally tap into the self-identity construct of the promotion motivation of psychological ownership. The self-identity construct states that by interacting with their environment and the symbols and objects associated with it, individuals discover more about themselves (Baxter et al., 2015; Pierce et al., 2001). More generally, research shows that slogans, symbols, rituals, and ceremonies can affect the individual and their feelings toward the institution (Ashforth & Mael, 1989; Dutton, Dukerich, & Harquail, 1994; Kark & Van Dijk, 2007). One approach to encourage the self-identity construct is by applying the symbolic theory of organizational culture proposed by Bolman and Deal (2013). They suggest six concepts the organization can use to convey the organizational culture to its members: myths, vision, and values; heroes and heroines; stories and fairy tales; ritual; ceremony; and metaphor, humor, and play (Bolman & Deal, 2013). In higher education, these can be homecoming, orientation, commencement, the institutional mascot, a significant story in the history of the institution, or a story behind the institution's namesake. Although most institutions host programs of this nature already, practitioners need to be purposeful in their planning and implementation to order to include specific activities to enhance feelings of psychological ownership. By educating students through orientations and shared campus ceremonies, institutions can instill the importance of the rituals and symbols in the students, leading to a stronger self-identity of the students with the institution, linking directly to stronger feelings of psychological ownership.

Methods for enhancing feelings of psychological ownership can overlap with efforts to encourage student success, as addressed by Kuh et al. (2006) in their review of the literature for the National Postsecondary Education Cooperative. Many of the findings which

were important to student success directly intersect with the routes to and roots of psychological ownership. Specifically, serving on a committee was found to be important to the success of college students, which links directly to the psychological ownership concepts of intimate knowledge of the target, investing oneself in the target, and the efficacy and effectance (desire to interact with and control the environment) concepts of the promotion motivation (Kuh et al, 2006). Also, being elected to a student leadership position was reported to matter to student success, which overlaps with the psychological ownership promotion concepts of efficacy and effectance and self-identity (defining oneself through relationships with the object). Relating to co-curricular involvement, it both mattered to student success and relates to the psychological ownership concept of investing oneself in the target (Kuh et al., 2006). Assessment, timely feedback, and setting high standards and expectations for student performance also mattered to student success, which relates directly to the accountability construct of psychological ownership (Kuh et al., 2006). By being intentional in their interactions with students regarding on-campus opportunities, administrators can enhance students' feelings of psychological ownership for the institution.

Focusing in the for-profit setting, van Zyl, van der Vaart, and Stemmet (2017) suggested specific actions to create and enhance psychological ownership in employees. These intentional, specific suggestions can be related to students in a higher education setting. To create psychological ownership through the concept of sense of place/belongingness, authors suggest encouraging direct employee participation in decision making; in higher education this could correlate to encouraging students to participate on campus-wide committees (van Zyl et al., 2017). Addressing self-efficacy and effectance, providing autonomy for team members could encourage psychological ownership; this

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connects to allowing students to take charge of their own education by self-enrolling in courses (van Zyl et al., 2017). Self-identity can be enhanced by educating new employees about the organization; orientation programs in higher education address this (van Zyl et al., 2017). Finally, encouraging accountability includes clearly defining expectations in policies and procedures; for higher education institutions, this includes providing course syllabi and institutional handbooks explaining policies and procedures (van Zyl et al., 2017). As opposed to creating individual interventions for specific populations, broader efforts could be make across campus to encourage psychological ownership for all, targeting the promotion concepts of accountability, efficacy and effectance, sense of place/belongingness, and self-identity.

Additionally, based on their review of the literature, Kuh et al. (2006) recommended every student be involved in a meaningful way with some activity stating, "when students are required to take responsibility for activities that require daily decisions and tasks, they become invested in the activity and more committed to the college and their studies" (p. 96). This sense of responsibility leads to an investment and commitment in the institution, which is important when growing psychological ownership.

No matter how hard institutions try, there are many things they cannot control about the student experience. However, psychological ownership can be invested in, developed, and managed (Avey et al., 2009) whereas not many of the other constructs used to describe a student's feelings about the institution can be treated similarly. The psychological ownership construct, developed outside of higher education, can be examined and its' constructs applied to create specific programs to enhance the student experience and create connections to the institution.

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Conclusion

This chapter provided a discussion of the findings presented in Chapter Four. The findings were discussed as related to previous research and theory along with implications for research, theory, and practice. The findings of this study indicated that students did develop feelings of psychological ownership for the institution, though promotion-orientated motivations were stronger than prevention-oriented motivations. Related to demographics, findings were mixed with only international student status, gender, sexual orientation, ethnicity, and living situation showing any significance. Additionally, only the on-campus work hours demographic had any correlation with feelings of psychological ownership. However, both satisfaction and involvement were positively related to feelings of psychological ownership.

This research shows the concept of psychological ownership can be applied to higher education. However, more research is needed to understand fully the causes, effects, and implications of psychological ownership in the educational setting. By involving more students, other types of institutions, and additional concepts contained under the umbrella of psychological ownership, a more complete picture of the individual and institutional effects of psychological ownership within higher education might be understood.

Finally, by intentionally considering the individual aspects of psychological ownership when interacting with students, campus administrators can create a campus environment where students are encouraged to be engaged with the institution and take control of their experience. This ownership by the students may lead to higher retention rates, better alumni involvement, and more campus engagement.

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APPENDICES

Appendix A

Psychological Ownership Survey

Please indicate your current classification:

◯ Freshman (completed 0-29 hours)

◯ Sophomore (completed 30-59 hours)

◯ Junior (completed 60-89 hours)

◯ Senior (completed 90 or more hours)

◯ Graduate Student

Below are statements that describe how you may think about yourself right now. Use the following scales to indicate your level of agreement or disagreement with each statement.

	Strongly Disagree	Disagree	Somewhat disagree	Somewhat Agree	Agree	Strongly Agree
I would not hesitate to tell the institution if I saw something that was done wrong.	○	○	○	○	○	○
I feel I belong at this institution.	○	○	○	○	○	○
This place is home for me.	○	○	○	○	○	○
I feel the institution's success is my success.	○	○	○	○	○	○

How would you rate your overall satisfaction with the institution?

- o Very dissatisfied
- o Dissatisfied
- o Neutral
- o Satisfied
- o Very Satisfied

Student involvement is defined as the time, effort, and energy students invest in their collegiate experiences, to include both academic and social participation with peers, faculty, and staff.

Based on this definition, how involved do you feel you are on campus?

○ Not involved at all

○ Slightly involved

○ Moderately involved

○ Very involved

○ Extremely involved

The following questions are for informational purposes and will not be used for identification.

Thinking about this current academic term, are you a full-time student?

○ Yes

○ No

How many courses are you taking for credit this current academic term?

○ 0

○ 1

○ 2

○ 3

○ 4

○ 5

○ 6

○ 7 or more

Of these, how many are entirely online?

○ 0

○ 1

○ 2

○ 3

○ 4

○ 5

○ 6

○ 7 or more

Did you begin college at this institution or elsewhere?

○ Started here

○ Started elsewhere

About how many hours do you spend in a typical 7-day week doing the following?

	0	1-5	6-10	11-15	16-20	21-25	26-30	More than 30
Working for pay on campus	○	○	○	○	○	○	○	○
Working for pay off campus	○	○	○	○	○	○	○	○
Providing care for dependents (children, parents, etc.)	○	○	○	○	○	○	○	○
Commuting to campus (driving, walking, etc.)	○	○	○	○	○	○	○	○

What is your gender identity?

○ Male

○ Female

○ Another gender identity, please specify: _____

○ I prefer not to respond

Which of the following best describes your sexual orientation?

○ Straight (heterosexual)

○ Bisexual

○ Gay

○ Lesbian

○ Queer

○ Questioning or unsure

○ Another sexual orientation, please specify: _____

○ I prefer not to respond

Enter the year of your birth (example: 1994).

_____

Are you an international student?

○ Yes

○ No

What is your racial or ethnic identification? (Select all that apply.)

○ American Indian or Alaska Native

○ Asian

○ Black or African American

○ Hispanic or Latino

○ Native Hawaiian or Other Pacific Islander

○ While

○ Other

○ I prefer not to respond

Are you a member of a social fraternity or sorority?

○ Yes

○ No

Which of the following best describes where you are living while attending college?

○ Campus housing (other than a fraternity or sorority house)

○ Fraternity or sorority house

○ House, apartment, or other residence within walking distance to campus

○ House, apartment or other residence farther than walking distance to campus

○ Not applicable. No campus, entirely online program, etc.

○ Not applicable. Homeless or in transition.

Are you a student-athlete on a team sponsored by your institution's athletics department?

○ Yes

○ No

Are you a current or former member of the U.S. Armed Forces, Reserves, or National Guard?

○ Yes

○ No

The following information is used only to identify prize recipients. Please complete this section if you are interested in being entered into a drawing to receive a prize.

Name: _____

Mailing Address: _____

_____

Permission to Use the Psychological Ownership Questionnaire

Leslie Cothren

m\nd garden

To whom it may concern,

This letter is to grant permission for Leslie Cothren to use the following copyright material for his/her research:

Instrument: **Psychological Ownership Questionnaire**

Authors: **James B. Avey and Bruce J. Avolio**

Copyright: **2007 by James B. Avey and Bruce J. Avolio**

Three sample items from this instrument may be reproduced for inclusion in a proposal, thesis, or dissertation.

The entire instrument may not be included or reproduced at any time in any published

material. Sincerely,

Mind Garden, Inc.
www.mindgarden.com

Permission to alter the Psychological Ownership Questionnaire

Effective date is June 20, 2018 for:
Leslie Cothren

You submitted your statement for altering a Mind Garden instrument at 9:06 pm EDT on June 06, 2018.

Conditions of Use for Altering a Mind Garden Instrument

Before conducting your research:

1) You will register your intent to make an alteration of a Mind Garden instrument by describing the type of alteration(s), the details of the alteration(s), and the rationale behind the alteration(s). (You have fulfilled this condition. The information you provided is included below).

Instrument Name: Psychological Ownership Questionnaire

Specific Alterations: Add or delete items

Alteration Details: Alterations: Changing the word "organization" to "institution"

Deletions: removing the question about workspace.

Reason for Alterations:

The subjects of the questionnaire are college students and I am looking at their feelings of psychological ownership toward the institution they attend. The current terminology in the survey refers to an organization and I want to be clear that I am asking the students about their feelings toward the institution as a whole, not individual areas of the institution. Additionally, as students do not necessarily have "workspaces" or even desks or classrooms, this question does not apply on a commuter college campus.

2)   You will assign all rights to the altered instrument to the copyright holder. (You agreed to this condition by electronically signing and submitting the form).

3)   You will put the instrument copyright, including the notification that the instrument was altered, on every page containing question items from this instrument. Add the following text to the end of the copyright:

"Altered with permission of the publisher."

An example, using the Multifactor Leadership Questionnaire, is shown below.

MLQ Copyright © 1995 Bruce Avolio and Bernard Bass. All rights reserved in all media. Published by Mind Garden, Inc., www.mindgarden.com Altered with permission of the publisher.

Permission for remote online usage for the Psychological Ownership Questionnaire

Approval for Remote Online Use of a Mind Garden Instrument

Effective date is June 20, 2018 for:

Leslie Cothren

You submitted your statement for remote online use at 8:53 pm EDT on June 06, 2018.

Remote online use of the Mind Garden instrument stated below is approved for the person on the title page of this document.

Question	Answer
Your name:	Leslie Cothren
Email address:	leslie.cothren@okstate.edu
Repeat email address:	leslie.cothren@okstate.edu
Phone number:	5805124530
Company/institution:	Oklahoma State University
Your project title:	Psychological Ownership in a Mid-Sized Regional Institution
Mind Garden Sales Order or Invoice number for your purchase of reproduction licenses:	IJSKLOSSC
The name of the Mind Garden instrument you will be using:	Psychological Ownership Questionnaire

APPENDIX E

Permission to use the NSSE Survey Items

NSSE
national survey of
student engagement

The College Student Report
Item Usage Agreement

The National Survey of Student Engagement's (NSSE) survey instrument, *The College Student Report*, is copyrighted and the copyright is owned by The Trustees of Indiana University. Any use of survey items contained within *The College Student Report* is prohibited without prior written permission from Indiana University. When fully executed, this Agreement constitutes written permission from the University, on behalf of NSSE, for the party named below to use an item or items from *The College Student Report* in accordance with the terms of this Agreement.

In consideration of the mutual promises below, the parties hereby agree as follows:

1) The University hereby grants **Leslie Cothren** ("Licensee") a nonexclusive, worldwide, irrevocable license to use, reproduce, distribute, publicly display and perform, and create derivatives from, in all media now known or hereafter developed, the item(s) listed in the proposal attached as Exhibit A, solely for the purpose of including such item(s) in the survey activity described in Exhibit A, which is incorporated by reference into this Agreement. This license does not include any right to sublicense others. This license only covers the survey instrument, time frame, population, and other terms described in Exhibit A. Any different or repeated use of the item(s) shall require an additional license.

2) "National Survey of Student Engagement", "NSSE", and the NSSE logo are registered with the U.S. Patent and Trademark Office. Except as provided in part 3c below, these elements may not be incorporated without permission in materials developed under this agreement, including but not limited to surveys, Web sites, reports, and promotional materials.

3) In exchange for the license granted in section 1, Licensee agrees:

   a) there will be no licensing fee to use NSSE items for the purposes described in Exhibit A;

   b) to provide to NSSE frequency distributions and means on the licensed item(s);

   c) on the survey form itself, and in all publications or presentations of data obtained through the licensed item(s), to include the following citation: "Items *xx* and *xx* used with permission from *The College Student Report*, National Survey of Student Engagement, Copyright 2001-18 The Trustees of Indiana University";

   d) to provide to NSSE a copy of any derivatives of, or alterations to, the item(s) that Licensee makes for the purpose of Licensee's survey ("modified items"), for NSSE's own nonprofit, educational purposes, which shall include the use of the modified items in *The College Student Report* or any other survey instruments, reports, or other educational or professional materials that NSSE may develop or use in the future. Licensee hereby grants the University a nonexclusive, worldwide, irrevocable, royalty-free license to use,

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NSSE
national survey of
student engagement

reproduce, distribute, create derivatives from, and publicly display and perform the modified items, in any media now known or hereafter developed; and

e) to provide to NSSE, for its own nonprofit, educational purposes, a copy of all reports, presentations, analyses, or other materials in which the item(s) licensed under this Agreement, or modified items, and any responses to licensed or modified items, are presented, discussed, or analyzed. NSSE shall not make public any data it obtains under this subsection in a manner that identifies specific institutions or individuals, except with the consent of the Licensee.

4) This Agreement expires on January 31, 2019.

The undersigned hereby consent to the terms of this Agreement and confirm that they have all necessary authority to enter into this Agreement.

For The Trustees of Indiana University:

Alexander C. McCormick
Director
National Survey of Student Engagement

Date

For Licensee:

Leslie Cothren
PhD Student
Oklahoma State University

8/8/18
Date

For Advisor:

Dr. Stephen Wanger
Associate Professor – Program Coordinator for Admissions, Planning and International Partners
Oklahoma State University

8/8/18
Date

APPENDIX F

Vice-President of Student Development Introductory E-Mail

Subject: Request for your participation

Sent from: ████████████████████████████

Dear Students:

A few days from now, you will receive an e-mail request to complete a 10-minute survey to help us better understand you and to help a student earn their PhD. This e-mail will have the subject of "Your College Experience" and will be distributed on the all-student listserv.

This survey concerns your feelings about ████████████████.

I am writing in advance to let you know this survey will be coming so you will be on the lookout for the invitation in your ███ campus e-mail inbox. This study will help us understand your relationship with ███ and will help us create programs to help you succeed here at ███.

Thank you for your time and consideration.

VP Signature

P.S. Participants who complete the survey can enter for a chance to win a $5 Amazon gift card.

APPENDIX G

Initial Invitation

Subject: Your College Experience

Sent to: All-Student Listserv

Dear student:

In order to better understand your feelings toward the collegiate institution you attend, I am conducting a survey of all students at ████████████. Your response will help to better understand how different types of students feel about the institution they attend, which will allow the institution to create specific programs to enhance your collegiate experience. Additionally, this information will help me complete my PhD.

The survey will only take about 10 minutes to complete and can be accessed by clicking on this link: [Psychological Ownership](#)

Your participation in this survey is completely voluntary and all of your responses are anonymous. None of the responses will be connected to identifying information.

For every 25 students that complete the survey within the next 2 days, one participant will be randomly chosen to receive a $5 Amazon gift card.

If you have any questions or concerns please do not hesitate to email me at leslie.cothren@okstate.edu.

Thank you!

Sincerely,

Leslie Cothren
PhD Student, Oklahoma State University
leslie.cothren@okstate.edu

Informed Consent

Welcome to the research study!

I am interested in understanding your relationship toward the higher education institution you attend. You will be presented with information relevant to your relationship with the institution and asked to answer some questions about it. Please be assured that your responses will be kept completely confidential.

For every 25 students that respond to the survey, one participant will be chosen at random to receive a prize that will showcase your affiliation with the institution.

The study should take you around 10 minutes to complete. Your participation in this research is voluntary. You have the right to withdraw at any point during the study, for any reason, and without any prejudice. If you would like to contact the Principal Investigator in the study to discuss this research, please e-mail Leslie Cothren at leslie.cothren@okstate.edu.

By clicking the button below, you acknowledge that your participation in the study is voluntary, you are 18 years of age, and that you are aware that you may choose to terminate your participation in the study at any time and for any reason.

Please note that this survey will be best displayed on a laptop or desktop computer. Some features may be less compatible for use on a mobile device.

○ I consent, begin the study

○ I do not consent, I do not wish to participate

APPENDIX I

Reminder E-Mail

Subject: REMINDER – Your College Experience

Sent to: All-Student Listserv

Dear student:

Earlier this week you received an e-mail asking you to participate in a research study regarding your feelings toward ███████████████.

This survey will take you approximately 10 minutes and can be completed by clicking this link: Psychological Ownership

Your response will help to better understand how different types of students feel about the institution they attend. Your responses will help the institution better understand you and will allow them to create programs to create a better experience for you.

Your participation in this survey is completely voluntary and all of your responses are anonymous. None of the responses will be connected to identifying information.

For every 50 students that complete the survey within the next five days, one participant will be randomly chosen to receive a $5 Amazon gift card.

If you have any questions or concerns please do not hesitate to email Leslie Cothren at leslie.cothren@okstate.edu.

Thank you!

Sincerely,

Leslie Cothren
PhD Student, Oklahoma State University
leslie.cothren@okstate.edu

APPENDIX J

Final Reminder E-Mail

Subject: FINAL REMINDER – Your College Experience

Sent to: All-Student Listserv

Dear student:

I am writing to follow-up on the message I sent last week asking you to participate in a survey about your feelings toward ███████████████. This survey is closing soon and this is the last reminder I am sending about the study.

This survey is anonymous and your participation is completely voluntary. The survey will take you approximately 10 minutes to complete and can be completed at this link: [Psychological Ownership](#)

Results of the survey will be presented to institutional administrators in order to help them better understand you and your college experience. Additionally, these results will be used to allow me to complete my PhD.

For every 100 students that complete the survey within the next five days, one participant will be randomly chosen to receive a $5 Amazon gift card.

If you have any questions or concerns please do not hesitate to email me at leslie.cothren@okstate.edu.

Thank you!

Sincerely,

Leslie Cothren
PhD Student, Oklahoma State University
leslie.cothren@okstate.edu

VITA

Leslie Cothren

Candidate for the Degree of

Doctor of Philosophy

Dissertation: STUDENT FEELINGS OF PSYCHOLOGICAL OWNERSHIP AT A MID-SIZED REGIONAL PUBLIC INSTITUTION

Major Field: Educational Leadership and Policy Studies

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Educational Leadership and Policy Studies at Oklahoma State University, Stillwater, Oklahoma in May, 2019.

Completed the requirements for the Master of Education in Higher Education at the University of Arkansas, Fayetteville, Arkansas in 2002.

Completed the requirements for the Bachelor of Science in Criminal Justice at Cameron University, Lawton, OK in 2000.

Experience:

Director of Campus Life at Cameron University, Lawton, OK
July 2015 – present

Student Activities Specialist at Cameron University, Lawton, OK
January 2013 – June 2015

Director of Student Involvement at Centenary College of Louisiana, Shreveport, LA
January 2007 – May 2010

Associate Director of Student Activities at Dickinson College, Carlisle, PA
July 2005 – December 2006

Assistant Director of Student Activities and Director of Sororities at Dickinson College, Carlisle, PA
July 2002 – June 2005