Correlations among School Belonging and Self-Reported Factors Associated with Students' School Success

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CORRELATIONS AMONG SCHOOL BELONGING AND SELF-REPORTED FACTORS ASSOCIATED WITH STUDENTS’ SCHOOL SUCCESS

by

Stacey Mechelle McGuire Lee

Abstract of a Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

December 2011
ABSTRACT

CORRELATIONS AMONG SCHOOL BELONGING AND SELF-REPORTED FACTORS ASSOCIATED WITH STUDENTS’ SCHOOL SUCCESS

by Stacey Mechelle McGuire Lee

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This study examined correlations among student sense of school belonging and the classroom learning climate, previous academic achievement, frequency of disciplinary sanctions, and participation in extracurricular activities. During August of the 2011-2012 school year, the Middle School Student Sense of Belonging Questionnaire was completed by a sample of 264 eighth grade students enrolled in three middle schools from three different school districts located in the coastal south. The sample’s mean school belonging score was 3.56 with a standard deviation of 0.81. Findings of this study suggest statistically significant positive correlations exist among student sense of school belonging and the learning climate scale, self-reported final grades in both reading and math, and participation in extracurricular activities. In regard to extracurricular activities, the findings of this study indicate statistically significant positive correlations exist among sense of school belonging and the total number of activities in which students participate, the amount of time spent involved in both school-sponsored and out-of-school activities, and the type of activity in which students participate. In addition, findings indicate a statistically significant negative correlation exists between sense of school belonging and frequency of discipline sanctions.
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"With ordinary talent and extraordinary perseverance, all things are attainable."

(Buxton, T.F., 1886, p. 8)
TABLE OF CONTENTS

ABSTRACT ................................................................................................................................. ii

ACKNOWLEDGMENTS .............................................................................................................. iii

LIST OF TABLES .......................................................................................................................... vi

CHAPTER

I. INTRODUCTION ......................................................................................................................... 1
   Statement of Purpose and Research Hypotheses
   Definition of Terms
   Limitations and Delimitations
   Assumptions
   Justification
   Summary and Organization of Study

II. REVIEW OF THEORY AND RELATED LITERATURE .................................................. 14
   Theoretical Foundations
   Introduction of the Literature Review
   Learning Climate
   Academic Achievement
   Extracurricular Activities
   Discipline Issues
   Summary and Organization of the Study

III. METHODOLOGY .................................................................................................................. 34
   Overview
   Research Hypotheses
   Research Design
   Participants
   Instrumentation
   Procedures
   Data Analysis
   Summary and Organization of the Study
IV. RESULTS

Introduction
Participant Demographics
Instrumentation
Analysis of Data
Summary and Organization of the Study

V. DISCUSSION

Introduction
Summary of the Study
Interpretation and Implications of Findings
Recommendations for Policy and Practice
Limitations and Delimitations
Recommendations for Future Research
Conclusion

APPENDIXES

REFERENCES
**LIST OF TABLES**

Table

1. School Belonging Score by School, Gender, and Race.................................47
2. School-Level Data: Percentages of Gender and Race ..................................48
3. School Belonging Scale: Sample Mean and School Means............................49
4. Learning Climate Scale: Sample Mean and School Means............................51
5. Percentages: Frequency of Discipline Sanctions...........................................52
6. Percentages: Self-Reported Final Reading Grades by School............................54
7. Percentages: Self-Reported Final Math Grades by School...............................54
8. Pearson Product-Moment Correlations............................................................56
9. Spearman’s Rank Order Correlations.............................................................57
10. Regression Coefficients for Hypothesis 7.......................................................60
11. Spearman’s Correlation among Activity Type and School Belonging Score......61
12. Regression Coefficients for Hypothesis 10.....................................................62
CHAPTER I
INTRODUCTION

The reauthorization of the Elementary and Secondary Education Act (ESEA) of 1965 as No Child Left Behind (NCLB) in 2002 has caused a sense of urgency for school leaders across the United States to do everything within their capacity to raise standardized test scores. This nationwide emphasis on standardized achievement tests as the primary measure of student achievement has placed a priority on accomplishment and achievement within the school system. Consequently, many educational institutions provide little systematic attention to the affective needs of the students within the school setting (Anderman & Maehr, 1994; Goodlad, 1984; Hargreaves, Earl, & Ryan, 1996; Maehr & Midgley, 1996; Noddings, 1992; Ryan & Powelson, 1991; Ryan & Stiller, 1991). Rather than creating school cultures based on community and collaboration, educational institutions are creating school cultures that instill individualism and competition (Osterman, 2000).

A fundamental reform needed in education is the transformation of schools into more caring and supportive communities for students (Hargreaves et al., 1996). Both academic and social factors influence a student’s sense of school belonging, and the laser-like focus on closing the achievement gap as required by NCLB has triggered a shift in the school community. Many students may not be performing at their optimal levels because the school community or environment that has been created out of the need to increase standardized test scores has not met the emotional and motivational needs of those students (Osterman, 2000).
In recognition of the importance of school belonging for social and emotional needs of students, the Centers for Disease Control and Prevention (2009) stated, “Families, schools, and communities all need to work together to create an environment that facilitates healthy development of children and adolescents” (p. 2). The Centers for Disease Control and Prevention (2009) identified six strategies to increase school connectedness:

1. Create decision-making processes that facilitate student, family, and community engagement; academic achievement; and staff empowerment.
2. Provide education and opportunities to enable families to be actively involved in their children’s academic and school life.
3. Provide students with the academic, emotional, and social skills necessary to be actively engaged in school.
4. Use effective classroom management and teaching methods to foster a positive learning environment.
5. Provide professional development and support for teachers and other school staff to enable them to meet the diverse cognitive, emotional, and social needs of children and adolescents.
6. Create trusting and caring relationships that promote open communication among administrators, teachers, staff, students, families, and communities.

(p. 9)

Adolescence has been characterized as a “high-risk” developmental period in which many students feel isolated and estranged within the educational environment (Calabrese, 1987; Goodenow, 1993). Although many adolescents pass through this
developmental stage without experiencing any lasting repercussions, a significant number of adolescents experience negative psychological changes which result from the incompatibility between their developmental needs and the opportunities provided from the social environment within the school setting (Eccles et al., 1993). Eccles and Midgley (1989) proposed the stage-environment fit approach which underscored the importance of the compatibility, or fit, between the educational environment and the psychological and developmental needs of the adolescent. The transition to middle school is associated with a decline in grades for many adolescents, and the significance of the drop in grades is predictive of future failure and the decision to drop out of school entirely (Simmons & Blythe, 1987). As the length of student’s tenure in middle school increased, the student’s sense of school belonging decreased (Anderman, 2003). Many negative changes for the adolescent, such as changes in motivation and behavior, coincide with the transition to middle school. Changes in motivation and behavior may be due to the incompatibility of the educational environment in which many of the changes are developmentally inappropriate, such as emphasizing social comparison and competition during a time when most adolescents are self-conscious among their peers and decreasing opportunities for decision-making in the classroom when most adolescents need a stronger sense of control in the classroom learning climate (Eccles & Midgley, 1989). Weiner (1990) explained the importance of the need for belongingness and the need for educators to view students’ motivational needs in the context of the school setting:

Belongingness must be brought into play when examining school motivation.

This has been implicitly part of the trend toward cooperative learning, but it must
be explicitly recognized and studied. In sum, school motivation cannot be
divorced from the social fabric in which it is embedded, which is one reason that
claims made upon motivational psychologists to produce achievement change
must be modest. There will be no “person-in-space” for the field of classroom
motivation unless there is corresponding social change. (p. 621)

Roeser, Midgley, and Urdan (1996) examined the correlation between students’
sense of belonging and personal achievement goals and concluded that a direct
relationship exists between a student’s sense of belonging and the student’s end of year
GPA. Anderman (2002) supported the finding that sense of belonging is positively
related to GPA. However, Anderman (2003) contended that a student’s sense of
belonging may be previously shaped by academic achievement; therefore, researchers
must be cautious when declaring that student sense of school belonging predicts
academic achievement. According to the investigation, both academic achievement and
sense of school belonging are interrelated.

Additionally, a higher sense of school belonging has been linked to classroom
climates that support autonomy (Hardre & Reeve, 2003). Prior research indicated that
students who perceived their classrooms as autonomy-supportive climates reported
higher levels of engagement and valuing of school (Ryan & Connell, 1989). The
classroom climate created by the teacher and instructional strategies used had a
significant influence on student sense of school belonging (Anderman, 2003). Utilizing
autonomy-supportive instructional practices, such as offering students choices in regard
to assignments and creating learning opportunities with the interests and future goals of
individual students in mind, increases sense of school belonging (Hardre & Reeve, 2003).
Offering students a choice will often increase motivation and academic engagement of students and creating activities which allows students to form personal connections with the information increases the likelihood that the information will be retained, which encourages active involvement, and may consequently increase sense of school belonging (Ingels, Scott, Lindmark, Frankel, & Myers, 1992).

Teacher-student relationships are an essential component of student sense of school belonging, and the quality of those relationships is associated with student motivation and attitudes toward the educational environment (Fraser & Fisher, 1982; Moos, 1979; Tricket & Moos, 1974). The quality of relationships that students have with their teachers in specific classes determines how they feel about school and their classwork (Osterman, 2000). McNeely, Nonnemaker, and Blum (2002) hypothesized that school belonging increased when teacher-student relationships were characterized by fairness and respect and classrooms were well-managed with minimal peer conflicts. Results indicated that as the classroom management climate declined, the overall school connectedness declined.

In addition to academic achievement and classroom learning climate, peer acceptance plays a substantial role in student sense of school belonging. A series of investigations concerning peer acceptance and peer status involving elementary students concluded that the more friends children are able to make and keep, the more successful the children were in the academic environment in regard to achievement (Ladd, 1990; Ladd & Coleman, 1997; Ladd, Herald-Brown, & Reiser, 2008; Ladd & Kochenderfer, 1996; Ladd, Price, & Hart, 1990). Additionally, studies involving peer rejection were conducted by Finn (1993) who found that students who suffer chronic peer rejection
become disengaged and seek to avoid the educational setting. In addition, rejection by most classmates restricts the rejected student’s ability to participate in educational activities and reduces the child’s learning experiences, consequently impacting the academic achievement of the peer-rejected student (Finn, 1993).

Brown and Evans (2002) suggested that more participation in extracurricular activities results in a higher sense of school belonging for students. Therefore, developing student participation in nonacademic programs may be just as vital as developing participation in academic programs (Anderman & Freeman, 2004). Ekstrom, Goertz, Pollack, and Rock (1986) reported that dropouts, who would benefit from participation in extracurricular activities, participate less in sports and other extracurricular activities than students who remain in school. Schools may need to reconsider the punitive policies which restrict many potential dropouts from participating due to grades (Finn, 1989). Additionally, students with disciplinary problems often have a decreased sense of school belonging which is perpetuated by restriction from school activities and social interaction (Beck, 1997). Prior research suggested participation in extracurricular activities may increase sense of school belonging and academic performance and may decrease dropouts and discipline problems (Feldman & Matjasko, 2005).

Although most students transition to middle school without any serious disciplinary problems, a significant number of adolescents experience disengagement and distress which manifest as disciplinary misconduct (Kruczek, Alexander, & Harris, 2005; Newman, Lohman, & Newman, 2007). The NCES reported that a total of 767,900 serious disciplinary actions were taken during the 2007-2008 school year consisting of
suspensions of five or more days, expulsions, and transfers to specialized schools (Robers & Truman, 2010). In acknowledgement of the extreme situations, the research on school avengers, such as in Columbine, indicated that the profile of such violent students is directly related to belongingness and acceptance in school. Leary, Kowalski, Smith, and Phillips (2003) conducted case studies of fifteen school shootings which occurred between 1995 and 2001, and acute or chronic rejection were present in all but two of the fifteen case studies. Fortunately, reports issued by the National Center for Education Statistics (NCES) indicated that general disciplinary misconduct was much more prevalent than violent incidents within the school setting (Robers & Truman, 2010).

Just as most students transition to middle school without substantial problems, most students find success while at middle school and continue on to high school to earn a diploma. However, many students do not find success. The National Educational Longitudinal Study of 1988 reported that twenty-five percent of the high school dropouts surveyed selected “I felt I didn’t belong at school” (Ingels et al., 1992, p. 12). High school dropouts reported the general reasons for leaving school were “I didn’t like school” as the main reason, followed by “I was failing school” and “I couldn’t keep up with my schoolwork” (Ingels et al., 1992, p.12). Miller, Leinhardt, and Zigmond (1987) described dropping-out of school as “a process of gradual disengagement from school” (p.12). Students need to feel successful in their academic endeavors when putting forth their best effort, and would benefit from being rewarded for those efforts. Too often, students feel disengaged and frustrated within the current educational system which rewards only academic excellence (Ingels et al., 1992).
Statement of Purpose and Research Hypotheses

Sense of school belonging has been defined as “a sense of psychological membership in the school or classroom, that is, the extent to which students feel personally accepted, respected, included, and supported by others in the school environment” (Goodenow & Grady, 1993, p. 80). Students spend a significant amount of time at school engaged in academic pursuits and involved in school-sponsored extracurricular activities which underscores the importance of establishing the sense of acceptance and belonging within the school community (Goodenow & Grady, 1993). While many educators are justifiably focusing on student achievement and the need to increase standardized test scores for accountability purposes, the emotional and motivational needs of many students are not being met and consequently may hinder the academic performance of those students (Osterman, 2000). The school environment, classroom environment, instructional strategies, prior academic achievement, participation in extracurricular activities, discipline issues, and peer acceptance all play a substantial role in student sense of school belonging.

The purpose of this study was to examine correlations among sense of school belonging and the classroom learning climate, previous academic achievement, frequency of disciplinary sanctions, and participation in extracurricular activities. The following research hypotheses were formulated to guide this research:

\[ \text{H}_1: \text{There will be a statistically significant relationship between student sense of school belonging score and student perception of the learning climate.} \]
H₂: There will be a statistically significant relationship between student sense of school belonging score and self-reported final grades in reading.

H₃: There will be a statistically significant relationship between student sense of school belonging score and self-reported final grades in math.

H₄: There will be a statistically significant relationship between student sense of school belonging score and the frequency of disciplinary sanctions.

H₅: There will be a statistically significant relationship between student sense of school belonging score and the amount of time spent per week involved in school-sponsored extracurricular activities.

H₆: There will be a statistically significant relationship between student sense of school belonging score and the amount of time spent per week involved in outside-of-school extracurricular activities.

H₇: The amount of time spent per week involved in school-sponsored extracurricular activities and the amount of time spent per week involved in outside-of-school extracurricular activities will significantly influence the school belonging score.

H₈: There will be a statistically significant relationship between school belonging score and the total number of school-sponsored and outside-of-school extracurricular activities.

H₉: There will be a statistically significant relationship between the school belonging score and the types of extracurricular activities.

H₁₀: Student perception of the learning climate, final grades in reading and math, frequency of discipline sanctions, total number of activities participated in, the
amount of time spent per week involved in school-sponsored extracurricular activities, and the amount of time spent per week involved in outside-of-school extracurricular activities will significantly influence the school belonging score.

Definition of Terms

Classroom peer rejection- how consensually disliked, relative to how consensually liked, a child is by members of his or her peer group (Bukowski & Hoza, 1989).

Cooperative participation- refers to children’s adoption of the “student role” and compliance with classroom social rules and expectations such as following directions, working on assigned tasks, and adhering to school and classroom rules (Buhs & Ladd, 2001; Wentzel, 1991).

Disciplinary sanction- for the purpose of this study is a punishment imposed as a result of breaking a law or rule and consists of a warning, in-school suspension, out-of-school suspension, expulsion, or placement in an alternative school.

Independent cooperation- refers to children’s propensity to take the initiative to independently seek out and pursue classroom activities (Buhs & Ladd, 2001; Wentzel, 1991).

Peer acceptance- refers to children’s relationships with members of their peer group and is defined in terms of group members’ sentiments toward the child, and the degree to which these sentiments become consensual (Ladd, Kochenderfer, & Coleman, 1997)

Peer status- student’s social position within the peer group or group relation (Ladd, 1990).
School adjustment—the degree to which children become comfortable, engaged, and successful in a school environment (Ladd, 1996).

School-associated violent death—a homicide, suicide, or legal intervention (involving a law enforcement officer), in which the fatal injury occurred on the campus of a functioning elementary or secondary school in the United States including those that occurred while the victim was on the way to or returning from regular sessions at school or while the victim was attending or traveling to or from an official school-sponsored event (NCES, 2011).

School belonging—a sense of psychological membership in the school or classroom, that is, the extent to which students feel personally accepted, respected, included, and supported by others in the school environment (Goodenow & Grady, 1993). For the purpose of this study, school belonging is measured by the school belonging score from the PSSM scale.

School-sponsored extracurricular activities—any extracurricular activity that is not part of the academic curriculum but is sponsored by and usually held at the school. These activities often require a time commitment outside of the regular school hours.

Limitations and Delimitations

1. The participants in this study were limited to eighth grade middle school students enrolled in three public schools in the coastal south.

2. The findings of this study are generalizable only to those middle schools in the coastal south which were selected and participated in the study.

3. The findings of this study were limited to self-reported data.
4. The participants in this study were required to obtain parent permission; therefore, this study may have been limited to students with higher levels of parental involvement.

5. Participation in this study was voluntary and required student assent; therefore, this study may have been limited to inherently participatory students with higher levels of academic interest.

Assumptions

1. Participants in this study responded honestly to the items on the questionnaire.

2. Participants in this study interpreted all items on the questionnaire as intended.

Justification

Investigating the factors associated with student sense of school belonging allowed the researcher to contribute to the existing literature regarding the relationships among sense of school belonging and classroom learning climate, academic achievement, discipline issues, and participation in extracurricular activities. Additionally, this research was conducted to add to the knowledge base regarding extracurricular activities by examining the relationships between student sense of school belonging and the total number of activities in which the student participated, amount of time spent per week participating, and the type of activities in which the student participated.

Data provided represents the importance for training within the schools in regard to identifying and implementing the necessary interventions and strategies to increase student sense of school belonging within the classroom and school-wide setting. Results of this study will be available to school leaders when selecting professional development and training opportunities in regard to increasing student sense of school belonging.
Summary and Organization of the Study

In Chapter I, the researcher introduced the study and provided the necessary theoretical framework. The researcher proposed a statement of the problem investigated and provided the research hypotheses that guided the study. The researcher has provided justification for the study through discussion of the potential benefits of the study. In Chapter II, the researcher will provide an overview of existing literature. Methodology will be presented in Chapter III. In Chapter IV, the results of the study will be presented. In Chapter V, the researcher will present a summary of the study, conclusions, implications for practice, and recommendations for future research.
CHAPTER II
REVIEW OF THEORY AND RELATED LITERATURE

Theoretical Foundations

Due to the amount of time that students spend in the school environment, a positive sense of school belonging is of utmost importance for the academic and social development of the student. As purported by Baumeister and Leary (1995) who conducted an extensive review of the available literature concerning the need to belong as a fundamental human motivation, people have an innate need and pervasive drive to develop positive interpersonal relationships and belong to social groups. The belongingness theory of Baumeister and Leary (1995) suggested that humans are motivated to “form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships” (p.497). According to the belongingness theory (Baumeister & Leary, 1995), two criteria must be met. First, humans have a need to develop frequent, pleasant interactions with a few people. Secondly, those interactions need to take place within a stable environment of affective concern for each other. In agreement with the belongingness theory, Hoyle and Crawford (1994) found that daily interactions and involvement in activities are a vital component of belongingness. Humans who do not develop social belonging will suffer ill effects such as maladjustment, stress, and behavioral problems (Baumeister & Leary, 1995).

Baumeister and Leary (1995) pointed to an evolutionary basis for the human need to develop social belonging. From an evolutionary standpoint, survival and reproductive benefits are increased when belonging to a social group. Children who form significant attachments to adults are more likely to survive until their reproductive years while
receiving food, care, and protection from the adults with whom they have formed bonds. Baumeister and Leary (1995) suggested that belonging to social groups provided a pool of potential mates and created the opportunity to share the responsibility for caring for offspring. Forming social groups also allowed for the sharing of food and the sharing of hunting and gathering responsibilities. In addition, there is the protective value of group membership in regard to defense against potential enemies that may threaten the well-being of the individual or the group (Baumeister & Leary, 1995).

The suggestion that the need for belonging is biological within the animal species was demonstrated by an experiment conducted by Masserman, Wechkin, and Terris (1964) using rhesus monkeys. The rhesus monkeys were taught to pull a chain in order to receive food. The researchers later added the contingency that pulling the chain would deliver a shock to another monkey. Researchers found that the rhesus monkeys would refrain from pulling the chain, to the point of starvation, when the other monkey had previously been a cage mate. However, when the monkeys were strangers and had not formed a bond, the monkeys would only refrain from shocking the other about one-third of the time (Masserman, Wechkin, & Terris, 1964).

Maslow’s motivational theory (Maslow, 1954) proposed a hierarchy of human needs which conceptualized his theory of human motivation based on deficiency needs and growth needs. Within the deficiency needs, which are the first four levels of the hierarchy, each need must be satisfied before progressing to a higher level need. The most basic needs in the hierarchy are the physiological needs of a person such as the need for food and water. Once the physiological needs are remedied, a new set of needs emerge as the need for safety. Safety needs are at the foundation of human desire to seek
familiar things as opposed to the unfamiliar. Similarly, the need for safety is at the origin of children’s predisposition to require a predictable, orderly world in which routines are not disrupted. Physiological and safety needs must be gratified before ascending to the next level in the hierarchy of needs, which addresses the need for love.

*Love needs* are associated with the human need for love, affection, and belongingness. In order to satisfy the love needs, affectionate relations must be developed and a place within the peer group secured. Hindering a person’s gratification of the need for love, affection, and belongingness may lead to maladjustment (Maslow, 1943). *Esteem needs* are related to the desire for self-respect and self-esteem and are based on actual achievement and the respect of others. Within this level of the hierarchy, emphasis is placed on gaining the approval and recognition of others. Fulfillment of the esteem needs leads to self-confidence, while an unfulfilled need for esteem may lead to feelings of inferiority and helplessness (Maslow, 1943). Once all deficiency needs are satisfied, the growth needs emerge. Maslow (1954) initially conceptualized one growth need, *self-actualization*, or the realization of one’s own potential and the quest for self-fulfillment. Maslow (1943) simplified the concept of self-actualization with the statement, “What a man can be, he must be” (p. 382).

Adler’s (1937) motivational theory shifted throughout the course of his work from an emphasis on inferiority, to an emphasis on striving for social superiority, and later to an evolutionary emphasis concerned with the human need to belong and contribute to society. Adler’s (1937) statement, “In a competitive and demeaning environment, the individual may not develop full social feeling, yet this potential lies within every human being” (p. 114), supports the research of Osterman (2000) which concluded that schools
need to be caring and supportive communities in which students can reach their full potential. “It is most important to instill in early life the idea of community and mankind,” (Adler, 1937, p. 119).

*Attachment theory* places emphasis on children’s expectations of others either meeting their needs or rejecting them (Ainsworth, 1989; Bowlby, 1973). Expectations that are developed depend on the reliability in which the needs were met during early childhood. Attachment theory suggests that when needs are met during early childhood, the child develops the expectation of acceptance and support. Conversely, when needs are not met or met with rejection, the child develops fears and doubts regarding acceptance and support (Bowlby, 1973). Bowlby (1973) proposed that a defensive response, manifested as anger or anxiety, will usually follow the perceived rejection, and expectations are continuously modified by future experiences. Downey, Lebolt, Rincon, and Freitas (1998) expounded on attachment theory to include the defensive expectations of rejection by proposing that rejection-sensitive individuals continuously scrutinize others for signs of rejection, regardless of how minimal or ambiguous the signs may be. Rejection-sensitive individuals perceive rejection, feel rejected, and overreact both affectively and behaviorally which consequently undermines relationships (Downey & Feldman, 1996; Downey, et al., 1998).

**Introduction of the Literature Review**

Students’ sense of school belonging has been defined as “a sense of psychological membership in the school or classroom, that is, the extent to which students feel personally accepted, respected, included, and supported by others in the school environment” (Goodenow & Grady, 1993, p. 80). The school environment, classroom
environment, instructional strategies, prior academic achievement, participation in extracurricular activities, discipline issues, and peer acceptance all play a substantial role in student sense of school belonging. Students spend a significant amount of time at school engaged in academic pursuits and involved in school-sponsored extracurricular activities which underscores the importance of establishing the students’ sense of acceptance and belonging within the school community. The purpose of this research is to determine if a correlation exists among sense of school belonging and the classroom learning climate, previous academic achievement, frequency of disciplinary sanctions, and participation in extracurricular activities.

Learning Climate

Methods of instruction, teacher support, and authority relationships between teachers and students are three main attributes that have a significant influence on student sense of school belonging (Osterman, 2000). Teachers’ practices at the classroom level can have a significant effect on their students’ sense of school belonging. Prior research indicated students who perceive their classrooms as autonomy-supportive climates report higher levels of engagement and valuing of school (Ryan & Connell, 1989). Anderman (2003) measured student sense of school belonging in middle school students in relation to the classroom instructional strategies and classroom learning climate and found that the learning climate created by the teacher and the instructional strategies used significantly influenced student sense of school belonging. Data were collected from 618 students at three points in time over sixth and seventh grade. Higher levels of belonging were reported by students who perceived their classes as task-goal oriented with an emphasis placed on personal effort, improvement, and mastery which allowed students to
feel less alienated (Anderman, 2003). Middle school students’ perceptions that their teachers emphasized a task-goal orientation were shown to predict more positive school related affect (Anderman, 1999).

Goal orientation theory, which focuses on perceived meanings and purposes of academic work, describes a task-oriented classroom environment as one in which personal improvement, effort, and progress are emphasized as both the purposes of academic tasks and the measure of success (Ames & Archer, 1988). Students have an increased sense of school belonging when an emphasis is placed on personal improvement and progress, when learning and achievement are individualized, and there is a “success for all” atmosphere in the classroom as well as school-wide (Ames & Archer, 1988).

In concurrence with Ames and Archer (1988), Eccles’s model of task value (Eccles & Midgley, 1993) suggested that a student’s subjective valuing of the tasks assigned to them predicted a student’s sense of school belonging. Eccles’s model of task value includes the three dimensions of intrinsic value, utility value, and attainment value. The basic assumption of this model contends that students value assigned academic tasks that they consider to be useful, interesting, and important. However, there is significant evidence of differences in perceived task values due to teachers’ instructional practices (Eccles & Midgley, 1993).

According to Leithwood, Cousins, Jantzi, and Patsula (1996), quality of instruction provided by the teacher in the classroom accounted for 46 percent of the variance in student sense of belonging. Active participation and engagement in class activities are associated with student sense of class belonging (Freeman & Anderman,
2002; Soloman et al., 1996). Levels of classroom participation are linked to student sense of belonging in which participation levels decline when students experience risk; however, as students’ sense of belonging increases, their sense of risk decreases and participation increases (Johnson, Lutzow, Strothoff, & Zannis, 1995). In regard to student interest and engagement in school, teachers have the strongest and most direct influence on students (Osterman, 2000). Wentzel (1998) concluded that support provided by the teacher, as opposed to parental support and peer support, was the only type of support that proved to contribute significantly to student interest or engagement in class.

Effective instructional practices require teachers to teach students how to learn the material being covered (Sousa, 2003). Sousa (2003) affirmed that new knowledge and skills must be made relevant to the student. When students form a personal connection with the information or lesson that they are learning, it is much more likely that the students will retain the information or skill and become actively involved which increases student sense of belonging (Ingels, Scott, Lindmark, Frankel, & Myers, 1992). Offering students a choice, as opposed to a passive learning assignment, will often increase motivation and academic engagement (Ingels et al., 1992). Effective strategies utilized in the classroom may deter students from deciding to leave school, and it would be beneficial to relate classroom activities to the students’ lives and future goals to make learning relevant and useful. According to Ingels et al. (1992), many dropouts perceive classroom tasks to be boring and meaningless to their day-to-day lives. Passive classroom assignments do not invoke intrinsic motivation because the activities lack interest and relevance to students’ experiences and futures; therefore, student interests
should be reflected in content and activities (Ingels et al., 1992; Marzano, 2007). Integrating career emphases, both academic and vocational, and applying real-world problems into the classroom activities would provide the relevance necessary to engage students in the activities (Ingels et al., 1992).

Danielson (2007) suggested that while communicating with students, teachers should state expectations for learning and course content and discuss directions and procedures. During class, teachers utilize discussion techniques and quality questions to engage students in active dialogue to encourage active participation which increases student sense of belonging (Leithwood et al., 1996). Effective classroom practices consist of a learner-centered teaching style and good classroom management skills (Opdenakker & VanDamme, 2006). Utilizing learner-centered practices has been shown to increase student sense of school belonging (Urciuoli, 2007).

Teachers set expectations for learning and achievement that stress the importance of the content being learned and create a well-managed environment where students show pride in their work. Setting clear expectations of behavior and then monitoring and responding to student behavior in a consistent and fair manner increases student sense of belonging (McNeely et al., 2002). Marzano (2007) offered suggestions on how to establish and maintain rules and procedures in the classroom, which include having a small set of rules and procedures that are explained to and practiced by the students, and the rules and procedures are periodically reviewed to make any necessary changes. McNeely, Nonnemaker, and Blum (2002) purported that school belonging increased when teacher-student relationships were characterized by fairness and respect and classrooms were well-managed with minimal peer conflicts. Results indicated that as the
classroom management climate improved, the reported levels of “connectedness” increased.

**Teacher/Student Relationships**

Teacher-student relationships are a key component of student sense of school belonging, and the quality of those relationships is associated with student motivation and attitudes toward the educational environment (Fraser & Fisher, 1982; Moos, 1979; Tricket & Moos, 1974). The quality of relationships that students have with their teachers in specific classes determines how they feel about school and their classwork (Osterman, 2000). Danielson (2007) proposed that teachers are required to understand child and adolescent development, understand the learning process, and possess an awareness of students’ interests and cultural heritage. A teacher must be able to successfully manage interactions between the teacher and students and student interactions with each other (Danielson, 2007). Students who feel more secure with teachers and view teachers as sources of support are more engaged and exhibit stronger coping behavior (Ryan, Stiller, & Lynch, 1994). Conversely, those students who do not feel secure with teachers and do not view teachers as sources of support exhibit lower school adaptation, motivation, and self-esteem (Ryan et al., 1994).

Furrer and Skinner (2003) conducted an investigation involving 641 students in third grade through sixth grade to determine the relationship between sense of relatedness and academic motivation. Children felt happy and comfortable in the classroom and involvement in activities was reported to be interesting and fun when students felt appreciated by their teachers (Furrer & Skinner, 2003). Furrer and Skinner (2003) suggested that building the quality of children’s relationships should be a priority for
schools. McNeely et al. (2002) cited the results of a study utilizing a nationally representative sample in which students reported a lack of school “connectedness” when the students perceived that teacher-student relationships were not characterized by respect and fairness, the classrooms were managed poorly, and conflicting relationships existed among peers.

Student sense of school belonging is influenced by factors other than achievement and motivation and must be affected by the social dimensions of the school (Anderman & Freeman, 2004; Osterman, 2000). The use of cooperative learning and integration of social skills training in the classroom is an effective step in promoting social and character goals (Willert, 2000). Effective cooperative learning environments provide the opportunity to reinforce the desired social behaviors on a daily basis. While working together in groups, students realize that the outcome will affect all students in the group, and this realization may change a student’s attitude toward being involved in classroom activities because cooperative learning evokes "stronger beliefs that one is personally liked, supported, and accepted by other students, that other students care about how much one learns, and that other students want to help one learn" (Johnson, Johnson, & Maruyama, 1983, p. 33). Dewey (1958) argued that the quality of education “is realized in the degree in which individuals form a group” (p. 65).

According to Dewey (1958), it is the responsibility of the school and teachers to encourage a sense of community by developing activities in which all participants contribute. When developing cooperative learning activities, it is important for teachers to determine the roles and responsibilities of each group member to ensure equal participation of all students. According to the expectation states theory (Berger, Cohen,
& Zelditch, 1972), when a group is faced with a collective task, participants look for ways to judge the usefulness of their own contributions and those of others in the group, and in the absence of direct information, students use status characteristics to make this judgment even if these characteristics have no direct relevance to the task. Therefore, students with a high peer status tend to interact more and learn more from a group activity than students with a low peer status (Wilkinson & Fung, 2002). However, teachers have the ability to counteract the differences in peer status and equalize participation by assigning student roles, requiring students to integrate their expertise and multiple abilities, and publicly acknowledging the contributions of the students with low peer status (Wilkinson & Fung, 2002). Assigning student roles allows the teacher to structure the cooperative learning assignment to reward group effort for task completion and reward the participation of individual members. Structuring the cooperative learning assignment in this manner creates a quality of interaction that would not be present under competitive or individualistic learning conditions, because the members of the group need each other (Osterman, 2000).

Peer Relationships

Peer group membership during the middle school years is associated with increased interest, enjoyment, and academic engagement (Wentzel & Caldwell, 1997), and peer relations emerge during adolescence as a fundamental dimension of students’ affective response to school (Hamm & Faircloth, 2005a; Juvonen, 2006; Newman, Lohman, & Newman, 2007). Ladd, Kochenderfer, and Coleman (1997) stated, “Peer acceptance refers to children’s relationships with members of their peer group (e.g., classmates) and is defined in terms of group members’ sentiments (i.e., liking versus
disliking) toward the child, and the degree to which these sentiments become consensual” (p. 1183). The prevailing hypotheses concerning peer acceptance and adjustment are derived from the supposition that the quality of interactions with group members and admission into peer activities is determined by the child’s peer group reputation (Ladd & Kochenderfer, 1996). One of the strongest predictors of school adjustment is classroom peer rejection (Bukowski & Hoza, 1989). Student sense of school belonging is influenced by peer groups which influence a number of dispositions toward the educational environment (Hamm & Faircloth, 2005b; Kinderman, 1993, 2007; Newman, Lohman, & Newman, 2007).

In an earlier investigation, Ladd (1990) measured 125 kindergarten children’s classroom peer relationships at school entrance, after two months of school, and at the end of the school year to determine if peer relations predicted school adjustment. Findings from this study supported the hypothesis that early classroom peer relations are predictors of later school adjustment. It is more difficult for children with poor academic skills, anxious feelings regarding the classroom, and a desire to seek avoidance to make friends and become accepted by classmates (Ladd, 1990).

Ladd, Kochenderfer, and Coleman (1997) gathered relationship measures for 200 kindergarten students during the fall and spring semesters to predict changes in school adjustment over time. Ladd et al. (1997) investigated the link between the types of peer relationships the children participated in and proposed that relationships make differential contributions to adjustment. The investigation supported the hypothesis that children’s peer relationships contributed to their school adjustment.
Ladd (1990) obtained measures of 125 kindergarteners’ peer relationships in the classroom. Results indicated that children who are able to make new friends tended to show gains in academic performance over the school year. As children make new friends, their environment becomes more familiar and supportive, which allows children to confront new tasks in order to heighten learning and competence (Bronfenbrenner, 1979). Additionally, the study conducted by Ladd (1990) investigated the potential significance of children’s early peer status among classmates and determined that “early peer rejection predicted less favorable school attitudes, increasing school avoidance, and lower levels of performance over the course of kindergarten” (p. 1097). Furthermore, it was indicated based on the review of the study that the earlier in the school year the peer rejection occurs, the more likely the students will face greater difficulty in attaining partners for classroom activities and are at risk of wandering aimlessly from one activity to another in search of classroom companions (Ladd, Price, & Hart, 1990).

Prior research suggests that peer rejection predicts possible negative consequences for kindergarten students and may predict negative consequences for those students in subsequent grades. Buhs, Ladd, and Herald (2006) gathered data from a sample of 380 children who were initially followed as part of a larger, longitudinal study regarding psychological and school adjustment from the ages of five to eleven. The investigation discovered that students who were not accepted by their kindergarten classmates were at a higher risk of maltreatment by their classmates in subsequent grades; chronic maltreatment predicted school disengagement in future grades; achievement in middle grades was affected by chronic peer exclusion and decreased classroom participation. According to Buhs et al. (2006), the finding that peer exclusion
reduces classroom participation and delays academic achievement necessitates further study.

Ladd, Herald-Brown, and Reiser (2008) conducted an investigation to expound upon the existing knowledge regarding the relationship between classroom peer rejection and independent and cooperative participation of students from kindergarten to sixth grade. Ladd et al. (2008) utilized a sample of 398 children to conduct a longitudinal study examining participation trajectories for individual students and groups of students during periods of rejection and after the rejection had ceased. Ladd et al. (2008) based their research on the key tenets of rejection-related processes including:

(a) children who become collectively disliked (i.e., rejected) by classmates are increasingly subjected to peer-imposed maltreatment, including interpersonal constraints (e.g., ignoring, avoidance, and exclusion) and abuse (i.e., ridicule, harassment, and physical harm), and

(b) exposure to, and especially, sustained experience with these rejection processes not only restrict children’s opportunities to participate in classroom activities but also discourages productive forms of classroom engagement (e.g., reduces children’s motivation to seek out learning activities, interact cooperatively with classmates). (p. 1002)

Children are more likely to develop adjustment problems and more serious psychological difficulties when they are subjected to chronic peer rejection which is sustained rather than transient (Burks, Dodge, & Price, 1995). Likewise, Ladd et al. (2008) found that the longer children were exposed to rejection, the more likely the children were to develop serious psychological difficulties. In addition to restricting the
development of cooperative classroom participation, detachment from the classroom culture and resistance to classroom culture are forms of behavioral disengagement that are caused by chronic peer rejection (Finn, 1993). “If rejected children are persistently entrenched in classroom environments where their initiatives are ignored, ridiculed, or otherwise demeaned by classmates, then they may learn to refrain from such behaviors as a means of protecting themselves from further abuse” (Ladd et al., 2008, p.1004).

Ladd et al. (2008) substantiated previous hypotheses that rejected students are less likely to be engaged. The investigation confirmed that there was little or no growth in either independent or cooperative participation when rejected students were actively experiencing the rejection; therefore, peer rejection appears to be detrimental to both forms of participation, independent and cooperative participation. In order to maximize academic achievement, students must be able to cultivate both cooperative and independent participation (Finn, 1989, 1993; Fredricks, Blumenfeld, & Paris, 2004; Ladd, Buhs, & Seid, 2000; Wentzel, 1991).

Although the body of research points to few favorable outcomes for peer-rejected students, the findings of Ladd et al. (2008) suggested that it may be possible for previously rejected children to recover after chronic peer rejection had ceased. The study found that students in kindergarten through third grade who sustained a period of chronic peer rejection followed by non-rejection for the same period of time demonstrated an increase in participation after the cessation of rejection. Prior research suggested peer rejection pointed toward irreversible disengagement even after peer rejection had ceased. Conversely, this study indicated that upon transition from rejection toward acceptance the
students who suffered chronic peer rejection demonstrated an increase in classroom participation (Ladd et al., 2008).

Academic Achievement

Student sense of school belonging has been found to be related to academic achievement and motivation (Goodenow, 1992; Linnenbrick & Pintrich, 2000; Solomon, Battistich, Kim, & Watson, 1996). Findings from a study consisting of 198 seventh grade and eighth grade students conducted by Goodenow and Grady (1993) indicated school belonging was significantly associated with motivation, experiences of academic success, valuing homework assignments, and interest in school. Prior research indicated a positive relationship between the student’s sense of school belonging and the student’s academic achievement (Goodenow, 1992; Linnenbrick & Pintrich, 2000; Solomon et al, 1996).

According to an investigation conducted by Anderman (2003) utilizing a sample of 618 sixth grade and seventh grade students, students with higher grades reported higher levels of school belonging. However, Anderman concluded that student sense of school belonging may be previously shaped by academic achievement; therefore, researchers must be cautious when declaring that student sense of school belonging predicts academic achievement. A student’s academic record is highly likely to influence the student’s sense of school belonging, and schools that emphasize high levels of achievements and grades will reinforce the sense of school belonging for those students who are high academic performers. Conversely, it is more difficult for lower performing students to develop a legitimate sense of belonging in schools which emphasize high levels of achievement (Anderman, 2003).
Anderman (2003) cautioned that although the relationship may be reciprocally related over time, it does not confirm that improving a student’s sense of school belonging will necessarily increase academic achievement for the student in the future. The positive association between school belonging and academic achievement may be attributable to students with higher levels of academic achievement feeling more liked and respected by their peers and teachers as opposed to students with lower levels of academic achievement (Anderman, 2003; Calabrese, 1987).

Extracurricular Activities

Increased participation in extracurricular activities resulted in a positive correlation with a higher sense of school belonging (Brown & Evans, 2002). Fredericks and Eccles (2005), expanding on the work of Eccles and Barber (1999), examined the prior data from the Childhood and Beyond Study to determine the correlation between extracurricular participation and indicators of perceived school belonging. Data were utilized from when the students were in the ninth, tenth, and twelfth grades with a sample size of 498. Fredericks and Eccles (2005) reported that participation in extracurricular activities and structured events resulted in positive school belonging. Additionally, the authors investigated developmental benefits of extracurricular activities in regard to activity type. Student athletes, student pep club members, and student government members all reported a higher sense of school belonging than nonparticipants. Conversely, students involved in the performing arts and other academic clubs did not report the same level of perceived school belonging. Fredericks and Eccles (2005) surmised that the difference in perceived level of school belonging may be due to the status given to student athletes and student government representatives. Additionally,
time involved in extracurricular activities was positively associated with school belonging. The authors conducted a later investigation in which the findings suggested that longer duration of participation in extracurricular activities was positively correlated with school belonging, and the total number of activities in which the students participated predicted student sense of school belonging (Fredericks & Eccles, 2006).

Feldman and Matjasko (2005) supported the argument that participation in various structured, school-based extracurricular activities not only increases sense of belonging, but increases academic performance, decreases discipline problems, and decreases the dropout rate. Ekstrom, Goertz, Pollack, and Rock (1986) reported that dropouts participate less in sports and other extracurricular activities than students who remain in school. In many cases, students at risk of dropping out would benefit from being involved in extracurricular activities (Ekstrom et al., 1986). Low or failing grades are predictors for students at risk of leaving school; therefore, many potential dropouts may not have maintained the grades necessary to participate in extracurricular activities (Finn, 1989). Due to the counterproductive nature of the punitive policies that surround extracurricular activities and the potential benefits to students who remain involved in activities, Finn (1989) suggested that high schools reconsider those policies. Additionally, Holland and Andre (1987) suggested that involvement in extracurricular activities allow students the opportunities and experiences that further the total overall development of the student. Anderman and Freeman (2004) concluded that it may be just as vital to develop student participation in nonacademic programs as academic programs.
Discipline Issues

A significant number of adolescents experience disengagement and distress which manifest as disciplinary misconduct during the transitional middle school years (Krucek, Alexander, & Harris, 2005). Students with disciplinary problems often have a decreased sense of school belonging which is perpetuated by the restriction of school activities and social interaction (Beck, 1997). Within the public school setting, general disciplinary misconduct is much more prevalent than violent incidents or incidents requiring serious discipline actions (Robers & Truman, 2010). The NCES reported that a total of 767,900 serious disciplinary actions were taken during the 2007-2008 school year by 46% of public schools. Serious disciplinary actions consisted of suspensions of five or more days, expulsions, and transfers to specialized schools (Robers & Truman, 2010). With disciplinary actions seemingly on the rise, apprehension exists regarding the actual effectiveness of disciplinary actions. Christle, Jolivette, and Nelson (2005) stated that suspensions are not effective at addressing student needs. In addition, Passaro, Moon, Weist, and Wong (2004) purported that traditional discipline methods are not effective at decreasing problem behaviors and suggested utilizing a more “therapeutic intervention.”

According to the study conducted by McNeely, Nonnemaker, and Blum (2002), overall school belonging was lower in schools with strict discipline policies such as schools which expelled students for relatively minor infractions in comparison to schools which had much more lenient discipline policies.

During the 2008-2009 school-year, preliminary reports indicated that thirty-eight school-associated violent deaths, consisting of twenty-four homicides and fourteen suicides, occurred at elementary and secondary schools in the United States (Robers &
Truman, 2010). The second leading cause of adolescent death in the United States is teen suicide, in which many of those suicides are triggered by school-based incidents (Osterman, 2000). Additionally, the research on school avengers, such as in Columbine, indicated that the profile of such violent students is directly related to belongingness and acceptance in school. Leary, Kowalski, Smith, and Phillips (2003) conducted case studies of fifteen school shootings which occurred between 1995 and 2001. Acute or chronic rejection was present in all but two of the fifteen case studies. Dwyer, Osher, and Warger (1998) suggested that the early warning-signs of potential violent behavior are isolation and social withdrawal.

Summary and Organization of the Study

In Chapter II, the researcher provided an overview of existing literature. Methodology will be presented in Chapter III. In Chapter IV, the results of the study will be presented. In Chapter V, the researcher will present a summary of the study, conclusions, implications for practice, and recommendations for future research.
CHAPTER III

METHODOLOGY

Overview

Students’ sense of school belonging has been defined as “a sense of psychological membership in the school or classroom, that is, the extent to which students feel personally accepted, respected, included, and supported by others in the school environment” (Goodenow & Grady, 1993, p. 80). The classroom learning climate, previous academic achievement, participation in extracurricular activities, and frequency of discipline sanctions all play a substantial role in sense of school belonging. Students spend a significant amount of time at school engaged in academic pursuits and involved in school-related activities which underscores the importance of establishing the sense of acceptance and belonging within the school community (Goodenow & Grady, 1993).

The purpose of this study is to examine correlations among student sense of school belonging and student perception of the classroom learning climate, academic achievement, frequency of disciplinary sanctions, and extracurricular involvement. To examine student sense of school belonging, a sample of eighth grade students enrolled at three middle schools in the coastal south completed the Middle School Student Sense of Belonging Questionnaire (Appendix A) which was developed specifically for this study. The Middle School Student Sense of Belonging Questionnaire includes all items from the Psychological Sense of School Membership Scale (Goodenow, 1993) and the Learning Climate Questionnaire (LCQ) along with student questionnaire survey items from the National Education Longitudinal Study of 1988 (NELS: 88), the High School
Longitudinal Study of 2009 (HSLS: 09), and the Education Longitudinal Study of 2002 (ELS: 2002).

Research Hypotheses

The purpose of this study was to examine correlations among student sense of school belonging and the classroom learning climate, previous academic achievement, frequency of disciplinary sanctions, and participation in extracurricular activities. The following research hypotheses were formulated to guide this research:

H₁: There will be a statistically significant relationship between student sense of school belonging score and student perception of the learning climate.

H₂: There will be a statistically significant relationship between student sense of school belonging score and self-reported final grades in reading.

H₃: There will be a statistically significant relationship between student sense of school belonging score and self-reported final grades in math.

H₄: There will be a statistically significant relationship between student sense of school belonging score and the frequency of disciplinary sanctions.

H₅: There will be a statistically significant relationship between student sense of school belonging score and the amount of time spent per week involved in school-sponsored extracurricular activities.

H₆: There will be a statistically significant relationship between student sense of school belonging score and the amount of time spent per week involved in outside-of-school extracurricular activities.

H₇: The amount of time spent per week involved in school-sponsored extracurricular activities and the amount of time spent per week involved in
outside-of-school extracurricular activities will significantly influence the school belonging score.

H₈: There will be a statistically significant relationship between school belonging score and the total number of school-sponsored and outside-of-school extracurricular activities.

H₉: There will be a statistically significant relationship between the school belonging score and the type of extracurricular activities.

H₁₀: Student perception of the learning climate, final grades in reading and math, frequency of discipline sanctions, total number of activities participated in, the amount of time spent per week involved in school-sponsored extracurricular activities, and the amount of time spent per week involved in outside-of-school extracurricular activities will significantly influence the school belonging score.

Research Design

The research design for this study is descriptive and correlational. The variable, student sense of school belonging score, was measured by the scores from the Psychological Sense of School Membership Scale (Goodenow, 1993) of participants from three middle schools in the coastal south. Eight additional variables of interest were evaluated for their correlations in this study:

1. Learning climate score
2. Self-reported final grades in reading
3. Self-reported final grades in math
4. Self-reported frequency of disciplinary sanctions
5. Time spent per week involved in school-sponsored extracurricular activities
6. Time spent per week involved in outside-of-school extracurricular activities
7. Total number of activities
8. Type of activity

Student sense of school belonging was measured by the score from the Psychological Sense of School Membership Scale (PSSM). Student sense of school belonging has a possible scale range from 1.0 to 5.0. A higher score indicates a higher sense of school belonging. The Learning Climate Scale within the Middle School Student Sense of Belonging Questionnaire was derived from utilizing all items from the LCQ. The LCQ was designed to measure student perception of the learning environment regarding the degree to which the social context is autonomy supportive to characterize the quality of the learning environment. The LCQ is a 15-item scale in which responses are in a 7-point horizontal, numeric-scale format, ranging from Strongly disagree (1) to Strongly agree (7). Scores on the 15-item LCQ are calculated by averaging the individual item scores after reverse-coding item number thirteen of the LCQ. Higher scores indicate greater perceived autonomy support.

Self-reported final grades in reading and math were measured by student responses to the questions: “What was your final grade in reading last year?” and “What was your final grade in math last year?” from the HSLS: 09 Student Questionnaire. Self-reported grades were assessed on a 6-point scale based on the responses: A or a numerical average of 90-100, B or a numerical average of 80-89, C or a numerical average of 70-79, D or a numerical average of 60-69, Below D or a numerical average less than 60, or Does not apply to me – my classes are not graded. Self-reported grades have been found to accurately portray student grades (Kuncel, Crede, & Thomas, 2005;
Yonkers, 1987) and to be adequately correlated ($r = .76$) with students' actual grades (Dornbush, Ritter, Leidermen, Roberts, & Fraleigh, 1987; Faircloth & Hamm, 2005).

Frequency of discipline sanctions was determined by student responses regarding the overarching question: “How many times did the following things happen to you during the last school year?” Severity of discipline actions will be ascertained by the following statements: “I got into trouble for not following school rules,” “I was put on in-school suspension,” “I was suspended from school,” and “I was transferred to another school for disciplinary reasons.” The frequencies were assessed on a 5-point scale with student responses ranging from: Never, 1-2 times, 3-6 times, 7-9 times, 10 or more times. Items on the student questionnaire regarding frequency of discipline sanctions have been excerpted from the ELS: 2002 Student Questionnaire.

Amount of time spent per week participating in school-sponsored extracurricular activities was determined by the response to the question “In a typical week, how much time do you spend on school-sponsored extracurricular activities (for example, sports, school clubs)?” from the HSLS: 09 Student Questionnaire. The amount of time was assessed on a 5-point scale with student responses ranging from None, 1-2 hours, 3-6 hours, 7-9 hours, to 10 or more hours.

Amount of time spent per week participating in out-of-school extracurricular activities was determined by the response to the question “In a typical week, how much time do you spend on out-of-school extracurricular activities (for example, sports, clubs)?” from the HSLS: 09 Student Questionnaire. The amount of time was assessed on a 5-point scale with student responses ranging from None, 1-2 hours, 3-6 hours, 7-9 hours, to 10 or more hours.
Based on the previous work of Fredericks and Eccles (2006), the two additional measures, total activities and activity types, were created. The total activities measure was created by summing the number of school-sponsored activities and outside-of-school activities which the participants selected on the questionnaire as having participated in as either a member or as a leader or officer. The activity type measure was created by aggregating school-sponsored and out-of-school activities into five categories: sports, pro-social, performing arts, academic, and school involvement. Participation in one or more activities in each of the five categories of activities produced a dichotomous measure of activity type in which the student either did or did not participate in at least one activity in the category.

Participants
The convenience sample of 264 student participants was drawn from a population of approximately 860 eighth grade students enrolled in three middle schools from three different school districts located in the coastal south. The use of G*Power 3 (Faul, Erdfelder, Lang, & Buchner, 2007) indicated that a sample size of 180 would be adequate for detecting a moderate effect size. There were no specific selection criteria for either the students or the schools.

Instrumentation
The Middle School Student Sense of Belonging Questionnaire (Appendix A) was utilized to assess the variables of interest and consisted of four parts: Part One contains questions regarding student demographics and general information. All items for Part One were excerpted from the HSLS: 09 Student Questionnaire. Part Two consists of items regarding school experiences which were excerpted from the HSLS: 09 Student
Questionnaire, the ELS: 2002 Student Questionnaire, and the NELS: 88 Student Questionnaire. Part Three contains all 18 items from the Psychological Sense of School Membership Scale (Goodenow, 1993). Part Four contains all 15 items from the Learning Climate Questionnaire (LCQ).

The Psychological Sense of School Membership Scale (PSSM; Goodenow, 1993) was designed to measure sense of school belonging of students between the ages of 12 to 18 (grades 6-12). The PSSM is an 18-item scale in which responses are in a 5-point horizontal numeric scale format, ranging from Not at all true (1) to Completely true (5). Example items from the PSSM include “The teachers here respect me,” “People at this school are friendly to me,” “Other students here like me the way I am,” and “Sometimes I feel as if I don’t belong here.” Five of the questions are phrased in a negative direction to prevent a response set and must be reverse coded. The PSSM is scored by summing the points for the 18 items and dividing by 18 for a possible scale range from 1.0 to 5.0. Internal consistency reliability, using Cronbach’s alpha, ranges from .77 to .88 for different samples (Goodenow, 1993). A permission request to use the PSSM scale as a survey instrument for this study was granted to the researcher by John Wiley and Sons through license number 2614830165671 (Appendix B).

The Learning Climate Questionnaire (LCQ) was designed to measure student perception of the learning environment in regard to the degree to which the social context is autonomy supportive to characterize the quality of the learning environment. The LCQ is a 15-item scale in which responses are in a 7-point horizontal numeric scale format, ranging from Strongly disagree (1) to Strongly agree (7). Alpha coefficient of internal consistency is approximately .90 for different samples. Scores on the 15-item LCQ are
calculated by averaging the individual item scores after reversing the score of item number 13. Higher scores indicate greater perceived autonomy support. The University of Rochester web-site for Self-Determination Theory gives permission for the use of questionnaires for research projects (Appendix C).

Items from three student questionnaires from longitudinal studies sponsored by the National Center for Education Statistics (NCES) of the Institute of Education Sciences (IES), U.S. Department of Education were used for this study. The HSLS: 09 Student Questionnaire and the NELS: 88 Student Questionnaire were utilized for items measuring self-reported grades in reading and math, amount of time spent per week involved in extracurricular activities, total number of activities, and activity types. The ELS: 2002 Student Questionnaire was utilized for items measuring the frequency of disciplinary actions. The development and review process for the student questionnaires consisted of meetings with experts, a review by the Technical Review Panel, questionnaire revision, an Office of Management and Budget (OMB) Review, field testing, and revision. Field test analysis of the questionnaires consisted of evaluation of item nonresponse, examination of test-retest reliabilities, and calculation of scale reliabilities (Ingels et al., 2007; Ingels, Herget, Pratt, Dever, Copello, & Leinwand, 2010). John G. Wirt, Project Officer for National Center for Education Statistics, confirmed that permission or formal review to use any or all of the questions on the questionnaires is not necessary due to the questions being part of the public domain.

Procedures

The researcher contacted the superintendents of the three districts in the coastal south which were included in this study to obtain permission to administer the
questionnaire to the eighth grade students enrolled at the respective middle schools. After obtaining letters of approval from the superintendents (Appendix D), the researcher contacted the principals of the three middle schools and obtained permission to communicate with the school counselors regarding the questionnaire. After receiving approval from the Institutional Review Board (Appendix E) at the University of Southern Mississippi, the researcher met with the school counselors and explained the purpose and procedures for the study. The school counselors then discussed the purpose and procedures with the individual classroom teachers who volunteered to administer the questionnaire to the student participants.

During a regularly scheduled class, the classroom teacher explained the purpose of the study and answered any questions that the students had in regard to the study. The teacher explained the procedures for participating in the study and distributed the Parent Permission Letter (Appendix F) to each student to bring home to their parent or guardian. The researcher communicated the purpose of the study to the parents through the Parent Permission Letter. The Parent Permission Letter stated that participation was voluntary and anonymous and contained the researcher’s contact information for parents desiring additional information. The students volunteered to participate in the study by signing the Student Assent Form (Appendix G) after returning a signed Parent Permission Letter. The Student Assent Form stated that participation was voluntary and anonymous and contained the researcher’s contact information for students needing additional information. Student participants consisted of eighth grade students from the three middle schools in the coastal south who returned the Parent Permission Letter with a parent or guardian signature and signed the Student Assent Form.
The questionnaire was administered through a secure online administration system, Survey Monkey, during a regularly scheduled class. The use of the online administration system allowed the data from the questionnaire to be transferred directly to the researcher without being handled by the teachers or counselors which helped to ensure the anonymity of student responses. The questionnaire was completed in a setting free of distractions to the participants, and participants were seated in a manner that did not allow others to view their responses to items on the questionnaire. The questionnaire took approximately 15 to 30 minutes to complete, and the students who were not completing the questionnaire worked on an assignment provided by the classroom teacher.

Teachers were instructed by the counselor to monitor the emotional state of all participants. If a participant appeared to become upset or uncomfortable during or following the completion of the questionnaire, the teacher would immediately refer the participant to the school counselor. The counselor would then offer the participant counseling, notify the parent, and refer the participant to an outside agency if necessary. To the researcher’s knowledge, there were no participants referred to the school counselor due to distress related to the completion of the questionnaire.

Participants were allowed to discontinue participation at any point of the study without penalty or prejudice. There were no major risks associated with participation in this study. Data collection documents and participant questionnaire data will be kept in a locked file cabinet at the home office of the researcher. Within a period of five years, all participant data will be destroyed.
Data Analysis

After the data were collected, the data were downloaded from Survey Monkey into an Excel spreadsheet. The Excel spreadsheet was then entered into SPSS and descriptive statistics were generated for demographic and categorical variables. Multiple regression analysis, Spearman’s Rank Order correlation, and Pearson Product-Moment correlation techniques were utilized to determine if statistically significant relationships existed among student sense of school belonging and the classroom learning climate, previous academic achievement, frequency of disciplinary sanctions, and participation in extracurricular activities.

Summary and Organization of the Study

In Chapter III, the researcher introduced the study and explained the methodology that was used. Research design and participants were described and variables of interest were identified. The researcher provided a detailed description of the instrumentation used in the study and described the data collection procedures for the study. In Chapter IV, the results of the study will be presented. In Chapter V, the researcher will present a summary of the study, conclusions, implications for practice, and recommendations for future research.
CHAPTER IV
RESULTS

Introduction

The purpose of this quantitative study was to examine correlations among sense of school belonging and the classroom learning climate, previous academic achievement, frequency of disciplinary sanctions, and participation in extracurricular activities. To examine student sense of school belonging, a sample of eighth grade students enrolled at three middle schools in the coastal south completed the Middle School Student Sense of Belonging Questionnaire (Appendix A) which was developed specifically for this study.

Participant Demographics

The convenience sample of 264 student participants was drawn from a population of approximately 860 eighth grade students enrolled in three middle schools from three different school districts located in the coastal south. There were no specific selection criteria for either the students or schools. Participants consisted of the eighth grade students from the three middle schools who returned the Parent Permission Letter indicating approval of participation in the study along with a parent or guardian signature and a student signature on the Student Assent Form indicating agreement to voluntarily participate in the study. The percentage of respondents in the sample enrolled at School A was 58% \((n = 153)\), and the percentage of respondents enrolled at School B was 16.7% \((n = 44)\). The remaining 25% \((n = 66)\) of the sample was comprised of respondents enrolled at School C. The percentage of male respondents who completed the questionnaire was 38.3% \((n = 101)\), whereas, 61.4% \((n = 162)\) of the sample was comprised of female respondents. The sample of 264 students was made up of 81.8%
Whites, 9.8% Black/African Americans, 2.3% Hispanics, 1.9% Asians, 1.1% American Indians or Alaskan Natives, and 3% other.

Instrumentation

The Middle School Student Sense of Belonging Questionnaire (Appendix A) was developed specifically for this study to assess the variables of interest and consists of four parts. Part One contained questions regarding student demographics and general information. All items for Part One were select questions excerpted from the High School Longitudinal Study of 2009 (HSLS: 09) Student Questionnaire. Part Two consisted of items regarding school experiences which were select questions excerpted from the Education Longitudinal Study of 2002 (ELS: 2002) Student Questionnaire, the National Education Longitudinal Study of 1988 (NELS: 88) Student Questionnaire, and the HSLS: 09 Student Questionnaire. Part Three contained all 18 items from the PSSM. Part Four contained all 15 items from the LCQ.

School Belonging Scale

The School Belonging Scale within the Middle School Student Sense of Belonging Questionnaire contained five questions which were phrased in a negative direction to prevent a response set and were reverse coded as noted in Table 1. The sample’s mean school belonging score was 3.56 with a standard deviation of 0.81(Appendix H). School belonging score for individual schools, gender, and race are displayed below. There was a statistically significant difference between schools as determined by a one-way ANOVA ($F(2, 258) = 12.332, p < .001$). A Tukey post-hoc test (Appendix I) indicated a statistically different school belonging score for School A compared to School B ($p = .003$) and School A compared to School C ($p < .001$). There
were no statistically significant differences between the school belonging scores of School B and School C ($p = .894$).

Table 1

*School Belonging Score by School, Gender, and Race*

<table>
<thead>
<tr>
<th>School</th>
<th>$M$</th>
<th>$N$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>School A</td>
<td>3.36</td>
<td>152</td>
<td>.81</td>
</tr>
<tr>
<td>School B</td>
<td>3.80</td>
<td>43</td>
<td>.68</td>
</tr>
<tr>
<td>School C</td>
<td>3.87</td>
<td>66</td>
<td>.74</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>$M$</th>
<th>$N$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>3.53</td>
<td>101</td>
<td>.83</td>
</tr>
<tr>
<td>Female</td>
<td>3.58</td>
<td>160</td>
<td>.79</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race</th>
<th>$M$</th>
<th>$N$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>3.55</td>
<td>215</td>
<td>.81</td>
</tr>
<tr>
<td>Black/African American</td>
<td>3.69</td>
<td>25</td>
<td>.73</td>
</tr>
<tr>
<td>Hispanic or Latino/Latina</td>
<td>3.58</td>
<td>6</td>
<td>.32</td>
</tr>
<tr>
<td>Asian</td>
<td>3.55</td>
<td>5</td>
<td>1.19</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>3.30</td>
<td>3</td>
<td>1.42</td>
</tr>
<tr>
<td>Other</td>
<td>3.71</td>
<td>8</td>
<td>.75</td>
</tr>
</tbody>
</table>

Table 2 displays the composition of each school in regard to gender and race. At all three schools the majority of the participants were White females.
### Table 2

*School-Level Data: Percentages of Gender and Race*

<table>
<thead>
<tr>
<th>Schools</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>43.8</td>
<td>34.1</td>
<td>27.7</td>
</tr>
<tr>
<td>Female</td>
<td>56.2</td>
<td>65.9</td>
<td>72.3</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>86.9</td>
<td>65.9</td>
<td>81.8</td>
</tr>
<tr>
<td>Black/African American</td>
<td>8.5</td>
<td>18.2</td>
<td>17.6</td>
</tr>
<tr>
<td>Hispanic or Latino/Latina</td>
<td>2.0</td>
<td>0</td>
<td>3.0</td>
</tr>
<tr>
<td>Asian</td>
<td>.7</td>
<td>2.3</td>
<td>4.5</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>1.3</td>
<td>2.3</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>.7</td>
<td>11.4</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Table 3 below displays the overall means of all schools in descending order, and the corresponding individual means of each school for the eighteen items that comprise the School Belonging Scale. The highest rated among the participants’ responses was in reply to the reverse-coded statement, “It is hard for people like me to be accepted here” \( (M = 4.37) \), with 68.2% of the respondents choosing *Not at all true*. The second highest rated response was in reply to the reverse-coded statement, “Teachers here are not interested in people like me” \( (M = 4.33) \), with 61.7% of the respondents choosing *Not at all true*. The lowest rated among the participants’ responses was in reply to the statement, “I am included in lots of activities at my school” \( (M = 2.68) \), with 20.1% of the
respondents choosing *Completely true*, while 31.8% of the respondents chose *Not at all true*.

Table 3

*School Belonging Scale: Sample Mean and School Means*

<table>
<thead>
<tr>
<th>Questions 45-62</th>
<th>Mean</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is hard for people like me to be accepted here. (R)</td>
<td>4.37</td>
<td>4.34</td>
<td>4.42</td>
<td>4.39</td>
</tr>
<tr>
<td>Teachers here are not interested in people like me. (R)</td>
<td>4.33</td>
<td>4.24</td>
<td>4.44</td>
<td>4.44</td>
</tr>
<tr>
<td>Sometimes I feel as if I don't belong here. (R)</td>
<td>4.12</td>
<td>4.11</td>
<td>3.98</td>
<td>4.25</td>
</tr>
<tr>
<td>I wish I were in a different school. (R)</td>
<td>4.01</td>
<td>3.80</td>
<td>4.07</td>
<td>4.45</td>
</tr>
<tr>
<td>People at this school are friendly to me.</td>
<td>3.89</td>
<td>3.70</td>
<td>4.16</td>
<td>4.15</td>
</tr>
<tr>
<td>Other students here like me the way I am.</td>
<td>3.77</td>
<td>3.55</td>
<td>3.98</td>
<td>4.14</td>
</tr>
<tr>
<td>People here know I can do good work.</td>
<td>3.72</td>
<td>3.49</td>
<td>4.02</td>
<td>4.06</td>
</tr>
<tr>
<td>The teachers here respect me.</td>
<td>3.66</td>
<td>3.41</td>
<td>3.88</td>
<td>4.05</td>
</tr>
<tr>
<td>I am treated with as much respect as other students.</td>
<td>3.65</td>
<td>3.47</td>
<td>3.93</td>
<td>3.85</td>
</tr>
<tr>
<td>I feel very different from most other students here. (R)</td>
<td>3.63</td>
<td>3.54</td>
<td>3.79</td>
<td>3.72</td>
</tr>
<tr>
<td>I feel proud of belonging to my school.</td>
<td>3.48</td>
<td>3.12</td>
<td>4.05</td>
<td>3.95</td>
</tr>
<tr>
<td>There’s at least one teacher or other adult in this school I can talk to if I have a problem.</td>
<td>3.45</td>
<td>3.24</td>
<td>3.90</td>
<td>3.67</td>
</tr>
<tr>
<td>I can really be myself at this school.</td>
<td>3.33</td>
<td>3.05</td>
<td>3.44</td>
<td>3.88</td>
</tr>
</tbody>
</table>
Table 3 (continued).

| People here notice when I'm good at something. | 3.21 | 2.98 | 3.72 | 3.43 |
| I feel like a real part of my school. | 3.18 | 2.95 | 3.42 | 3.52 |
| Most teachers at my school are interested in me. | 3.02 | 2.62 | 3.33 | 3.59 |
| Other students in this school take my opinions seriously. | 2.71 | 2.48 | 3.09 | 2.98 |
| I am included in lots of activities at my school. | 2.68 | 2.45 | 2.77 | 3.18 |

Note. (R) indicates item was reverse-coded before analysis.

Learning Climate Scale

The Learning Climate Scale within the Middle School Student Sense of Belonging Questionnaire was derived from utilizing all items from the LCQ. The mean learning climate scale score of participants was 4.51 with a standard deviation of 1.49. There was a statistically significant difference between schools as determined by a one-way ANOVA ($F(2, 255) = 8.33, p < .001$). A Tukey post-hoc test (Appendix J) revealed that the learning climate scale score was statistically significantly lower for School A compared to School C ($p < .001$). There were no statistically significant differences between the learning climate scale scores of School A and School B ($p = .543$) or School B and School C ($p = .081$).

Table 4 below displays the overall mean learning climate score of all participants and the mean scores of the individual schools for each of the fifteen items on the Learning Climate Scale. The three highest rated statements of the scale in descending order are: “I don’t feel very good about the way my teachers talk to me” in which 38.6%
of the participants responded *Strongly disagree* to the reverse-coded statement; “My teachers encouraged me to ask questions” in which 36.7% of the participants responded *Strongly agree*; and “My teachers made sure I really understood the goals of the course and what I need to do” in which 29.2% of the participants responded *Strongly agree*. The lowest rated statement, in which 20.5% of the participants responded *Strongly disagree*, was “I feel able to share my feelings with my teachers.”

Table 4

*Learning Climate Scale: Sample Mean and School Means*

<table>
<thead>
<tr>
<th>Questions 63-77</th>
<th>Mean</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don't feel very good about the way my teachers talk to me. (R)</td>
<td>5.41</td>
<td>5.27</td>
<td>5.12</td>
<td>5.77</td>
</tr>
<tr>
<td>My teachers encouraged me to ask questions.</td>
<td>5.18</td>
<td>4.84</td>
<td>5.40</td>
<td>5.83</td>
</tr>
<tr>
<td>My teachers made sure I really understood the goals of the course and what I need to do.</td>
<td>5.00</td>
<td>4.85</td>
<td>4.77</td>
<td>5.51</td>
</tr>
<tr>
<td>I feel that my teachers accept me.</td>
<td>4.81</td>
<td>4.37</td>
<td>5.23</td>
<td>5.56</td>
</tr>
<tr>
<td>My teachers convey confidence in my ability to do well in the course.</td>
<td>4.74</td>
<td>4.45</td>
<td>4.81</td>
<td>5.34</td>
</tr>
<tr>
<td>My teachers answer my questions fully and carefully.</td>
<td>4.69</td>
<td>4.48</td>
<td>4.30</td>
<td>5.44</td>
</tr>
<tr>
<td>I feel a lot of trust in my teachers.</td>
<td>4.66</td>
<td>4.34</td>
<td>4.53</td>
<td>5.51</td>
</tr>
<tr>
<td>I feel that my teachers care about me as a person.</td>
<td>4.43</td>
<td>4.09</td>
<td>4.65</td>
<td>5.06</td>
</tr>
<tr>
<td>I feel that my teachers provide me choices and options.</td>
<td>4.38</td>
<td>4.03</td>
<td>4.51</td>
<td>5.09</td>
</tr>
<tr>
<td>I feel understood by my teachers.</td>
<td>4.34</td>
<td>4.04</td>
<td>4.35</td>
<td>5.03</td>
</tr>
<tr>
<td>My teachers try to understand how I see things before suggesting a new way to do things.</td>
<td>4.20</td>
<td>3.98</td>
<td>4.33</td>
<td>4.61</td>
</tr>
</tbody>
</table>
Table 4 (continued).

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>1 to 2</th>
<th>3 to 6</th>
<th>7 to 9</th>
<th>10 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>My teachers handle people's emotions very well.</td>
<td>4.09</td>
<td>3.83</td>
<td>4.12</td>
<td>4.66</td>
<td></td>
</tr>
<tr>
<td>My teachers listen to how I would like to do things.</td>
<td>4.01</td>
<td>3.81</td>
<td>3.84</td>
<td>4.57</td>
<td></td>
</tr>
<tr>
<td>I am able to be open with my teachers during class.</td>
<td>4.01</td>
<td>3.74</td>
<td>4.09</td>
<td>4.55</td>
<td></td>
</tr>
<tr>
<td>I feel able to share my feelings with my teachers.</td>
<td>3.64</td>
<td>3.39</td>
<td>3.56</td>
<td>4.25</td>
<td></td>
</tr>
</tbody>
</table>

Note. (R) indicates an item was reverse-coded before analysis.

**Discipline Scale**

The Discipline Scale was derived by participant responses to the overarching question: “How many times did the following things happen to you during the last school year?” The frequencies of disciplinary sanctions were assessed on a 5-point scale with student responses ranging from *Never, 1-2 times, 3-6 times, 7-9 times, to 10 or more times* in response to the following four statements: “I got into trouble for not following school rules,” “I was put on in-school suspension,” “I was suspended from school,” and “I was transferred to another school for disciplinary reasons.”

Table 5

**Percentages: Frequency of Discipline Sanctions**

<table>
<thead>
<tr>
<th>Questions 7-10</th>
<th>Never</th>
<th>1 to 2</th>
<th>3 to 6</th>
<th>7 to 9</th>
<th>10 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of times in trouble</td>
<td>51.1</td>
<td>28.8</td>
<td>13.6</td>
<td>2.3</td>
<td>3.0</td>
</tr>
<tr>
<td>Number of times in ISS</td>
<td>69.7</td>
<td>18.9</td>
<td>4.9</td>
<td>0.8</td>
<td>2.3</td>
</tr>
<tr>
<td>Number of times suspended</td>
<td>86.4</td>
<td>6.8</td>
<td>1.1</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Number of times in alternative school</td>
<td>94.7</td>
<td>1.9</td>
<td>0.4</td>
<td>0.0</td>
<td>0.4</td>
</tr>
</tbody>
</table>
Table 5 above displays the percentages of the different discipline sanctions in regard to self-reported frequency of occurrence for the sample. There were no significant differences for individual schools in regard to discipline sanctions.

Reliability of Scales

Reliability analyses were conducted to determine the internal consistency of all scales. A Cronbach’s alpha of .90 indicated a high level of internal consistency for the 18-item School Belonging Scale. Next, a reliability analysis was conducted to determine the internal consistency of the 15-item Learning Climate Scale, and a Cronbach’s alpha of .96 indicated a high level of internal consistency for the scale. Removal of any items would have resulted in lower Cronbach’s alpha for each particular scale; therefore, no items were deleted from the scales.

Self-Reported Reading and Math Grades

A statistically significant difference existed between schools regarding final grades in reading as determined by a one-way ANOVA \((F(2, 258) = 6.63, p = .002)\). A Tukey post-hoc test (Appendix K) revealed that the final reading grade was statistically significantly lower for School A compared to School C \((p = .001)\). There were no statistically significant differences between the final reading grades of School A and School B \((p = .294)\) or School B and School C \((p = .351)\). According to the results of a one-way ANOVA, a significant difference did not exist among schools regarding final math grades (Appendix L). The percentage of students self-reporting a grade of \(A\ or\ a\ numerical\ average\ of\ 90-100\) as their final grade in reading was 42.4%, while the percentage of students reporting a grade of \(C\ or\ a\ numerical\ average\ of\ 70-79\) or any category below was 21.2%. In regard to self-reported final grades in math, 43.2% of students reported an
A or a numerical average of 90-100 and 20.2% reported a grade of 70 or below. Table 6 and Table 7 below display the self-reported grades for all three participating schools.

Table 6

*Percentages: Self-Reported Final Reading Grades by School*

<table>
<thead>
<tr>
<th>Schools</th>
<th>A (%)</th>
<th>B (%)</th>
<th>C (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (90-100)</td>
<td>32.2</td>
<td>39.5</td>
<td>68.2</td>
</tr>
<tr>
<td>B (80-89)</td>
<td>41.4</td>
<td>44.2</td>
<td>18.2</td>
</tr>
<tr>
<td>C (70-79)</td>
<td>21.7</td>
<td>16.3</td>
<td>9.1</td>
</tr>
<tr>
<td>D (60-69)</td>
<td>3.9</td>
<td>0.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Below D (&lt; 60)</td>
<td>0.7</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Not Graded</td>
<td>0.0</td>
<td>0.0</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Table 7

*Percentages: Self-Reported Final Math Grades by School*

<table>
<thead>
<tr>
<th>Schools</th>
<th>A (%)</th>
<th>B (%)</th>
<th>C (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (90-100)</td>
<td>34.0</td>
<td>52.4</td>
<td>61.5</td>
</tr>
<tr>
<td>B (80-89)</td>
<td>42.0</td>
<td>31.0</td>
<td>23.1</td>
</tr>
<tr>
<td>C (70-79)</td>
<td>20.0</td>
<td>14.3</td>
<td>6.2</td>
</tr>
<tr>
<td>D (60-69)</td>
<td>4.0</td>
<td>2.4</td>
<td>4.6</td>
</tr>
<tr>
<td>Below D (&lt; 60)</td>
<td>0.0</td>
<td>0.0</td>
<td>3.1</td>
</tr>
<tr>
<td>Not Graded</td>
<td>0.0</td>
<td>0.0</td>
<td>1.5</td>
</tr>
</tbody>
</table>
Total Activities

The total activities measure was created by summing the number of school-sponsored activities and outside-of-school activities which the participants selected on the questionnaire as having participated in as a member or as a leader or officer (Fredericks & Eccles, 2006). The means and standard deviations of school-sponsored activities were included in Appendix M, and the means and standard deviations of outside-of-school activities were included in Appendix N. Students in the sample participated in an average of 4.41 activities with a standard deviation of 4.09. There was a statistically significant difference between schools as determined by a one-way ANOVA \( F(2, 258) = 12.332, p < .001 \). A Tukey post-hoc test (Appendix O) revealed that the total number of activities in which students participated was statistically significantly lower for School A compared to School B \( p = .023 \) and School A compared to School C \( p = .002 \). There were no statistically significant differences between the total number of activities in which students participated at School B and School C \( p = .956 \).

Activity Type

The activity type measure was created by aggregating school-sponsored and out-of-school activities into five categories: sports, pro-social, performing arts, academic, and school involvement. Participation in one or more activities in each of the five categories produced a dichotomous measure of activity type in which the student either did or did not participate in at least one activity in the category (Frederick & Eccles, 2006).

Analysis of Data

Research hypotheses were formulated to guide this study. Data were collected and analyzed to determine whether each hypothesis was supported.
Research Hypothesis 1

H₁: There will be a statistically significant relationship between student sense of school belonging score and student perception of the learning climate.

A Pearson Product-Moment correlation was conducted to determine the relationship between students’ school belonging scores and the learning climate scale score. There was a positive correlation between the school belonging score and the learning climate scale score, \( r = .687, n = 259, p < .001 \). Squaring the correlation coefficient indicated that 47.2% of the variance in the school belonging score was explained by the learning climate scale score. The research hypothesis was supported by the results of the Pearson correlation. Results for both Pearson correlations conducted in this study are displayed in Table 8 below.

Table 8

Pearson Product-Moment Correlations

<table>
<thead>
<tr>
<th></th>
<th>Sig. (2-tailed)</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Climate Scale &amp; School Belonging Score</td>
<td>.000</td>
<td>.687**</td>
</tr>
<tr>
<td>Total Activities &amp; School Belonging Score</td>
<td>.000</td>
<td>.288**</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

Research Hypothesis 2

H₂: There will be a statistically significant relationship between student sense of school belonging score and self-reported final grades in reading.

A Spearman’s Rank Order correlation was conducted to determine the relationship between students’ school belonging scores and students’ self-reported final grades in
reading. Results indicated a positive correlation between the school belonging score and the final grade in reading which was statistically significant \( r_s(261) = .315, p < .001 \). Squaring the correlation coefficient indicated that 9.92% of the variance in the school belonging score was explained by self-reported final grades in reading. Based on the results of this analysis, the hypothesis was supported. Table 9 below displays the results of all Spearman’s correlations conducted in this study.

Table 9

**Spearman’s Rank Order Correlations**

<table>
<thead>
<tr>
<th>Correlation</th>
<th>Sig. (2-tailed)</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Reported Final Reading Grade &amp; School Belonging Score</td>
<td>.000</td>
<td>.315**</td>
</tr>
<tr>
<td>Self-Reported Final Math Grade &amp; School Belonging Score</td>
<td>.000</td>
<td>.216**</td>
</tr>
<tr>
<td>Discipline Scale &amp; School Belonging Score</td>
<td>.000</td>
<td>-.260**</td>
</tr>
<tr>
<td>Amount of Time Spent in School-Sponsored Extracurricular Activities &amp; School Belonging Score</td>
<td>.000</td>
<td>.365**</td>
</tr>
<tr>
<td>Amount of Time Spent in Outside-of-School Extracurricular Activities &amp; School Belonging Score</td>
<td>.000</td>
<td>.323**</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

Research Hypothesis 3

H₃: There will be a statistically significant relationship between student sense of school belonging score and self-reported final grades in math.

A Spearman’s Rank Order correlation was conducted to determine the relationship between students’ school belonging scores and students’ self-reported final grades in
math. Results indicated a positive correlation between the school belonging score and the final grade in math, which was statistically significant ($r_s(257) = .216, p < .001$).

Squaring the correlation coefficients indicated that 4.67% of the variance in the school belonging score was explained by self-reported final grades in math. Due to the statistical significance of the correlation as displayed in Table 9 above, the research hypothesis was supported.

*Research Hypothesis 4*

H₄: There will be a statistically significant relationship between student sense of school belonging score and the frequency of disciplinary sanctions.

A Spearman’s Rank Order correlation was conducted to determine the relationship between students’ school belonging scores and frequency of disciplinary sanctions as measured by the Discipline Scale. Results indicated a negative correlation between the school belonging score and the frequency of discipline sanctions, which was statistically significant ($r_s(262) = -.260, p < .001$). Squaring the correlation coefficient indicated that 6.76% of the variance in the school belonging score was explained by frequency of disciplinary sanctions. The research hypothesis was supported by the results of the Spearman’s correlation displayed in Table 9.

*Research Hypothesis 5*

H₅: There will be a statistically significant relationship between student sense of school belonging score and the amount of time spent per week involved in school-sponsored extracurricular activities.

A Spearman’s Rank Order correlation was conducted to determine the relationship between school belonging scores and the amount of time spent per week involved in
school-sponsored extracurricular activities. Results indicated a positive correlation between the school belonging score and the amount of time spent, which was statistically significant ($r_s(262) = .365, p < .001$); therefore, the research hypothesis was supported. Findings indicated that 13.3% of the variance in the school belonging score was explained by the amount of time spent per week involved in school-sponsored extracurricular activities. Results of this correlation are displayed in Table 9 above.

Research Hypothesis 6

H$_6$: There will be a statistically significant relationship between student sense of school belonging score and the amount of time spent per week involved in outside-of-school extracurricular activities.

A Spearman’s Rank Order correlation was conducted to determine the relationship between school belonging scores and the amount of time spent per week involved in outside-of-school extracurricular activities. Results indicated a positive correlation between the school belonging score and the amount of time spent, which was statistically significant ($r_s(262) = .323, p < .001$). Additionally, 10.4% of the variance in the school belonging score was explained by the amount of time spent per week involved in outside-of-school extracurricular activities. Based on the data displayed in the Table 9 above, the research hypothesis was supported.

Research Hypothesis 7

H$_7$: The amount of time spent per week involved in school-sponsored extracurricular activities and the amount of time spent per week involved in outside-of-school extracurricular activities will significantly influence the school belonging score.
A multiple regression was conducted to determine if the predictor variables influenced the dependent variable, school belonging score. The overall model accounted for 13.4% of the variability of school belonging ($R^2 = 0.134$). The overall model was statistically significant, $F(2, 259) = 20.01, p < .001$, which means that when both predictor variables were considered together, the variables had a statistically significant effect on school belonging (Appendix P). Time spent in school-sponsored activities ($\beta = .233, p = .002$) had the greater influence on school belonging. No issues with multicollinearity were indicated due to the tolerance values of all predictor variables being greater than .10 (Appendix Q). Due to the results indicated by the multiple regression analysis, the research hypothesis was supported. Regression coefficients for the variables included in the multiple regression analysis are displayed below in Table 10.

Table 10

*Regression Coefficients for Hypothesis 7*

<table>
<thead>
<tr>
<th>Predictors</th>
<th>B</th>
<th>SE</th>
<th>Beta</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Spent in School-Sponsored Activities</td>
<td>.097</td>
<td>.031</td>
<td>.233</td>
<td>3.156</td>
<td>.002</td>
</tr>
<tr>
<td>Time Spent in Outside-of-School Activities</td>
<td>.072</td>
<td>.031</td>
<td>.172</td>
<td>2.328</td>
<td>.021</td>
</tr>
</tbody>
</table>

*Research Hypothesis 8*

H₈: There will be a statistically significant relationship between school belonging score and the total number of school-sponsored and outside-of-school extracurricular activities.

A Pearson Product-Moment correlation was conducted to determine the relationship between school belonging scores and the total activities. Results indicated a
positive correlation between the school belonging score and the total number of activities that students participated in, \( r = .288, n = 262, p < .001 \). Squaring the correlation coefficient indicated that 8.3% of the variance in the school belonging score was explained by the total number of activities in which students participated. Based on the results which are displayed in the Table 8 above, the research hypothesis was supported.

*Research Hypothesis 9*

\( H_9 \): There will be a statistically significant relationship between the school belonging score and the type of extracurricular activities participated in.

A Spearman’s Rank Order correlation was conducted to determine the relationship between school belonging scores and the activity type. Based on the results, the research hypothesis was supported. Results indicated statistically significant positive correlations among the school belonging score and sports activities \( (r_s(260) = .310, p < .001) \), pro-social activities \( (r_s(261) = .151, p = .014) \), academic activities \( (r_s(260) = .198, p = .001) \), and school involvement activities \( (r_s(261) = .221, p < .001) \). Results displayed in Table 11 indicated that there was not a statistically significant relationship between the school belonging score and performing arts activities \( (r_s(261) = .035, p = .568) \).

Table 11

<table>
<thead>
<tr>
<th>Activity Type</th>
<th>Correlation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports</td>
<td>.310**</td>
<td>.000</td>
</tr>
<tr>
<td>Pro-Social</td>
<td>.151*</td>
<td>.014</td>
</tr>
<tr>
<td>Performing Arts</td>
<td>.035</td>
<td>.568</td>
</tr>
</tbody>
</table>
**Correlation is significant at the 0.01 level (2-tailed).**

*Correlation is significant at the 0.05 level (2-tailed).*

Research Hypothesis 10

H10: Student perception of the learning climate, final grades in reading and math, frequency of discipline sanctions, total number of activities, amount of time spent per week involved in school-sponsored extracurricular activities, amount of time spent per week involved in outside-of-school extracurricular activities will significantly influence the school belonging score.

A multiple regression was conducted to determine if the predictor variables influenced the dependent variable, school belonging score. The overall model accounted for 56% of the variability of school belonging ($R^2=0.56$). The overall model was statistically significant, $F(7, 246) = 44.79, p < .001$, which indicates that when the predictor variables were considered together, the variables had a statistically significant effect on school belonging (Appendix R).

Table 12

*Regression Coefficients for Hypothesis 10*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Climate Scale</td>
<td>.331</td>
<td>.024</td>
<td>.615</td>
<td>13.691</td>
<td>.000</td>
</tr>
<tr>
<td>Final Reading Grade</td>
<td>.061</td>
<td>.050</td>
<td>.068</td>
<td>1.214</td>
<td>.226</td>
</tr>
<tr>
<td>Final Math Grade</td>
<td>-.063</td>
<td>.050</td>
<td>-.072</td>
<td>-1.244</td>
<td>.215</td>
</tr>
</tbody>
</table>
Table 12 (continued).

<table>
<thead>
<tr>
<th>Discipline Scale</th>
<th>-.139</th>
<th>.065</th>
<th>-.099</th>
<th>-2.132</th>
<th>.034</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Activities</td>
<td>.017</td>
<td>.009</td>
<td>.087</td>
<td>1.853</td>
<td>.065</td>
</tr>
<tr>
<td>Time Spent in School</td>
<td>.077</td>
<td>.023</td>
<td>.185</td>
<td>3.329</td>
<td>.001</td>
</tr>
<tr>
<td>Sponsored Activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time Spent in Outside of</td>
<td>.022</td>
<td>.023</td>
<td>.053</td>
<td>0.945</td>
<td>.345</td>
</tr>
<tr>
<td>School Activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Learning climate scale score had the greatest influence ($\beta = .615$, $p < .001$) of all variables within the model. The second-most influential variable was time spent in school-sponsored activities ($\beta = 0.233$, $p = .001$). Although results indicate a weak, positive correlation, the variables final math grade, final reading grade, total activities, and the amount of time spent per week involved in outside-of-school extracurricular activities did not significantly influence the dependent variable, school belonging score.

No issues with multicollinearity were indicated due to the tolerance values of all predictor variables being greater than .10 (Appendix S). Table 12 above displays the regression coefficients for all variables included in the multiple regression analysis.

Summary and Organization of the Study

In Chapter IV, a brief introduction to the study was presented along with demographic information relevant to the sample. Means and standard deviations for both the PSSM and the LCQ were presented. Scales and reliability were explained, hypotheses were tested, and findings were presented. Analysis of data indicated the presence of statistically significant correlations among factors associated with self-reported student school success.
Chapter V presents a summary of the study, the findings of the study, and the implications of those findings. In addition, conclusions, recommendations for policy and practice, and recommendations for future research are discussed in Chapter V.
CHAPTER V
DISCUSSION

Chapter V presents a summary of the study, interpretation of the findings, and the implications of those findings. In addition, recommendations for policy and practice, limitations and delimitations of the study, and recommendations for future research are discussed.

Introduction

The purpose of this quantitative study was to examine correlations among sense of school belonging and the classroom learning climate, previous academic achievement, frequency of disciplinary sanctions, and participation in extracurricular activities.

Summary of the Study

Sense of school belonging has been defined as “a sense of psychological membership in the school or classroom, that is, the extent to which students feel personally accepted, respected, included, and supported by others in the school environment” (Goodenow & Grady, 1993, p. 80). Students spend a significant amount of time at school engaged in academic pursuits and involved in school-sponsored extracurricular activities which underscores the importance of establishing the sense of acceptance and belonging within the school community (Goodenow & Grady, 1993). While many educators are justifiably focusing on student achievement and the need to increase standardized test scores for accountability purposes, the emotional and motivational needs of many students are not being met and consequently may hinder the academic performance of those students (Osterman, 2000).
Review of Related Literature

During adolescence, which has been characterized as a high-risk developmental period, many students report feeling isolated and estranged within the educational environment (Calabrese, 1987; Goodenow, 1993). A significant number of adolescents experience negative changes in motivation, academic achievement, behavior, and sense of school belonging which coincide with the transition to middle school and may be attributable to the incompatibility of the educational environment which is possibly developmentally inappropriate for an early adolescent (Eccles & Midgley, 1989). Although most students transition to middle school without any serious disciplinary misconduct, many adolescents experience disengagement and distress which manifests as disciplinary misconduct (Kruczek, Alexander, & Harris, 2005; Newman, Lohman, & Newman, 2007). Additionally, the transition to middle school is associated with a decline in grades which may be predictive of future failure and the decision to drop out of school entirely (Simmons & Blythe, 1987).

Research which indicated that as the length of tenure in middle school increases, the sense of school belonging decreases (Anderman, 2003) is of particular concern given that research has likewise indicated that sense of school belonging predicts motivation, experiences of academic success, valuing homework assignments, and interest in school (Goodenow & Grady, 1993). Although sense of school belonging and academic achievement have a positive relationship (Goodenow, 1992; Linnenbrick & Pintrich, 2000; Solomon et al, 1996), sense of school belonging may be previously shaped by academic achievement (Anderman, 2003) and caution must be exercised before affirming that sense of school belonging predicts academic achievement. Additionally, research
indicated that the learning climate created by the teacher and the instructional strategies used had a significant influence on sense of school belonging (Anderman).

In addition, fostering student participation in nonacademic programs, or extracurricular activities, may be just as important as the development of participation in academic programs (Anderman & Freeman, 2004). Participation in extracurricular activities not only increases sense of school belonging (Brown & Evans, 2002), but increases academic performance, decreases discipline problems, and decreases dropouts as well (Feldman & Matjasko, 2005). Sense of school belonging is a multifaceted concept which is correlated with both social and academic factors such as classroom learning climate, academic achievement, frequency of discipline sanctions, and participation in extracurricular activities.

Methodology

The researcher contacted the superintendents of the three districts in the coastal south which were included in this study and obtained permission to administer the Middle School Student Sense of Belonging Questionnaire (Appendix A) to eighth grade students enrolled at the respective middle schools. There were no specific selection criteria for either students or schools. The convenience sample of 264 student participants was drawn from a population of approximately 860 students and consisted of the students in which student assent and parent consent was obtained. The Middle School Student Sense of Belonging Questionnaire was administered online through Survey Monkey during a regularly scheduled class.

The Middle School Student Sense of Belonging Questionnaire was used to measure the variables of interest and consisted of four parts: Part One contained
questions regarding student demographics which were excerpted from the HSLS: 09 Student Questionnaire. Part Two consisted of items regarding school experiences which were excerpted from the ELS: 2002 Student Questionnaire, the NELS: 88 Student Questionnaire, and the HSLS: 09 Student Questionnaire. Part Three contained all eighteen items from the Psychological Sense of School Membership Scale (PSSM) which was designed to measure sense of school belonging. The PSSM, with a high level of internal consistency ($\alpha = .90$) in the present study, has a scale range from 1.0 to 5.0 with a higher score indicating a higher sense of school belonging. Part Four contained all fifteen items from the Learning Climate Questionnaire (LCQ) which was designed to measure student perception of the learning environment in regard to the degree to which the social context is autonomy supportive to characterize the quality of the learning environment. The LCQ had a high level of internal consistency ($\alpha = .96$) in the present study and has a scale range from 1.0 to 7.0 with higher scores indicating greater perceived autonomy support.

Research Hypotheses

The following research hypotheses were formulated to guide this study and data were collected in relation to each hypothesis and analyzed to determine whether to accept or reject each hypothesis.

$H_1$: There will be a statistically significant relationship between student sense of school belonging score and student perception of the learning climate.

$H_2$: There will be a statistically significant relationship between student sense of school belonging score and self-reported final grades in reading.
H₃: There will be a statistically significant relationship between student sense of school belonging score and self-reported final grades in math.

H₄: There will be a statistically significant relationship between student sense of school belonging score and the frequency of disciplinary sanctions.

H₅: There will be a statistically significant relationship between student sense of school belonging score and the amount of time spent per week involved in school-sponsored extracurricular activities.

H₆: There will be a statistically significant relationship between student sense of school belonging score and the amount of time spent per week involved in outside-of-school extracurricular activities.

H₇: The amount of time spent per week involved in school-sponsored extracurricular activities and the amount of time spent per week involved in outside-of-school extracurricular activities will significantly influence the school belonging score.

H₈: There will be a statistically significant relationship between school belonging score and the total number of school-sponsored and outside-of-school extracurricular activities.

H₉: There will be a statistically significant relationship between the school belonging score and the type of extracurricular activities.

H₁₀: Student perception of the learning climate, final grades in reading and math, frequency of discipline sanctions, total number of activities participated in, the amount of time spent per week involved in school-sponsored extracurricular activities, and the amount of time spent per week involved in outside-of-school extracurricular activities will significantly influence the school belonging score.
Interpretation and Implications of Findings

The findings of this study were obtained from 264 eighth grade students enrolled in three middle schools from three different school districts located in the coastal south. The percentage of respondents enrolled at School A was 58% with a mean school belonging score of 3.36; respondents from School B comprised 16.7% of the sample with a mean school belonging score of 3.80; and respondents from School C comprised 25% of the sample with a mean school belonging score of 3.87. The majority of respondents were female (61.4%), and over 81% of the sample was comprised of White respondents. As determined by a one-way analysis of variance, differences between the mean scores for school belonging and the school attended, gender of the participant, and race of the participant were not statistically significant.

The mean school belonging score of all respondents in this study was 3.56 with a standard deviation of 0.81. The highest rating ($M = 4.37$) among the participants’ responses to the items on the PSSM indicated that most of the respondents (68.2%) did not feel that it was difficult to be accepted at school. Over 61% of the respondents felt that their teachers were interested in people like them ($M = 4.33$). Of particular note, the lowest-ranked ($M = 2.68$) item indicated that over 31% of the students surveyed perceived that they were not included in many of the activities at their respective schools.

*Learning Climate and School Belonging*

Findings of this study indicated that a statistically significant relationship exists between sense of school belonging and student perception of the learning climate in regard to the degree to which the social context is autonomy supportive to characterize the quality of the learning environment. As determined by a Pearson Product-Moment
correlation, a strong, positive relationship exists between the school belonging score and the learning climate scale score. The finding is consistent with the previous research suggesting that the climate created by the teacher, methods of instruction, teacher support, and authority relationships between teachers and students have a significant influence on student sense of school belonging (Anderman, 2003; Osterman, 2000).

This study suggested that most students had a positive perception in regard to the manner in which teachers talked to them, encouraged them to ask questions, and made certain that students understood the goals and expectations of the courses, all of which are characteristic of an autonomy supportive learning climate. Prior research indicated students who perceive their classrooms as autonomy-supportive climates report higher levels of engagement and valuing of school (Ryan & Connell, 1989).

One finding of noteworthy concern in this study is the indication that approximately 20% of the participants did not feel able to share their feelings with their teachers. Prior research indicated that students who do not feel secure with teachers and do not view teachers as sources of support exhibit lower school adaptation, motivation, and self-esteem (Ryan et al., 1994). Conversely, those students who feel more secure with teachers and view teachers as sources of support are more engaged and exhibit stronger coping behavior (Ryan et al., 1994).

**Reading and Math Grades and School Belonging**

Findings of this study suggest that there is a statistically significant relationship between student sense of school belonging and self-reported final grades in both reading and math. Results of the Spearman’s Rank Order correlation indicated positive correlations between the school belonging score and the final grade in reading and the
final grade in math. A stronger relationship existed between the final grade in reading and school belonging score, with 9.92% of the variance in self-reported final grades in reading accounted for by the school belonging score, while 4.67% of the variance in self-reported final grades in math was accounted for by the school belonging score. This analysis suggests that the majority of variance in the school belonging score is explained by other factors.

Findings of this study are consistent with prior research that indicated that a student’s sense of school belonging and the student’s academic achievement are positively related (Goodenow, 1992; Linnenbrick & Pintrich, 2000; Solomon et al, 1996), although sense of school belonging may be previously shaped by academic achievement. It is very likely that the participants in this study reported a higher sense of belonging which was influenced by prior academic achievement. The three schools that participated in this study were designated as either a High Performing School or a Star School according to the state accountability model. In addition, the majority of participants in this study were high academic performers according to the self-reported grades in which over 42% of students reported an average of 90 or above in reading and math. Consequently, the overall mean school belonging score may be inflated due to a biased sample. Furthermore, the positive association between school belonging and academic achievement may be attributable to students with higher levels of academic achievement feeling more liked and respected by their peers and teachers because more value is placed on grades in middle school (Hamm & Faircloth, 2005a, 2005b; Harter, 1996; Roeser, Midgley, & Urdan, 1996), as opposed to students with lower levels of academic achievement (Anderman, 2003; Calabrese, 1987).
Schools which emphasize high levels of academic achievement will reinforce the sense of school belonging for those students who are high academic performers, while creating more difficulty for lower performing students in developing a legitimate sense of school belonging (Anderman, 2003). In agreement with prior studies, results from this study do not confirm that improving a student’s sense of school belonging will necessarily increase academic achievement for the student in the future (Anderman).

**Discipline Sanctions and School Belonging**

Findings in this study indicated a statistically significant negative correlation between the school belonging score and the frequency of discipline sanctions. A Spearman’s Rank Order correlation was conducted to determine the relationship between students’ school belonging scores and frequency of disciplinary sanctions as measured by the discipline scale. Approximately 51% of the students surveyed responded that they had never been in trouble for not following school rules, 69.7% had never received in-school suspension as a consequence, 86.7% had never been suspended, and approximately 95% had never been placed in an alternative setting or transferred to another school for disciplinary reasons. The analysis suggests that as the frequency of discipline sanctions increase due to misbehavior, students experience a decrease in sense of school belonging.

Findings of this study are consistent with prior research which suggests that students with disciplinary problems often have a decreased sense of school belonging (Beck, 1997). Although a significant number of adolescents experience disengagement and distress which manifest as disciplinary misconduct during the transitional middle school years (Kruczek, Alexander, & Harris, 2005), general disciplinary misconduct
within the public school setting is much more prevalent than violent incidents or incidents requiring serious discipline actions (Robers & Truman, 2010). The findings of this study support the previous research of Robers and Truman in regard to general misconduct. While 13.6% of participants responded that they had been in trouble 3 to 6 times for not following school rules, only 6.8% of students had been suspended 1 to 2 times and 1.1% of students had been suspended 3 to 6 times.

*Extracurricular Activities and School Belonging*

Prior research indicated that participation in extracurricular activities and structured events resulted in positive school belonging (Feldman & Matjasko, 2005; Fredericks & Eccles, 2005), and more participation in extracurricular activities resulted in a higher sense of school belonging (Brown & Evans, 2002). This study investigated several different aspects associated with extracurricular activities and school belonging such as the amount of time spent participating in school-sponsored activities, amount of time spent participating in outside-of-school activities, total number of activities participated in, and the type of extracurricular activities in which students participated.

*Time spent.* To begin with, the findings of this research study suggested that a statistically significant, positive correlation exists between sense of school belonging and the amount of time the student spent per week involved in school-sponsored extracurricular activities and the amount of time the student spent per week involved in outside-of-school extracurricular activities (Appendix T). In addition, results of a multiple regression analysis indicated that the amount of time that students spent in both school-sponsored and outside-of-school extracurricular activities influenced sense of school belonging. The overall model accounted for 13.4% of the variability of school
belonging and was statistically significant. Results indicated that when both predictor variables were considered together, the variables had a statistically significant effect on school belonging. However, the amount of time students spent in school-sponsored activities had the greater influence on sense of school belonging. Therefore, a student spending the same amount of time in school-sponsored activities as another student spends in outside-of-school activities would develop a greater sense of school belonging than the student participating in outside-of-school activities.

_Total activities_. Next, the findings of this study suggest that a statistically significant relationship exists between sense of school belonging and the total number of activities, including school-sponsored activities and outside-of-school activities, in which students participated. Results of a Pearson Product-Moment correlation indicated a positive correlation between the school belonging score and the total number of activities in which students participated. Students self-reported participating in an average of 4.41 activities. In concurrence with the previous findings of Fredericks and Eccles (2006) that the total number of extracurricular activities was positively associated with school belonging, findings of this study suggested that students involved in more extracurricular activities, both school-sponsored and outside-of-school, will have a greater sense of school belonging than students involved in fewer activities.

_Activity types_. This study investigated the relationship between sense of school belonging and the type of extracurricular activities in which students participated. The activity type measure was created by aggregating school-sponsored and out-of-school activities into five categories: sports, pro-social, performing arts, academic, and school involvement. Participation in one or more activities in each of the five categories
produced a dichotomous measure of activity type in which the student either did or did not participate in at least one activity in the category (Frederick & Eccles, 2006). Results of a Spearman’s Rank Order correlation indicated statistically significant positive correlations among the school belonging score and sports activities, pro-social activities, academic activities, and school involvement activities; therefore, students participating in those activity types would have a higher sense of belonging. Conversely, results indicated that there was not a statistically significant relationship between sense of school belonging and student participation in the performing arts.

The findings of this study are consistent with the findings of the previous study conducted by Fredericks and Eccles (2005) which suggested that student athletes reported a higher sense of school belonging than students who did not participate in sports. Another similarity to the findings of the previous study reported by Fredericks and Eccles, is the indication that the students involved in performing arts and academic clubs did not report the same level of perceived school belonging as student athletes. Fredericks and Eccles (2005) surmised that the difference in perceived level of school belonging may be due to the status given to student athletes which may result in a greater sense of self-identification. One notable inconsistency of the current study is that a significant correlation existed between school belonging and academic activities, which had the third-strongest correlation of the activity types.

Influence of Predictor Variables on School Belonging

A multiple regression was conducted to determine if student perception of the learning climate, final grades in reading and math, frequency of discipline sanctions, total number of activities participated in, the amount of time spent per week involved in
school-sponsored extracurricular activities, and the amount of time spent per week involved in outside-of-school extracurricular activities significantly influenced sense of school belonging. The overall model accounted for 56% of the variability of school belonging and was statistically significant which indicates that when the predictor variables were considered together the variables had a statistically significant influence on school belonging. Learning climate scale score had the greatest influence of all variables within the model, and the second-most influential variable was time spent in school-sponsored activities. The variables final grade in math, final grade in reading, total activities, and the amount of time spent per week involved in outside-of-school extracurricular activities did not significantly influence the dependent variable, school belonging score. However, results of this study indicate a weak, positive correlation among final grade in math, final grade in reading, total activities, and the amount of time spent per week involved in outside-of-school extracurricular activities (Appendix T).

**Recommendations for Policy and Practice**

Investigating the factors associated with student sense of school belonging allowed the researcher to gather information regarding the relationships among sense of school belonging and learning climate, academic achievement, discipline issues, and participation in extracurricular activities. This study provided data which represents the importance of professional development and training within schools in regard to identifying and implementing the necessary interventions and strategies to increase student sense of school belonging within the classroom and school-wide setting.

Prior research suggested sense of school belonging and the student’s academic achievement have a positive relationship (Goodenow, 1992; Linnenbrick & Pintrich,
2000; Solomon et al, 1996) possibly due to higher achievers feeling more liked and respected because more value may rest on grades in middle school (Hamm & Faircloth, 2005a, 2005b; Harter, 1996; Roeser, Midgley, & Urdan, 1996), or sense of school belonging may be shaped by previous academic achievement. Consequently, improving a student’s sense of school belonging will not necessarily increase academic achievement for the student in the future. In order to reinforce the sense of school belonging for those students who are low academic performers, as well as high academic performers, school leaders should consider implementing incentive programs which reward positive behavior and academic effort, as well as academic achievement.

Prior research which suggests that students with disciplinary problems often have a decreased sense of school belonging (Beck, 1997) is supported by the current study. However, this study also supports the research indicating that general disciplinary misconduct within the public school setting is much more prevalent than serious discipline issues (Robers & Truman, 2010). This finding reinforces the need for implementing incentive programs which reward positive behavior.

Findings of this study indicated that a positive correlation exists between sense of school belonging and student perception of the learning climate in regard to the degree to which the social context is autonomy supportive to characterize the quality of the learning environment. Additionally, over 47% of the variance in the school belonging score was explained by the learning climate scale score in the current study. In light of the findings of this study regarding the importance of the classroom learning climate and prior research which indicated that students who perceived their classrooms as autonomy-supportive climates reported higher levels of engagement and valuing of school (Ryan &
Connell, 1989), school leaders should strive to provide students with an autonomy supportive learning climate.

In regard to student interest and engagement in school, teachers have the strongest and most direct influence on students (Osterman, 2000). The only type of support that proved to contribute significantly to student interest or engagement in class was support provided by the teacher, as opposed to parental and peer support (Wentzel, 1998). Prior research has indicated that the teacher in the classroom is likely the most significant variable in the equation. Therefore, sufficient stress cannot be placed on the magnitude of the role in which teachers play in the school-related success and performance of their students.

Administrators can take initial steps to ensure that classroom teachers use autonomy-supportive instructional practices such as offering the students choices in regard to assignments and offering students learning opportunities with the interests and future goals of the individual students in mind. Offering the students a choice may increase motivation and academic engagement (Ingels et al., 1992), and forming personal connections with the information or lesson may increase the likelihood that the information or skill will be retained which encourages active involvement, consequently increasing sense of school belonging (Ingels, Scott, Lindmark, Frankel, & Myers, 1992).

Of notable concern, findings in this study indicated approximately 20% of the participants did not feel able to share their feelings with their teachers. Prior research indicated that students who do not feel secure with teachers and do not view teachers as sources of support exhibit lower school adaptation, motivation, and self-esteem (Ryan et al., 1994). Teacher-student relationships are an important component of student sense of
school belonging, and the quality of those relationships is associated with student motivation and attitudes toward the educational environment (Fraser & Fisher, 1982; Moos, 1979; Tricket & Moos, 1974). The quality of relationships that students have with their teachers in specific classes determines how they feel about school and their classwork (Osterman, 2000). Therefore, school leaders should consider offering professional development and training opportunities for teachers which encompass relationship building between teachers and students as well as training teachers in regard to creating autonomy-supportive learning climates.

Additionally, this study investigated several different aspects associated with extracurricular activities and school belonging such as the amount of time spent participating in school-sponsored activities, amount of time spent participating in outside-of-school activities, total number of activities participated in, and the type of extracurricular activities in which students participated. Prior research indicated that participation in extracurricular activities and structured events resulted in positive school belonging (Feldman & Matjasko, 2005; Fredericks & Eccles, 2005), and more participation in extracurricular activities resulted in a higher sense of school belonging (Brown & Evans, 2002). Additionally, prior research suggested that the positive correlation between school belonging and extracurricular participation was dependent on the type of activity in which the students participated (Fredericks & Eccles, 2005).

Findings of this study suggested that a statistically significant positive, correlation exists between sense of school belonging and the amount of time the student spent per week involved in school-sponsored extracurricular activities and the amount of time the student spent per week involved in outside-of-school extracurricular activities. Although
the amount of time students spent in school-sponsored activities had the greater influence on sense of school belonging, time spent in both school-sponsored and outside-of-school extracurricular activities influenced sense of school belonging. Substantiating the previous findings of Fredericks and Eccles (2006), this study suggests that students involved in more extracurricular activities will have a greater sense of school belonging than students involved in fewer activities.

The current study indicated that higher academic performing students participating in sports activities, pro-social activities, academic activities, and school involvement activities would have a higher sense of belonging than those students participating in other activity types or nonparticipating students. Results of this study were not indicative of a relationship between sense of school belonging and participation in the performing arts. The findings are consistent with the previous study conducted by Fredericks and Eccles (2005) suggesting student athletes reported a higher sense of school belonging than students who did not participate in sports. Another similarity is that students involved in performing arts and academic clubs did not report the same level of school belonging as student athletes which may be due to the status given to student athletes (Fredericks & Eccles). One notable inconsistency of the current study is that a significant correlation existed between school belonging and academic clubs, which had the third-strongest correlation of the activity types. This inconsistency may be due to the inherently participatory and academically interested characteristics of the students who chose to participate in the voluntary study requiring signed parent consent forms and student assent forms.
Prior research suggests participation in extracurricular activities increases sense of belonging and academic performance and decreases discipline problems and dropouts (Feldman & Matjasko, 2005), and allows students the opportunities and experiences that further the total overall development of the student (Holland & Andre, 1987). Anderman and Freeman (2004) concluded that it may be just as important to develop student participation in extracurricular activities, as well as academic programs. Because both the total number of activities and the time spent participating in extracurricular activities are correlated with an increased sense of school belonging, providing students with increased opportunities for participation in extracurricular activities would be beneficial.

In addition, due to results indicating that participation in outside-of-school extracurricular activities, in regard to time spent and number of activities, is positively correlated with sense of school belonging, greater encouragement regarding participation in community-based extracurricular activities is needed in most schools. In many cases, partnerships can be created between the schools and community-based organizations which foster mutually beneficial relationships.

Limitations and Delimitations

1. The participants in this study were limited to eighth grade middle school students enrolled in three public schools in the coastal south.

2. The findings of this study are generalizable only to those middle schools in the coastal south which were selected and participated in the study.

3. The findings of this study were limited to self-reported data.
4. The participants in this study were required to obtain parent permission; therefore, this study may have been limited to students with higher levels of parental involvement.

5. Participation in this study was voluntary and required student assent; therefore, this study may have been limited to inherently participatory students with higher levels of academic interest.

Recommendations for Future Research

1. Conduct the study throughout a school district to ensure participation of elementary, middle, and high school students.

2. Conduct the study throughout an entire school district to gather longitudinal data.

3. Participation should be voluntary and confidential, as opposed to voluntary and anonymous, to allow the researcher to reduce the reliance on self-reported data.

4. Limit self-reported data to the school belonging scale, learning climate scale, and extracurricular participation.

5. Utilize school records for information regarding academic achievement, discipline sanctions, school-sponsored extracurricular activities, and specific teachers to responses regarding the learning climate scale.

6. Include additional variables such as standardized test scores to measure academic achievement.

7. Include questionnaire items which measure intent to graduate for the purpose of improving dropout prevention programs specific to a particular school or district.
Conclusion

In Chapter I, the researcher introduced the study and provided the necessary theoretical framework. The researcher proposed a statement of the problem to be investigated and provided research hypotheses which guided the study. The researcher provided justification for the study through discussion of the potential benefits. In Chapter II, the researcher provided an overview of the relevant literature. In Chapter III, the researcher introduced the proposed study and explained the methodology used in the study. Research design and participants were described and variables of interest were identified. The researcher provided a detailed description of the instrumentation used in the study and described the data collection procedures. In Chapter IV, a brief introduction to the study was presented along with demographic information relevant to the sample. Means and standard deviations for both the PSSM and the LCQ were presented. Scales and reliability were explained, hypotheses were tested, and findings were presented. Chapter V presented a summary of the study, interpretation of the findings, and the implications of those findings. In addition, recommendations for policy and practice, limitations and delimitations of the study, and recommendations for future research were discussed.

The purpose of this quantitative study was to examine correlations among sense of school belonging and the classroom learning climate, previous academic achievement, frequency of disciplinary sanctions, and participation in extracurricular activities. Findings of this study suggested that statistically significant positive correlations exist among student sense of school belonging and the learning climate scale, self-reported final grades in both reading and math, and participation in extracurricular activities. In
regard to extracurricular activities, the findings of this study indicated that there are statistically positive correlations among sense of school belonging and the total number of activities students are involved in, amount of time spent involved in both school-sponsored and out-of-school activities, and the type of activity involved in. In addition, findings indicated that a statistically significant negative correlation exists between sense of school belonging and frequency of discipline sanctions.
APPENDIX A

MIDDLE SCHOOL STUDENT SENSE OF BELONGING QUESTIONNAIRE

PART ONE: STUDENT INFORMATION

1. What is your sex?
   o Male
   o Female

2. Please select one or more of the following choices to best describe your race.
   o White
   o Black/African American
   o Hispanic or Latino/Latina
   o Asian
   o Native Hawaiian or Other Pacific Islander
   o American Indian or Alaska Native
   o Other

3. In what grade are you enrolled during the current school year (2011-2012)?
   o 7th grade
   o 8th grade

4. What was your final grade in READING last year?
   o A or a numerical average of 90-100
   o B or a numerical average of 80-89
   o C or a numerical average of 70-79
   o D or a numerical average of 60-69
   o Below D or a numerical average less than 60
   o Does not apply to me – my classes are not graded

5. What was your final grade in MATH last year?
   o A or a numerical average of 90-100
   o B or a numerical average of 80-89
   o C or a numerical average of 70-79
   o D or a numerical average of 60-69
   o Below D or a numerical average less than 60
   o Does not apply to me – my classes are not graded

PART TWO: EXPERIENCES & EXPECTATIONS

6. How many times did the following things happen to you during the last school year?
   a) I got in trouble for not following school rules.
      o Never
b) I was put on in-school suspension (ISS).
   ○ Never
   ○ 1-2 times
   ○ 3-6 times
   ○ 7-9 times
   ○ 10 or more times

    c) I was suspended (OSS).
       ○ Never
       ○ 1-2 times
       ○ 3-6 times
       ○ 7-9 times
       ○ 10 or more times

d) I was transferred to another school for disciplinary reasons.
   ○ Never
   ○ 1-2 times
   ○ 3-6 times
   ○ 7-9 times
   ○ 10 or more times

7. In a typical week, how much time do you spend on SCHOOL-SPONSORED extracurricular activities (for example, sports and school clubs)?

   ○ 0 hours
   ○ 1-2 hours
   ○ 3-4 hours
   ○ 5-6 hours
   ○ 7-8 hours
   ○ 9-10 hours
   ○ More than 10 hours

8. Have you ever participated in any of the following SCHOOL-SPONSORED activities at any time during middle school, either as a member, or as an officer (for example, president, vice-president, coordinator, team captain)?

   a) Science fairs

   b) School Team sports (such as baseball, soccer, football, etc.)

   c) School Individual sports (such as tennis, golf, etc.)

   d) Cheerleading
e) Band or orchestra  
f) Chorus or choir  
g) Dance  
h) History club  
i) Science club  
j) Math club  
k) Foreign language club  
l) Other subject matter club  
m) Debate or speech team  
n) Drama club  
o) Academic Honor Society (Beta)  
p) Student newspaper  
q) Student yearbook  
r) Student council  
s) Computer club  
t) Religious organization  
u) Vocational education club  
v) Other school club or activity

9. In a typical week, how much time do you spend on OUTSIDE-SCHOOL activities (for example, sports and school clubs)?  
   o 0 hours  
   o 1-2 hours  
   o 3-4 hours  
   o 5-6 hours  
   o 7-8 hours  
   o 9-10 hours  
   o More than 10 hours
10. Have you ever participated in any of the following OUTSIDE-SCHOOL activities at any time during middle school, either as a member or as an officer (for example, president, vice-president, coordinator, team captain)?

   a) Scouting
   b) Religious youth groups
   c) Hobby clubs
   d) Neighborhood clubs or programs
   e) Boys’ club or Girls’ club
   f) Non-school team sports
   g) 4-H
   h) Y or other youth groups
   i) Summer programs such as workshops or institutes in science, drama, sports, etc.
   j) Other

PART THREE: STUDENT SENSE OF SCHOOL BELONGING
Psychological Sense of School Membership Scale (PSSM)

Circle the answer for each statement that is most true for you:

11. I feel like a real part of (name of school).
   Not at all true-1 2 3 4 5-Completely true

12. People here notice when I’m good at something.
   Not at all true-1 2 3 4 5-Completely true

13. It is hard for people like me to be accepted here.
   Not at all true-1 2 3 4 5-Completely true

14. Other students in this school take my opinions seriously.
15. Most teachers at (name of school) are interested in me.

Not at all true-1 2 3 4 5-Completely true

16. Sometimes I feel as if I don’t belong here.

Not at all true-1 2 3 4 5-Completely true

17. There’s at least one teacher or other adult in this school I can talk to if I have a problem.

Not at all true-1 2 3 4 5-Completely true

18. People at this school are friendly to me.

Not at all true-1 2 3 4 5-Completely true

19. Teachers here are not interested in people like me.

Not at all true-1 2 3 4 5-Completely true

20. I am included in lots of activities at (name of school).

Not at all true-1 2 3 4 5-Completely true

21. I am treated with as much respect as other students.

Not at all true-1 2 3 4 5-Completely true

22. I feel very different from most other students here.

Not at all true-1 2 3 4 5-Completely true

23. I can really be myself at this school.

Not at all true-1 2 3 4 5-Completely true

24. The teachers here respect me.

Not at all true-1 2 3 4 5-Completely true

25. People here know I can do good work.
26. I wish I were in a different school.

<table>
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<tr>
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27. I feel proud of belonging to (name of school).

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28. Other students here like me the way I am.

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PART FOUR: THE LEARNING CLIMATE QUESTIONNAIRE

The following questions are related to your experience with your teachers. Teachers have different styles of teaching and dealing with students, and the following questions are about how you have felt about your experiences with your teachers during middle school. Please be honest.

29. I feel that my teachers provide me choices and options.

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30. I feel understood by my teachers.

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31. I am able to be open with my teachers during class.

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32. My teachers convey confidence in my ability to do well in the course.

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33. I feel that my teachers accept me.
34. My teachers made sure I really understood the goals of the course and what I need to do.

1 2 3 4 5 6 7
strongly disagree neutral strongly agree

35. My teachers encouraged me to ask questions.

1 2 3 4 5 6 7
strongly disagree neutral strongly agree

36. I feel a lot of trust in my teachers.

1 2 3 4 5 6 7
strongly disagree neutral strongly agree

37. My teachers answer my questions fully and carefully.

1 2 3 4 5 6 7
strongly disagree neutral strongly agree

38. My teachers listen to how I would like to do things.

1 2 3 4 5 6 7
strongly disagree neutral strongly agree

39. My teachers handle people's emotions very well.

1 2 3 4 5 6 7
strongly disagree neutral strongly agree

40. I feel that my teachers care about me as a person.

1 2 3 4 5 6 7
41. I don't feel very good about the way my teachers talk to me.

1  strongly disagree  2  neutral  3  strongly agree
4  strongly disagree  5  neutral  6  strongly agree  7

42. My teachers try to understand how I see things before suggesting a new way to do things.

1  strongly disagree  2  neutral  3  strongly agree
4  strongly disagree  5  neutral  6  strongly agree  7

43. I feel able to share my feelings with my teachers.

1  strongly disagree  2  neutral  3  strongly agree
4  strongly disagree  5  neutral  6  strongly agree  7

This project has been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820.
APPENDIX B
PERMISSION REQUEST-USE OF PSSM
PSYCHOLOGICAL SENSE OF SCHOOL MEMBERSHIP SCALE

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Questionnaires

http://www.psych.rochester.edu/SDT/questionnaires.php

Research on Self-Determination Theory has included laboratory experiments and field studies in several different settings. In order to do this research, we have developed many questionnaires to assess different constructs contained within the theory. There is a separate page for each questionnaire (or each family of questionnaires). Each questionnaire page will typically include not only the scale itself, but also a description of the scale, a key for the scale, and references for articles, which describe studies that used the scale. Each page also includes a Word file, which you can download if you would like to use the questionnaire in your own research.

*** Please note that all questionnaires on this web site, developed for research on self-determination theory, are copyrighted. You are welcome to use the instruments for your own research projects. However, you may not use any of them for any commercial purposes without written permission to do so from Edward L. Deci and Richard M. Ryan.

Click on any questionnaire name below to access to the scale or set of questionnaires and other information.

- **General Causality Orientations Scale (GCOS)**
  This is an individual difference measure of people's relatively enduring motivational orientations and was developed for use with individuals who are at least 17 years of age. It assesses autonomous, controlled, and impersonal causality (motivational) orientations.

- **Perceived Autonomy-Supportive Climate Questionnaires**
  This is a family of questionnaires that assesses the perceptions of individuals about the degree to which a particular social context is autonomy supportive versus controlling. Included are the health care climate (HCCQ); the learning climate (LCQ); the work climate (WCQ); and the sports climate (SCQ).

- **Self-Regulation Questionnaires (SRQ)**
  This is a family of questionnaires that assesses the degree to which an individual's motivation for a particular behavior or behavioral domain tends to be relatively autonomous versus relatively controlled. It includes academic (for children), prosocial, health care, learning (for adults), gymnastics/exercise, religion, and friendship.

- **Perceived Competence Scale (PCS)**
  This is a family of very short questionnaires that assess how competent people perceive themselves to be with respect to a particular behavior or behavioral domain. SDT emphasizes that it is important for individuals to feel both autonomous and competent with respect to a
behavior or behavioral domain in order to display optimal motivation, performance and well-being. PCS is often used in conjunction with the SRQ. Because the PCS pertains to particular behaviors or behavioral domains, it can be easily adapted to study additional behaviors or behavioral domains.

- **Intrinsic Motivation Inventory (IMI)**
  The IMI was developed to assess participants' subjective experience related to experimental tasks. Specifically, it is used in intrinsic motivation laboratory experiments in which participants have worked on an interesting activity within some experimental condition, and the IMI assesses their levels of interest/enjoyment; perceived competence; effort; value/usefulness; felt pressure and tension; and perceived choice while they were performing the activity.

- **Health Care SDT Packet (HC-SDT)**
  The HC-SDT is a set of questionnaires related to assessing three SDT constructs as they relate to four health-relevant behaviors. The behaviors are smoking cessation, diet improvement, exercising regularly, and drinking responsibly. The SDT constructs for each behavior are self-regulation (SRQ), perceived competence (PCS), and the perceived autonomy supportiveness of the health care climate (HCCQ).

- **Aspirations Index (AI)**
  The AI assesses people's intrinsic and extrinsic life goals or aspirations. That is, it measures the degree to which people value seven broad goal contents—wealth, fame, image, personal growth, relationships, community contribution, and health. The instrument is used in research relating the content of people's goals to constructs such as mental health and risk behaviors.

- **Basic Psychological Needs Scale (BPNS)**
  Self-determination theory posits three universal psychological needs and suggests that these must be ongoingly satisfied for people to maintain optimal performance and well-being. The BPNS is a set of questionnaires that assess the degree to which people feel satisfaction of these three needs. There is a general form, as well as domain specific forms for work and relationships.

- **Self-Determination Scale (SDS)**
  This short scale addresses the degree to which adults tend to be self-determined in their lives. It includes two five-item subscales: one that assesses the degree to which feel a sense of choice in their lives; and one that assesses the degree to which they feel like themselves, that their emotions feel like an integral part of them.

- **Subjective Vitality Scale (VS)**
  This measures the extent to which people vital, energized, and alive. There is both a state version and a trait version. The original scale had 7 items, but a shorter version with just 4 items has recently been validated.

- **Motivators' Orientation**
  This set of questionnaires concerns the degree to which individuals in supervisory capacities tend to be autonomy supportive versus controlling. One questionnaire, called the Problems in Schools Questionnaire, assesses the degree to which teachers tend to be autonomy supportive versus controlling; the other, called the Problems at Work Questionnaire, assesses the degree to which managers in the workplace tend to be autonomy supportive versus controlling. Whereas, the Perceived Autonomy-Supportive Climate Questionnaires measure the perceptions of, say, students and subordinates about the autonomy supportiveness of their teachers and managers, the Motivators' Orientation questionnaires are completed by the teachers or managers themselves about their own style of motivating others (the students or subordinates).

- **Perceptions of Parents**
These questionnaires assess children's perceptions of the degree to which their parents are autonomy supportive versus controlling in their approach to parenting. There are two versions of this questionnaire: one for late elementary and middle school children, and the other for college-aged children.

• **Christian Religious Internalization Scale (CRIS)**
This scale is also referred to as the Religion Self-Regulation Questionnaire (SRQ-R). It appears within the Self-Regulation Questionnaires section of this web site. You can visit the CRIS link at the beginning of this paragraph and that will take you to the actual scale. Alternatively, you can go to the Self-Regulation Questionnaires(SRQ) section, which will take you to an overview of the Self-Regulation family of questionnaires, along with scoring information. From there, you can go to the Religion Self-Regulation Questionnaire subsection.

• **Treatment Motivation Questionnaire (TMQ)**
This scale is a variant of the Treatment Self-Regulation Question (TSRQ) which preceded the TSRQ. The TMQ was developed for research in an alcohol treatment program (Ryan, Plant, & O'Malley, 1995) and has also been used in a study of methadone treatment. The scale appears within the Treatment Self-Regulation Questionnaire page of this web site, which is within the Self-Regulation Questionnaires (SRQ) section. You can visit the TMQ link at the beginning of this paragraph and it will put you in the TSRQ section; then you just scroll down until you come to the TMQ. Alternatively, you can go to the Self-Regulation Questionnaires (SRQ) section, which will take you to an overview of the Self-Regulation family of questionnaires. From there, you can go to the Treatment Self-Regulation Questionnaire subsection and scroll down to reach the TMQ.

• **Motives for Physical Activity Measure (MPAM-R)**
The MPAM-R is concerned with the people's motives for participating in physical activities such as exercise, aerobics, etc. Five motives are assessed; fitness, appearance, competence, enjoyment, and social. The scale is a revision of an earlier measure by the same name.

• **Mindful Attention Awareness Scale (MAAS)**
The MAAS is a measure of receptive awareness of and attention to present-moment events and experience. The scale has been used in research pertaining to emotional, cognitive, behavioral, physical health, and interpersonal processes.

• **Problems in Schools Questionnaire: Adults' Orientation toward Control (PIS)**
This questionnaire assesses whether teachers and parents are oriented toward supporting the autonomy versus controlling behavior of children. You can get to this questionnaire by clicking the link at the beginning of this paragraph. Alternatively, you can go to the Motivators' Orientations questionnaires section, which will give you an overview of this family of questionnaires, along with scoring information. From there, you can go to the Problems in Schools Questionnaire subsection.
June 18, 2011

Educational Leadership Program
118 College Drive #6927
University of Southern Mississippi
Hattiesburg, MS 35965

To Whom it May Concern:

USM Doctoral Program student, Stacy Lee, has requested to complete a research project with one of her courses with our school district. She will be completing questionnaires related to the perception of belonging in the middle school. She has provided us with a copy of the student questionnaire and the Institutional Review Board Proposal.

We would be delighted to host Ms. Lee as she completes her studies related to this project with our staff, students, and parents. If you need any additional information from us, feel free to contact me.

Sincerely,

[Signature]

Dannie Stidston
Assistant Superintendent
June 28, 2011

Ms. Stacey Lee
16201 Rivendell Way
Pkeavne, MS 38945

Dear Ms. Lee:

You have my permission to conduct student surveys regarding "Student Perception of School Belonging" at Pass Christian Middle School.

Sincerely,

Sue Matheson, Ed.D.
Superintendent
APPENDIX D-3
LETTER OF APPROVAL FROM SUPERINTENDENT'S OFFICE
SCHOOL C

Ocean Springs School District
200 Convent Street, Ocean Springs, MS 39564
Phone: 228-875-8750
Fax: 228-875-8716

July 12, 2011

To Whom It May Concern:

The Ocean Springs School District permits Stacy M. Lee, doctoral candidate at the University of Southern Mississippi, to conduct student surveys at Ocean Springs Middle School regarding student perception of school belonging.

Sincerely,

Deborah Frenia
Assistant Superintendent Personnel
APPENDIX E
INSTITUTIONAL REVIEW BOARD LETTER OF APPROVAL

THE UNIVERSITY OF SOUTHERN MISSISSIPPI
INSTITUTIONAL REVIEW BOARD
110 Administration Bldg. University, MS 39406-5040
Ph: 228-865-3583 FAX: 228-865-4807 www.usm.edu

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 114), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding Risks to subjects must be reported immediately, but no later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Event Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 11072601
PROJECT TITLE: Correlations Among Students' Sense of School Belonging and Factors Associated with Students' School Success
PROJECT TYPE: Dissertation
RESEARCHER(S): Stacey McGuire Lee
COLLEGE/DIVISION: College of Education & Psychology
DEPARTMENT: Educational Leadership & School Counseling
FUNDING AGENCY: N/A
IRB COMMITTEE ACTION: Exempt Approval
PERIOD OF PROJECT APPROVAL: 09/09/2011 to 03/08/2012

[Signature]
Lawrence A. Homan, Ph.D.
Institutional Review Board Chair

[Signature]
Date
APPENDIX F
PARENT PERMISSION LETTER

Dear Parent or Guardian,

Your child has been asked to voluntarily participate in a research study concerning Student Sense of School Belonging. The study will involve your child answering a questionnaire about their thoughts and feelings concerning their school environment. Your child’s answers will give us helpful information which will allow us to understand how to improve student sense of school belonging which may make the school experience better for many students in the future. There is no direct benefit to your child for participating in this study other than the opportunity to give his or her opinions.

Your child’s answers on the questionnaire are completely anonymous and confidential. The questionnaire will be administered by your child’s teacher with the guidance of the school counselor. Your child’s teacher will explain why the study is being done and answer any questions that your child may have in regard to the study. Your child may volunteer to participate in the study by signing the Student Assent Form after returning a signed Parent Permission Letter.

The questionnaire will be administered during a regularly scheduled, non-tested class through a secure online administration system, Survey Monkey. This will allow the data from the questionnaire to be transferred directly from the student to the researcher. This ensures confidentiality of your child’s responses.

Your child will complete the questionnaire in a setting that is free of distractions and will be seated in a manner that does not allow others to view their answers. The questionnaire will take approximately 15 to 30 minutes to complete. Your child will not miss any graded assignments. The students who are not completing the questionnaire will work on an enrichment (non-graded) assignment provided by the teacher.

There are no major risks associated with participation in this study, and your child will be allowed to discontinue participation at any point of the study without penalty. If your child appears to become upset or uncomfortable at any point, the teacher will send your child to the school counselor and your child will not continue to participate in the study. The counselor will offer your child counseling, and you will be contacted. The counselor may refer your child to an outside agency if necessary.

All data collection documents and participant questionnaire data will be kept by the researcher in a locked file cabinet and all data will be destroyed within a period of five years. Participation in this research study is completely voluntary, confidential, and anonymous. All data will be aggregated so that no individual responses are recognizable.

If you would like additional information, you may contact me at stacey.lee@eagles.usm.edu or 601.569.4421. I am a Ph.D. student in the Educational Leadership program at The University of Southern Mississippi, and I am the researcher responsible for this study. Thank you for your consideration.

Respectfully,

Stacey M. Lee

This information page is yours to keep. Please fill-out and return page 2 of this letter.

This project has been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820.
Please be informed that your child is not required to participate in the study regarding Student Sense of School Belonging. Participation is strictly voluntary and your child can cease to participate at any time, without penalty, loss of benefits, or prejudice.

Please select your choice and sign the form below.

____ YES, I would like for my child, ____________________________________________ to participate in the research study regarding Student Sense of School Belonging described in the letter above.

____ NO, I would not like for my child, ____________________________________________ to participate in the research study regarding Student Sense of School Belonging described in the letter above.

Parent/Guardian’s Name   (Printed)

Parent/Guardian’s Name   (Signature)

Date

Page 2 of 2

Parent’s Initials: _______
APPENDIX G
STUDENT ASSENT FORM

You are being asked to voluntarily participate in a research study concerning Student Sense of School Belonging which will involve answering a questionnaire regarding your thoughts and feelings about your experiences at school. Your answers will give us helpful information which will allow us to understand how to improve student sense of school belonging which may make the school experience better for many students in the future. Your answers to all questions are completely anonymous (your name is not given on the questionnaire) and confidential (answers will be kept private).

If you volunteer to participate, you will complete the questionnaire online during class through Survey Monkey, which will allow your answers to be sent directly to the researcher. The questionnaire will only take 15 to 30 minutes to complete. You are not required to participate in the study. You will not miss any graded assignments. The students who are not completing the questionnaire will work on an enrichment (non-graded) assignment provided by your teacher.

Although no major risks to you are associated with this study, your teacher has been asked to be aware of any students who appear to become upset or uncomfortable. Your teacher will send those students to the school counselor, and those students will not continue to participate in the study. If you are upset by the questionnaire, please tell your teacher.

There is no direct benefit to you for participating in this study other than the opportunities to give your opinions. Participation is strictly voluntary, and you will be allowed to stop participating at any point without penalty, prejudice, or loss of benefits. All data will be kept by the researcher in a locked file cabinet and will be destroyed within a period of five years. All data will be aggregated so that no individual responses are recognizable.

If you would like additional information, you may contact me at stacey.lee@eagles.usm.edu or 601.569.4421. I am a Ph.D. student in the Educational Leadership program at The University of Southern Mississippi, and I am the researcher responsible for this study.

This project has been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820.

Please complete and return the form below:

Please select YES or NO:

_____ YES. My parent, (Print Parent’s Name)________________________________________, has completed and signed the Parent Permission Letter for me to participate in the research study regarding Student Sense of School Belonging described in the letter above. I have returned the signed Parent Permission Letter to my teacher.

_____ YES. I, (Print Your Name)________________________________________, would like to volunteer to participate in the research study regarding Student Sense of School Belonging described in the letter above.

_____ NO. I, (Print Your Name)________________________________________, would not like to volunteer to participate in the research study regarding Student Sense of School Belonging described in the letter above.

Student Name (Print)________________________________________ Date__________________

Student Signature________________________________________
APPENDIX H

DESCRIPTIVES: SCHOOL BELONGING SCORE (PSSM)

Descriptives: School Belonging Score (PSSM)

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<th>Std. Deviation</th>
<th>Std. Error</th>
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<th>Upper Bound</th>
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**APPENDIX I**

**TUKEY POST-HOC TEST: SCHOOL BELONGING**

*Tukey Post-hoc Test: School Belonging*

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<th>Dependent Variable-School Belonging</th>
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**APPENDIX J**

**TUKEY POST-HOC TEST: LEARNING CLIMATE QUESTIONNAIRE**

*Tukey Post-hoc Test: Learning Climate Questionnaire*

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<tr>
<th>Dependent Variable- LCQ Score</th>
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## APPENDIX K

**TUKEY POST-HOC TEST: FINAL READING GRADES**

_Tukey Post-hoc Test: Final Reading Grades_

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### APPENDIX L

#### TUKEY POST-HOC TEST: FINAL MATH GRADES

*Tukey Post-hoc Test: Final Math Grades*

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<th>Dependent Variable - Math Grades</th>
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## APPENDIX M

MEANS AND STANDARD DEVIATIONS OF SCHOOL-SPONSORED EXTRACURRICULAR ACTIVITIES

Means and Standard Deviations of School-Sponsored Extracurricular Activities

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APPENDIX N
MEANS AND STANDARD DEVIATIONS OF OUTSIDE OF SCHOOL ACTIVITIES

*Means and Standard Deviations of Outside-of-School Activities*

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<td>.49316</td>
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<td>Summer Program/Institute</td>
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<td>.48281</td>
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<td>4-H Club</td>
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APPENDIX O

TUKEY POST-HOC TEST: TOTAL ACTIVITIES

Tukey Post-hoc Test: Total Activities

<table>
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<tr>
<th>Dependent Variable</th>
<th>(I) School</th>
<th>(J) School</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
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<tbody>
<tr>
<td>Total Activities</td>
<td>School A</td>
<td>School B</td>
<td>-2.05229*</td>
<td>.68970</td>
<td>.023</td>
<td>-3.4533 - .2017</td>
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<tr>
<td></td>
<td>School C</td>
<td>School B</td>
<td>1.82748*</td>
<td>.58846</td>
<td>.002</td>
<td>-3.4395 - .6651</td>
</tr>
<tr>
<td></td>
<td>School A</td>
<td>School C</td>
<td>.22481</td>
<td>.78311</td>
<td>.956</td>
<td>-1.6212 2.0708</td>
</tr>
<tr>
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<td>School A</td>
<td>School B</td>
<td>.22481</td>
<td>.78311</td>
<td>.956</td>
<td>-1.6212 2.0708</td>
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</table>

* Denotes significance at the 0.05 level.
APPENDIX P

MODEL SUMMARY: MULTIPLE REGRESSION-RESEARCH HYPOTHESIS 7

Model Summary: Multiple Regression-Research Hypothesis 7

<table>
<thead>
<tr>
<th>Model</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>R Square Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
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</thead>
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<tr>
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a. Predictors: (Constant), Outside of School Hours Spent, School Sponsored Hours Spent
### APPENDIX Q

**COEFFICIENTS: MULTIPLE REGRESSION-RESEARCH HYPOTHESIS 7**

*Coefficients: Multiple Regression-Research Hypothesis 7*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Collinearity Statistics</th>
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</thead>
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<td></td>
<td>Std. B</td>
<td>Error</td>
<td>Beta</td>
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<td>1 (Constant)</td>
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<td>.070</td>
<td></td>
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<tr>
<td>Time-O/S Activities</td>
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<td>.031</td>
<td>.172</td>
</tr>
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</table>

a. Dependent Variable: School Belonging Score (PSSM)
**APPENDIX R**

**MODEL SUMMARY: MULTIPLE REGRESSION-RESEARCH HYPOTHESIS 10**

*Model Summary: Multiple Regression-Research Hypothesis 10*

<table>
<thead>
<tr>
<th>Model</th>
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<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Std. Error of the Estimate</th>
<th>$R^2$ Change</th>
<th>$F$ Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. $F$ Change</th>
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<td>.560</td>
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$^a$ Predictors: (Constant), Outside of School Hours Spent, Discipline Scale, LCQ-Perception of Learning Climate, Total Activities, Final Reading Grade, School Sponsored Hours Spent, Final Math Grade

b. Dependent Variable: School Belonging Score (PSSM)
## APPENDIX S

### COEFFICIENTS: MULTIPLE REGRESSION-RESEARCH HYPOTHESIS 10

*Coefficients: Multiple Regression-Research Hypothesis 10*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Correlations</th>
<th>Collinearity Statistics</th>
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</thead>
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<td></td>
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<td>Std. Error</td>
<td>Beta</td>
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<td>Math Grade</td>
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a. Dependent Variable: School Belonging Score (PSSM)
## APPENDIX T

### CORRELATIONS: MULTIPLE REGRESSION-RESEARCH HYPOTHESIS 7

**Correlations: Multiple Regression-Research Hypothesis 7**

<table>
<thead>
<tr>
<th></th>
<th>School Belonging Score (PSSM)</th>
<th>School Sponsored-Time Spent</th>
<th>Outside of School-Time Spent</th>
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<td>PSSM</td>
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<td>O/S-Time Spent</td>
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<td>Sig. (1-tailed)</td>
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<td>PSSM</td>
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<td>S/S-Time Spent</td>
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<td>S/S-Time Spent</td>
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<td>O/S-Time Spent</td>
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### APPENDIX U

**CORRELATIONS: MULTIPLE REGRESSION-RESEARCH HYPOTHESIS 10**

_Correlations: Multiple Regression-Research Hypothesis 10_

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<th>Reading Grade</th>
<th>Math Grade</th>
<th>Discipline Scale</th>
<th>Total Activities</th>
<th>S/S-Time</th>
<th>O/S-Time</th>
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doi:10.3102/00346543075001063


doi:10.1111/1467-8624.ep9712191527.


