HIGH SCHOOL ADMINISTRATOR GENDER AND THE

IMPACT ON SCHOOL FACTORS

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for believing in me, for listening, for bringing me coffee on Tuesdays before class, for taking the kids when needed, and for understanding why I had to spend the whole day at Starbucks. To my mom, thank you for being my cheerleader and my shoulder to cry on. You have inspired me, always reminding me that I can do anything. You have offered me unwavering love and support. To Luke and Leah, thank you for your love, support and encouragement. You have been there for any kind of help I have needed, and I am truly grateful.

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ABSTRACT

HIGH SCHOOL ADMINISTRATOR GENDER AND THE

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Female representation in leadership positions around the country is on the rise. More and

more females hold CEO positions, political leadership, and partnerships in law firms,

fields typically dominated by males. Research has found females to be equal or superior

leaders to their male counterparts. It would seem only natural that females would

continue to rise as leaders in fields traditionally dominated by women, a field such as

education. However, the number of female leaders in education (principals and

administrators) has remained stagnant over the years. While over 80% of the educational

workforce is female, women hold an average of just over 50% of leadership positions.

The purpose of the current study was to explore this phenomenon by examining the

differences between female and male leaders. This research sought to determine how the

perceptions of teachers and principals, across the nation, differ according to principal and

teacher gender. This study specifically investigated perceptions of teachers and principals

in the areas of principal support, school climate, and school problems. Principal and

teacher questionnaires completed as part of the High School Longitudinal Study of 2009 (HSLS:09) were examined using an ANCOVA analysis. The purpose of an ANCOVA analysis was to hold constant covariates that might influence teacher and principal perceptions such as school demographics, school location, urbanicity, race and ethnicity, and socioeconomic status. Although the study found no significant difference in teacher or principal perceptions of leadership effectiveness based on teacher or principal gender, several strong correlations were found within the research variables of principal support, school climate, and school problems, and the covariates that were held constant. The results of the study suggest that school factors, such as the covariates listed above, other than gender influence teacher and principal perceptions of educational leadership effectiveness.

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CHAPTER I:

INTRODUCTION

Women's roles in leadership are on the rise, particularly in arenas traditionally dominated by men (Eagly & Carli, 2003). Catalyst (2014) reported within the last ten years, from approximately 2003 to 2013, there has been a 3% rise in Fortune 500 Board seats held by women, a 6% rise in Financial Post 500 board seats held by women, and a 4% increase in senior officer positions held by women. Additionally, according to the Pew Research Center (2015):

- there has been nearly a 20% increase in state female legislators since 1971
- one-in-three legal professionals are women and one-in-five are partners in private law firms
- women make up 24% of U.S. federal judges and 27% of state court judges
- women account for 30% of the physician workforce in the U.S.
- this year, a record number of 104 women were sworn in as members of the 114th Congress, a representation of approximately 19% of Congress

Additionally, The Center for American Women and Politics (2018) reports that 110 women currently serve as members of congress, 23 women in the senate and 87 women in the House of Representatives.

While women continue to rise into leadership positions in fields traditionally dominated by men, such as the business and political fields, female leadership should naturally be rising in fields traditionally dominated by women. Female leadership in education should more than mirror the business and political trend; it should reflect the majority of the working force. However, this is not the case. Grogan and Shakeshaft (2011) reported that while more than 80% of the teaching force is female, women only hold 50.3% of all school principal positions. A recent study conducted by the National

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Center for Education Statistics (NCES) reported that 52% of public-school principals and 55% of private school principals in the 2011-2012 school year were female (Hill, Otten, & DeRoche, 2016). Roser, Brown, and Kelsey (2009) examined the relationship between principal gender and Texas schools, finding that women held 55.6% of principal positions in Texas. While the majority of principal positions in Texas seem to be held by females, the study also revealed that 73.5% of female principals held positions at the elementary level, 41.3% at the junior high level (grades 6–8), and only 29.8% at the high school level (grades 9–12) (Roser, Brown, & Kelsey, 2009). While these numbers seem to reveal that female leadership in education is on the rise, Grogan and Shakeshaft (2011) maintained that males continue to dominate educational leadership positions in K-12 schools. The time has come to examine possible explanations for such a disproportionate representation of females in educational leadership.

The same report by the Pew Research Center (2015) found that a majority of Americans view female leaders, when compared with male leaders, as equally capable in leadership ability and equal in the possession of important leadership traits. Although a majority of Americans made no distinctions between male and female leaders, those who did see differences in leadership perceived female political and business leaders as being better at compromising, standing up for their beliefs, working to improve the quality of life, mentoring other employees, and as more honest, fair, and ethical than their male counterparts (Pew Research Center, 2015). Additionally, several researchers assert that female leaders are perceived as better communicators, stewards of the school mission and vision, relationship builders, and advocates for students (Eagly & Carli, 2003; Nogay & Beebe, 1997; Wrushen & Sherman, 2008). As supported by research, if females are perceived as equal or superior leaders to their male counterparts in the previously stated areas, then why does the number of female administrators in education continue to lag

behind the number of male administrators when the majority of the working force in education is female?

Need for the Study

Roser, Brown, and Kelsey (2009) offered data that is representative of Texas; further data should be collected that will be more representative of national trends. In order to determine if female representation in educational leadership is rising, reflecting that of business and political fields, the examination of a national data set is necessary.

Additionally, Labby, Lunenburg, and Slate (2013) assert that the role of the principal is becoming increasingly more demanding and complicated. They summarized their research and concluded that principals must have a multi-faceted skillset that includes flexibility, adaptability, the ability to lead change, create a mission with purpose and lead the staff in accomplishing this mission, close achievement gaps and increase student achievement within their schools all while managing students, staff, and concerns from parents and the community (Labby, Lunenburg, & Slate, 2013). As the role of principal changes, it is necessary to determine if females are as capable as males of meeting these demands. Sanchez and Thornton (2010) emphasize that "educational institutions and professional organizations must support and encourage research on gender issues in educational leadership" (p.10). While research conducted by the Pew Research Center (2015) reveals the publics' perception of female leadership in business and politics, national data must be examined to determine if perceptions of female educational leaders reflect national trends. Research on a national level will increase gender awareness and bring light to the advancement of females in leadership roles in educational positions.

Purpose of the Study

The purpose of this study was two-fold. First, the researcher sought to explore the relationship between principal gender and the 9-12 school setting across a national data set. Second, the study explored how the perceptions of teachers and principals, across the nation, differ according to principal and teacher gender. This study sought to investigate perceptions specifically in the areas of principal support, school climate, and school problems.

Research Questions

The following research questions guided this investigation:

Research question one

Is there a significant difference in overall teachers' perceptions of principal support based on principal gender?

- Is there a significant difference in teachers' perceptions of principal support based on teacher gender?

Research question two

Are there significant differences in female and male principals' perceptions of school problems?

Research question three

Are there significant differences in teachers' perceptions of school problems based on principal gender?

- Is there a significant difference in teachers' perceptions of school problems based on teacher gender?

Research question four

Are there significant differences in principals' perceptions of school climate based on principal gender?

Hypotheses

Based on the research, the following hypotheses were drawn:

- There will be a significant difference in overall teacher perceptions of principal support based on principal gender.
  - There will be a significant difference in teachers' perceptions of principal support based on teacher gender.
- There will be a significant difference in male and female principals' perceptions of school problems.
- There will be a significant difference in teacher perceptions of school problems based on principal gender.
  - There will be a significant difference in teachers' perceptions of school problems based on teacher gender.
- There will be a significant difference in principals' perceptions of school climate based on principal gender.

Constitutive Definitions

Gender

Gender is "the state of being male or female as expressed by social or cultural distinctions and differences, rather than biological ones; the collective attributes or traits associated with a particular sex or determined as a result of one's sex" (Oxford English Dictionary).

Perception

Perception is defined as "the capacity to be affected by a phenomenon without direct contact with it; an instance of such influence. Also, the process of becoming aware of phenomena, through the senses; observation" (Oxford English Dictionary).

Principal support

Support is defined by the Oxford English Dictionary as "to give approval, assistance, comfort, or encouragement to; to be actively interested in and concerned for the success of [a group or individual]." Therefore, principal support is defined as the extent to which a principal offers support in terms of the proceeding definition.

School Problems

For the purpose of this study, school problems will be defined as "a difficulty, trouble, complication, difficult situation, or predicament" that occurs within the school setting (Oxford English Dictionary).

School Climate

For the purpose of this study, school climate will be defined as the overall atmosphere of a school and will also include frequency of the following components: physical conflicts, theft, vandalism, drug and alcohol use, weapons, treatment of teachers, racial tensions, bullying, in-class misbehavior, and gang activities (Ingles et al., 2011).

Locale

Locale is defined as "a place where something happens or is set, or that has particular events associated with it" (Oxford English Dictionary).

School Type

For the purpose of this study, type will be defined as "a categorization" (OED) of schools which includes regular school, charter school, special program or magnet school, vocational or technical school, and alternative school. Also, schools under public or private control and single-sex schools (Ingles et al., 2011).

Ethnicity

According to the Oxford English Dictionary, ethnicity is "the fact or state of belonging to a social group that has a common national or cultural tradition."

Conclusion

The preceding research questions addressed the need for a study that will examine female leadership roles in education on a national level. This research not only sought to determine if female leadership trends in education are rising as in the political and business worlds, but also how female leaders compare to male leaders in the realm of education.

The following chapter will review research on overall effective school leadership and how leadership impacts principal support, school problems, and school climate. Additionally, the following chapter will examine research which seeks to investigate how gender impacts leadership effectiveness of the school principal, including an in-depth look at female leadership characteristics, others' perceptions of male and female leaders, and various roadblocks to the advancement of female leaders.

CHAPTER II:

REVIEW OF LITERATURE

In the previous chapter, the current state of female leadership in the business world was compared to female leadership in the educational world. Statistics of females in educational leadership roles were discussed, along with a brief introduction to the evolving and growing demands of educational leaders. In order to better understand the advancement of female leaders in education, a review of both the male and female role in the history of education in America is necessary. Various studies have been conducted which seek to determine a cause for the disparity between male and female leaders in education. These studies explore principal gender and effective leadership characteristics in education and perceptions of gender and the role of school principal. The following chapter will review the literature concerning the concepts of leadership and of gender, beginning with a brief history of gender roles in education followed by an examination of overall effective school leadership, despite principal gender.

A Brief History of Gender Roles in Education

Throughout history, the world of education, including teaching and administration, has been subject to strict scrutiny and adherence to the acceptable stereotypical gender roles of the time. Education has established, enforced, re-established, and reinforced, what society deems gender-appropriate behavior since the conception of education outside the home. The educational system outside the home in America was first developed in the 1700s and employed a schoolmaster, an employment opportunity for males (Blount, 2000). According to Kafka (2009), as school populations and class sizes continued to grow during the early 1800s, there was a need for administrative duties to be carried out in addition to teaching, including discipline and maintaining the building; therefore, the position of "principal teacher" was created and

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was almost always filled by a man (p. 321). Eventually, the "principal teacher" left teaching duties behind and began predominantly to supervise and manage schools (Kafka, 2009). During the mid-1800s, as the demand for inexpensive teachers increased, the number of female teachers increased; by the 1900s, school-teaching became a female-identified occupation and what had once been a masculine-identified role, had now become feminized (Blount, 2008; Perrillo, 2004; Blount, 2000). This did not, however, leave men out of education all-together; several men continued to pursue careers in education under what was considered "masculine-appropriate" roles such as school administrators and superintendents, serving in "central offices located away from schools but close to the center of local business and municipal affairs" (Blount, 2000, p. 86). According to Blount (2000), "School district administration, then, had evolved into a separate male sphere in a literal sense in that it existed in a different physical location from the classroom, where women typically served" (p. 86). Blount (2008) also argues that men were placed in administrative roles "as a way of keeping women's newfound economic and professional independence from going too far" (p.64).

Even though the world of education had opened as an employment opportunity for women, stringent guidelines remained in terms of what kind of woman was permissible to serve as a schoolteacher. According to Perrillo (2004), teachers were required to adhere to strict physical and health guidelines in order to maintain their positions; despite a mastery of educational expertise, women could be denied a teaching license on the basis of their overall health and physical appearance. Additionally, prior to World War II, school districts preferred to hire single women because of their lack of duty to a husband or family; thus, "spinsters" and "old maids" became the stereotypical schoolteacher (Blount, 2000, p.87; Blount, 1996). The same, single lifestyle was expected of women who did venture into the realm of school administration; female

administrators were often forbidden from marriage and were forced to resign their positions when they did marry (Blount, 1996). It was perceived that married women, including women with children, were unable to divide their commitment to duties both at home and school, but married men with families to support were seen as demonstrating proper moral character (Blount, 1996; Blount, 2008; Blount, 2000; Carter, 2016). Therefore, female teachers risked losing their jobs if they married and had children while male educators were encouraged to marry, and school boards only hired married men into administrative roles (Blount, 1996; Blount, 2008; Blount, 2000; Carter, 2016).

Public opinion of single female schoolteachers began to shift in the 20th century. Female teachers were not allowed to marry; however, these single, working women were now "viewed as standing outside their conventional gender roles as procreating women [and were] seen as deviant, pathological, or downright dangerous for working with children," and, eventually, came under suspicion of lesbianism (Blount, 2000, p.89). Society began to find single, independent and financially stable women contradictory to the established feminine gender construct (Blount, 2008; Perrillo, 2004). Contrary to beliefs in the previous century, single female teachers of the 20th century were viewed as deserting their duties to marry and raise children (Blount, 1996; Carter, 2016). Additionally, the public began to fear that men were "losing their traditional places of power," that "economically independent and educationally privileged women, including teachers… were taking control of social institutions such as schools" (Blount, 1996, p. 321). The public perceptions of female teachers had shifted until their role was much needed.

In the 1940s, during and after World War II, the need for teachers increased as men left educational roles for war-related employment and marriage and birth rates began to rise. Wanting to "shed the taint associated with employing so many single

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women/spinsters/potentially lesbian teachers," school systems lifted their marriage bans and began to hire married female teachers, women who followed stereotypical gender norms (Blount, 2008, p. 67). By the end of World War II, married women educators, including administrators, outnumbered that of single women educators (Blount, 1996; Blount, 2000).

Just as married women became acceptable in the teaching profession, the public began to scrutinize men in teaching positions due to suspicions of homosexuality and the fear that their masculinity was threatened by working alongside women; however, school districts found it important to have males in the teaching profession to demonstrate the proper characteristics of masculinity (Blount, 1996; Blount, 2008; Blount, 2000). In order to attract men to the teaching profession, vocational and varsity athletic programs were established, and school districts promised men a rapid path to more masculine-suited roles in education: administration and the superintendency (Blount, 2000; Blount, 1996). Men who were hired into educational leadership roles demonstrated several masculine qualities such as "decisiveness, independence, and the ability to command social situations;" the goal of school administration was to maintain a sense of masculinity for the men who continued to work in education, a field that had come to be regarded as 'feminized' work (Blount, 2008, p.65). Blount (2000) asserts that after WWII, educational careers became even more gender differentiated; school administration became a male-oriented and masculine position while teaching had strictly become a female position. This gender polarization continued into the 21st century.

Blount (2008) proclaims that during the Cold War years, Americans became more fearful that men and women who did not conform to typical gender roles exhibited traits of homosexuality or lesbianism. School districts around the country began to carefully examine educators for signs of gender nonconformity for fear that homosexual and

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lesbian teachers would attempt to recruit young students to their lifestyle (Blount, 1996; Blount, 2008).   As public figures of society and adults charged with the duty of educating children, the public demanded proper moral character in those who would serve as educators and examples for their students; therefore, strict adherence to stereotypical gender roles became ever more important for both males and females in the field of education (Blount, 2008).

Blount (1996) argues that this division of gender roles in education contributed to the decline of females in educational leadership roles. Teaching children and taking orders from superiors were considered suitable for women and maintained the appropriate feminine gender qualities; women who aspired to pursue leadership roles in education were seen as aberrant and possessing unsuitable masculine qualities (Blount, 1996; Blount, 2008). Despite being viewed as masculine, some women continued to pursue administrative roles in schools, including the superintendency, but tried to emphasize their femininity by regulating their wardrobe and curtailing their behaviors to seem less threatening and align to established gender norms (Blount, 1996). However, women aspiring for educational administration roles increasingly competed with gender role conflicts. This contention led many women to dismiss any interest they may have had in advancing their educational career by seeking positions in the male-dominated school administrative or school leadership realm (Blount, 1996). While the perception of school administration maintained a masculine identity, the role of the principal slowly began to evolve.

Despite whether the position of principal is held by a male or female, Kafka (2009) recounts the history of the principalship and argues that throughout its evolution, those undertaking the role of the principal have been consistently asked to do more tasks and take on more responsibilities throughout the progression of the role. The

principalship has changed over time; principals have come from daily administrative duties, such as taking attendance and managing the school building, to being charged with increasing student achievement, improving teacher performance, and becoming a change agent for schools of the 21ˢᵗ Century (Kafka, 2009). Whether male or female, principals are now charged with effectively *leading* a school as opposed to effectively *managing* a school.

Effective School Leadership

It takes effective leadership to positively impact a school environment, including culture, climate, and student success (Sanchez & Thornton, 2010). Nelson and Low (1999) maintain that positive leadership results in an increase in student achievement, improvement in staff morale, and staff and leadership satisfaction. Sanchez and Thornton (2010) list collaboration, inclusion, and valuing others as effective attributes of an educational leader. According to Grogan (2000), educational leaders must have "finely tuned human relations skills, ones that allow [leaders] to understand the diverse and often divisive groups they serve" (p.118).

These skills have been valued in leaders for decades; they are nothing new. However, they require more attention than they have in the past (Grogan, 2000). According to Grogan (2000), the presence of the media in local school districts has changed the way educational administrators, including superintendents and principals, must emphasize different leadership skills. Grogan (2000) further asserts that educational leadership roles have "transformed from a scholar-educator to a businessman" (p.120). Additionally, Labby, Lunenburg, and Slate (2013) assert that the role of principal is becoming increasingly more demanding and complicated. They summarized their research and concluded that principals must have a multi-faceted skillset that include flexibility, adaptability, the ability to lead change, create a mission with purpose and lead

the staff in accomplishing this mission, close achievement gaps and increase student achievement within their schools all while managing students, staff, and concerns from parents and the community (Labby, Lunenburg, & Slate, 2013). Davis and Leon (2014) agree, arguing that times for school leaders have never been tougher, that principals are continually faced with "relentless demands, dilemmas, and pressures [that are] daunting, and often downright discouraging" (p.4). In such difficult times for educational leadership, it is important that principals are equipped with effective leadership skills in order to face current educational demands. Although the previously presented research questions seek to determine how female leaders compare to male leaders in the realm of education, the following research examines how overall effective leadership, without examining gender, impacts the demands of a school in the areas of principal support, school problems, and school climate.

Principal Support

Teacher effectiveness is often linked to the amount of support they feel from their building principal (Hauserman, Ivankova, & Stick, 2013; Provost, Boscardin, & Wells, 2010; Supovitz, Sirinides, & May, 2010), and "when teachers are supported, students are supported" (Tableman, 2004, p.6). Principal support encompasses many facets, including instructional leadership, visibility, shared leadership, collaboration, goal setting, building and communicating a clear vision, and embracing innovation (Weiner & Burton, 2016; Berebitsky, Goddard, & Carlisle, 2014; Hauserman, Ivankova, & Stick, 2013). In their qualitative study, Weiner and Burton (2016) examined participants in a principal preparation program. All participants in the program, both male and female, defined effective leaders as those who were "supportive and nurturing, with recognition that leadership should be collaborative" (p.349).

Hauserman, Ivankova, and Stick (2013) found that teachers feel principals are most supportive when they work to develop leaders on campus, giving staff the opportunity to participate in decision-making, creating an environment of shared leadership. Additionally, teachers admired principals who were direct in what was expected and held other staff members accountable. Principals who build relationships based on trust and mutual respect were also admired among teachers (Hauserman, Ivankova, & Stick, 2013). Furthermore, respected principals motivated and inspired their staff to try new methods and implement new ideas; they were not hesitant to accept change (Hauserman, Ivankova, & Stick, 2013).

In their study involving teacher perceptions of principal effectiveness, Provost, Boscardin, and Wells (2010) supported the importance of instructional leadership in finding teachers viewed the following statements about their building principal in order of most important:

"An effective principal…

1. Holds high expectations for staff performance
2. Engages teachers in formal and informal discussions
3. Helps staff members improve their instructional effectiveness
4. Communicates instructional goals
5. Involves staff in critical instructional decisions" (p.542).

Additionally, the same teacher participants noted goal setting as an important principal characteristic (Provost, Boscardin, & Wells, 2010). Furthermore, these teachers reported that setting goals "clarifies the desired outcomes of instruction and leads to a plan of action… The principal must involve staff in determining school goals" (p. 549); when staff is involved in determining school goals, the principal promotes collaboration on campus.

Berebitsky, Goddard, and Carlisle (2014) claim that successful teacher collaboration cannot occur without adequate support from principals and administration who work to establish an environment of collaboration among staff and provide "frequent opportunities to exchange information and work together" (p.7). Additionally, Supovitz, Sirinides, and May (2010) established in their research that effective school leaders focus on and actively support quality instruction on campus, foster a strong sense of community and trust among the staff, and clearly communicate the school mission and articulate school goals. Furthermore, principals who focus on these central ideas "foster an environment where teachers work together and constructively engage with each other around issues of teaching and learning" (Supovitz, Sirinides, & May, 2010, p.44)

Hoppey and McLeskey (2013) state crucial components of effective principal leadership include "facilitating the creation of a school culture that is supportive of teachers, developing teachers as leaders within the school (shared leadership), and working to develop a collaborative, professional learning community to support teacher learning" (p.246). The previously stated research questions seek to determine whether a difference exists between the ability of male principals and female principals to effectively support teachers. Effective school leaders not only create an environment that encourages collaboration in order to foster teacher support, but they also deal effectively with school problems.

School Problems

Hauserman, Ivankova, and Stick (2013) assert that teachers viewed a strong principal as one who dealt with school issues while keeping open communication with teachers and engaging in collaboration to solve school problems. Ingles et al. (2011) defines school problems as including the following: student tardiness, absenteeism, and class cutting, teacher absenteeism, students dropping out, student apathy, lack of parental

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involvement, students coming to school unprepared to learn, poor student health, and lack of materials and resources for teachers. Research indicated that principals who actively tackle such problems are visible throughout the school and in classrooms (Hauserman, Ivankova, & Sticj, 2013).

Current school problems can cause a number of challenges for school principals. Davis and Leon (2014) attribute the ability to face these challenges to several leadership characteristics:

> Of course, to meet these challenges requires a combination of management skills, the ability to set and maintain a clear direction for the school (or district), a deeply rooted set of personal beliefs, and the ability to engender the collective will to press on. To accomplish these tasks in an era of diminishing resources also requires that leaders understand and effectively convey who they are, what they believe in, what they value as professionals, and how – throughout their actions- their organizations will continue to grow and thrive. (p. 4)

According to Tableman (2004), school problems contribute to the school culture, or the "shared ideas, assumptions, values, and beliefs that give an organization its identity and standard for expected behavior" (p.1). An integral component to an effective school culture is the belief that all students can learn (Tableman, 2004). The link between principal leadership and student achievement has catapulted the role of principal to that of crucial importance for school success; no longer is the primary role of school principal about discipline and management, but principals must now exhibit strong characteristics of an instructional leader, a communicator between school and home, and one who envisions change and inspires others to improve their practice (Provost, Boscardin, & Wells, 2010). An effective leader will foster a school culture in which all stakeholders, including parents, students, teachers, and administrators, participate in decision-making,

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believe that all students can learn, and uphold a shared vision (Tableman, 2004). The previously stated research questions seek to determine whether a difference exists between the ability of male principals and female principals to efficiently handle school problems. Additionally, the school culture maintained by school leadership directly impacts the school climate.

School Climate

According to Hauserman, Ivankova, and Stick (2013), the principal is the single most important factor in bringing about the best in a school, including their influence over teachers and staff and in how they establish a climate and set the direction, or vision for a school. According to Ingles et al. (2011), school climate includes the following components of discipline management: physical conflicts, theft, vandalism, drug and alcohol use, weapons, treatment of teachers, racial tensions, bullying, in-class misbehavior, and gang activities. While agreeing that discipline management contributes to the school climate, Tableman (2004) emphasizes that school climate encompasses more than just discipline management but also includes components such as "appearance and physical plant, faculty relations, student interactions, leadership and decision making… learning environment, attitude and culture, and school-community relations" (p. 2-3). In promoting and creating a positive school climate, it is important that principals recognize the interrelationships of the multiple components of a school climate (Tableman, 2004). Furthermore, Tableman (2004) asserts that a "caring school climate is associated with higher grades [and] attendance… fewer school suspensions… and less substance abuse" (p.5).

Principals must give time and attention to make positive changes in school climate and culture; principal leadership is the most crucial component in developing an effective school (Tableman, 2004). Fullan (2002) states that in order to build positive

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school culture and climate, leaders need a strong moral purpose and must be able to awaken and inspire the moral purpose of others, leading a campus toward a common vision for student success. This campus following of positive leadership comes when leaders possess the ability to build relationships with others, collaborate and problem solve, and build and share knowledge (Fullan, 2002).

Davis and Leon (2014) assert that effective leaders hold strong, moral, core values visible in a leader's actions. Additionally, effective leaders give others a "sense of purpose, a sense of meaning, and a sense of enduring commitment" despite the presence of difficult situations and schools problems (Davis & Lean, 2014, p. 7). According to Labby, Lunenburg, and Slate (2013), positive and effective leaders are "highly respected and valued as [they are] void of coercion and manipulation. Effective leaders cultivate [positive] climate … by knowing, respecting, and understanding the characteristics, goals, needs, and values important to the followers" (p. 265).

Wahlstrom and Louis (2008) conducted a study which examined how work conditions (school climate) and school leadership influenced the work of teachers and discovered that trust in the principal and shared leadership greatly affected school climate. A principal cultivates trust from staff when teachers see that they are cared for. In their case study of an effective school principal, Hoppey and McLeskey (2013) attributed this principal's success to two main traits: personal investment in staff and promoting teacher growth. This effective principal cared for and personally invested in staff by trusting teachers, listening to teachers' ideas, concerns, and problems, and by treating the staff fairly. The principal promoted teacher growth through high-quality professional development and opportunities for teacher leadership (Hoppey & McLeskey, 2013). The previously stated research questions seek to determine whether a difference exists between the ability of male principals and female principals to successfully

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develop a positive and safe school climate. When principals are perceived by others to be supportive, to handle school problems efficiently and to promote a positive school climate, they are perceived as effective.

Perceptions of effective leadership

With so many demands on educational leaders, it is important to explore how principals perceive themselves and how they are perceived by others.

According to the following research presented, gender contributes to the perceptions of school leaders both held by others and themselves. In assessing the performance of school leaders, Lee, Smith, and Cioci (1993) emphasize the importance of considering not only the gender of the principal, but also the gender of the follower.

In their qualitative study, Weiner and Burton (2016) examined participants in a principal preparation program. All participants in the program, both male and female, defined effective leaders as those who were "supportive and nurturing, with recognition that leadership should be collaborative" (p.349).

Perceptions of leadership effectiveness also depended upon the gender of the teacher making judgement; both male and female teachers tend to judge female leaders more harshly than male leaders (Murakami & Tornsen, 2017; Lee, Smith, & Coici, 1993). Lee, Smith, and Cioci (1993) suggest that perceptions of school leadership will vary not only between schools but also within schools, this variation occurring along gender lines, "with the gender of both teacher and principal having important effects on the teachers' perceptions of leadership in the school" (Lee, Smith, & Coici, 1993, p. 154). When exploring perceptions of leadership effectiveness, several researchers have considered the affect gender has on shaping the perceptions of leadership from several points of view including teachers and school leaders themselves.

Leadership and Gender

The following research will show conflict and distinct differences in both the development and characteristics of educational leaders when taking gender into consideration. Male and female educational leaders not only report possessing leadership characteristics that are both similar and specific to their gender, but they also report differing experiences along the road to leadership and throughout principal preparation programs, the hiring process, and in their success as school leaders. Ultimately, this research seeks to determine if a difference in perceptions of principal effectiveness exists when the gender of the principal is considered.

Leadership characteristics

According to research, certain leadership characteristics can be considered typical of a specific gender, either commonly exhibited by a male or female leader. Several researchers assert that educational leadership roles continue to be male-oriented; while both male and female leaders share some leadership characteristics, research commonly denotes distinct differences between the two (Sanchez & Thornton, 2010; Wrushen & Sherman, 2008; Eagly & Carli, 2003; Lee, Smith, & Cioci, 1993).

Female vs. male leadership characteristics. Several studies have shown that female leaders tend to exhibit a more emotional, democratic, and collaborative leadership style (Sanchez & Thornton, 2010; Wrushen & Sherman, 2008; Eagly & Carli, 2003; Lee, Smith, & Cioci, 1993). Wrushen and Sherman (2008) report findings in their qualitative research that females tend to lead with compassion. Sherman and Wrushen (2009) conducted a second qualitative study in which female principals self-reported their leadership styles as more relational, compassionate, and collaborative than their male predecessors. Furthermore, the study conducted by Lee, Smith, and Cioci (1993) showed "women principals evidenced a more personalized leadership style, whereas male

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principals are more structural in their orientation… female principals are more invested in knowing the details of the lives of their teachers, students and parents" (p.156).

A study conducted by Nogay and Beebe (1997) found that female principals were more effective than their male counterparts in the following areas: framing the school's goals, communicating school goals, supervising and evaluating instruction, coordinating curriculum, maintaining visibility, providing teachers incentives, promoting professional development, and providing incentives for learning. Several female leaders report themselves as "servant leaders [who] empower and trust [their] staff, … self-assured, … knowledgeable and well prepared, … and resilient" (Sherman & Wrushen, 2009, p. 190). According to Grogan and Shakeshaft (2011), women consider instruction the central component of their leadership duties; females plan professional development that focuses on building knowledgeable, diverse, and skilled teachers and female leaders make decisions that are learning-based. Female leaders tend to put students first (Murakami & Tornsen, 2017).

Additionally, female leaders feel a divine purpose for their positions, that they have a duty to fulfill in influencing the lives of others, and that they are held morally and ethically accountable to their students, parents, and staff (Sherman & Wrushen, 2009; Murakami & Tornsen, 2017). Furthermore, female educational leaders report themselves as "lifelong learners" who believed their "goals [are] moving targets," always wanting to improve their leadership skills (Sherman & Wrushen, 2009, p. 172).

Murakami and Tornsen (2017) found the females in their study to exert "democratic leadership… where women encouraged participation and collaboration in decision-making" (p. 814). Lee, Smith, and Cioci (1993) also note differences in male and female leadership styles within schools, females being more democratic and males being more directive. Furthermore, Eagly and Carli (2003) attribute these

"stereotypically feminine qualities of cooperation, mentoring, and collaboration" as important leadership characteristics (p. 808).

Perceptions of female and male leaders. Several researchers assert that educational leadership roles continue to be male-oriented; male leaders tend to exhibit authoritative, directive, and autocratic behavior associated with discipline while females tend to exhibit emotional and democratic behavior and are more collaborative and participative (Sanchez & Thornton, 2010; Wrushen & Sherman, 2008; Eagly & Carli, 2003; Lee, Smith, & Cioci, 1993). Although educational leadership still tends to be male-oriented, Gieselmann (2009) found principal gender to be insignificant in predicting student achievement on state assessments. However, a study conducted by Nichols and Nichols (2014) found that even though there was no significant difference in student achievement when principal gender was a factor, overall, males were perceived by teachers as more effective leaders than females.

Nichols and Nichols (2014) assert that women in educational leadership are possibly "viewed as less competent than male leaders with similar leadership styles and are more often judged more harshly than men with comparable leadership traits" (p.31). Eagly and Karau (2002) attribute this harsh judgement of female leaders to an incongruity between group stereotypes (role of the principal) and social role stereotypes (role as a female). Eagly and Karau (2002) explain that females are associated with "communal" characteristics (affectionate, sympathetic, sensitive, nurturant, and gentle) and males are associated with "agentic" characteristics (assertive, controlling, aggressive, dominant, and self-confident), and are also more "prone to act as a leader" (p. 574). When females assert typical male characteristics, they violate traditional gender role stereotypes, causing an incongruity between what "many people perceive between the characteristics of women and the requirements of a leader," and thus are more prone to

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negative evaluations than their male peers (Eagly & Karau, 2002, p. 574). Burton and Weiner (2016) assert that "those holding stronger beliefs about gender norm stereotypes provide harsher evaluations of women in leadership positions" (p. 2). Burton and Weiner (2016) note that when the role of principal is stereotyped as a masculine role, females in principal preparation programs will be evaluated differently, often seen as lacking necessary skills both within the program and as they seek out employment.

Lee, Smith, and Cioci (1993) conducted a study which examined male and female teachers' perceptions of leadership while teacher for both a male principal and a female principal. Both male and female teachers assess the leadership in male-lead schools as almost equally effective (Lee, Smith, and Cioci, 1993). However, male and female teachers have differing perceptions of female-led schools. According to Lee, Smith, and Cioci (1993), male teachers tended to elicit a negative response to teaching under a female principal, finding their leadership "relatively ineffective," while female teachers were either impartial or preferred teaching under a female principal, stating their female principal's leadership ability was "above average" (p. 162). Additionally, Lee, Smith, and Cioci (1993) report a difference in male and female teachers' perspectives of shared decision-making; while males felt "disenfranchised… and discouraged," females felt "especially empowered… in regard to their influence" in making school decisions (p. 163). Furthermore, female teachers had positive reactions to their female principal's new ideas, clear communication of the school's goals and expectations, and support to try new methods in the classroom (Lee, Smith, & Cioci, 1993). Lee, Smith, and Cioci (1993) attribute this discrepancy in male teachers' perceptions to men feeling they are in an "unfamiliar situation" when working for a female principal and/or an uncomfortableness that females do not follow a more traditional, bureaucratic and management model of leadership which is the characteristic leadership style of male leaders (p. 171). This

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discrepancy in male and female teachers' perceptions of female leaders aligns with the research of Eagly and Karau (2002) who explain that males who associate leadership as a traditional, masculine role will view women as less qualified than men for leadership positions, even if a female's effectiveness as a leader is equal to that of her male peers.

Adversely, several researchers assert that women in leadership roles will attempt to align their leadership style to appear more "male-like" and authoritative in order to overcome the challenge of being a female leader (Murakami & Tornsen, 2017, p.820). Nichols and Nichols (2014) continue to explain that "women have violated the feminine stereotype by being strong, assertive, confident, and autocratic" (p.31). Furthermore, when female administrators are successful, their success if often attributed to the presence of more "male" characteristics in their leadership styles.

In agreeing with Kawakami, White, and Langer (2000), Christman and McClellan (2008) concluded in their qualitative study of successful female educational administrators that, "they may well have had to cultivate more masculine methods to be able to survive as women leaders" (p. 20). The female participants of the study noted the top-ranked items that contributed to their success were "the type A personality [and] perseverance… [both] gendered masculine by the literature" (Christman & McClellan, 2008, p. 19). One successful female participant reported that females subordinate to her didn't "perceive [her] to fit 'feminine' conceptions of leadership, but rather a masculine conception" (Christman & McClellan, 2008). Furthermore, Chirstman and McClellan (2008) agree with Oakley (2000) who calls for a new leadership in which females must develop and incorporate more masculine traits into their leadership styles and characteristics to be successful as leaders. However, the incorporation of more "male-like" characteristics can create what Oakley (2000) refers to as a "double-bind" for women, "a behavioral norm that creates a situation where a person cannot win no matter

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what she does" (p. 324). Kawakami, White, and Langer (2000) describe this double-bind as a paradox: "If [females] emulate a masculine leadership style, their male subordinates will dislike them. If they adopt a stereotypically warm and nurturing feminine style, they will be liked, but not respected" (p. 49). The difficulties female leaders face in overcoming these gendered perspectives of leadership are only compounded by the presence of one or several roadblocks to female advancement in leadership positions.

Roadblocks to female advancement in educational leadership

Researchers have identified several roadblocks to the advancement of females as educational leaders. In a study conducted by Sherman and Wrushen (2009), women reported negative experiences with other female leaders who attempted to inhibit their advancement in educational leadership. Sherman and Wrushen (2009) found that women often reported other female leaders as noncommunicative, jealous, petty, and consumed by gossip. In their qualitative study, Weiner and Burton (2016) examined participants in a principal preparation program. Males aspiring to leadership positions reported their transition as natural and effortless, being reinforced by colleagues and current administrators in positive ways, encouraged to take on leadership positions within the school, their leadership coming on as a personality trait and an extension of self (Burton & Weiner, 2016). Adversely, females aspiring to leadership describe the road as strenuous and a struggle, attributing their desire to lead as a fight for what they believed, colleagues often showing resistance toward their leadership journeys (Burton & Weiner, 2016). Burton and Weiner (2016) assert that much of the discomfort females feel in aspiring to leadership positions derive from a discrepancy in perceived social or cultural norms rather than lack of skill or knowledge (p.6).

Additionally, and unlike their male counterparts, females may struggle in finding balance between personal and professional life, juggling the demands of career, marriage,

and family, and also face several social constraints, including having to choose between career and familial obligations, when it comes to advancing in leadership positions (Wrushen & Sherman, 2008; Sherman & Wrushen, 2009; Mahitivanichecha & Rorrer, 2006, Weiner & Burton, 2016; Munoz et al. 2014). Eckman (2004) found that female high school principals report higher levels of conflict than their male counterparts when considering "social commitments, household management issues, and ability to fulfill self-expectations" (p. 377).

Grogan (2005) has found that traditional societal demands on females often lead women to think of themselves as less responsible at home (as a mother or wife) if they chose to pursue their careers and dedicate the time necessary toward advancement in their careers. Likewise, Munoz et al. (2014) found that males were viewed as providing for their families when aspiring to leadership positions while women were viewed as deserting their families to pursue leadership positions. Eckman (2004) also found significant differences between male and female high school principals in terms of the age in which they first enter the high school principalship, years teaching experience, marital status, and the presence of children at home. According to Eckman (2004), women are older when they enter the principalship (average age for men to enter the principalship was 38.6 years and women was 42.1 years), have more years of teaching experience than males (males 11.37 years and females 13.11 years), are often single (93% of males are married compared to 68% of females), and do not have children at all or children living at home (95% of male principals have children compared to 75% of females; 59% of male principals have children living at home compared to 24% of female principals). According to Eckman (2004), these findings suggest that females do not enter leadership roles until their children are grown and they feel less demands as a mother. Eckman (2004) further concludes that "the societal expectations of wife and

mother may influence the choices made by younger female educators so as to keep them from aspiring for leadership positions" (p. 382).

Weiner and Burton (2016) suggest that females take familial obligations into consideration when seeking leadership positions. While male participants in their study admitted to applying for school leadership positions without taking their families' needs into consideration, the female participants of their study applied only for positions that would not interfere with the home/work balance. Therefore, several female participants admitted to applying for only elementary school leadership positions due to a limited number of after school duties and events (Weinter & Burton, 2016).

Grogan's (2005 and 2010) research in educational leadership aligns with business and political research conducted by the Pew Research Center (2015), finding that women are often perceived to be held to higher standards than males and struggle to find balance between career and family responsibilities. According to Wrushen and Sherman (2008), gender-based, false assumptions must be addressed, otherwise female leaders will "question their own leadership abilities even though they have proven themselves as more than capable leaders" (p. 466). Additionally, Grogan and Brunner (2005) indicate concern over the low number of females applying for and attaining the superintendency position when compared to number enrolled in university programs for educational administration, evidence that females are preparing for jobs in educational leadership but are not being hired.

In their qualitative study, Weiner and Burton (2016) examined participants in a principal preparation program. As graduates of the program began to seek leadership positions, the male graduates all acquired jobs before any female graduate and admitted they did not consider their families' needs when applying for positions. According to Weiner and Burton (2016), the male participant of their study found the hiring process

easy and quickly found a position as a principal after completing the preparation program. In contrast, the female participant of their study found the hiring process difficult, receiving mixed feedback after interviews. One school claimed she was "too aggressive or intimidating" while another "worried about her ability to discipline students and lead the staff;" while more direct feedback revealed that "they were really looking for a male leader for the building. They felt more comfortable being led by a male" (Burton & Weiner, 2016, p. 9). Burton and Weiner (2016) conclude that often female principal candidates "can be skilled – even 'phenomenal' and will be passed up because of underlying gender issues" (p. 10).

While the participants of their study shared aligning views of effective school leadership, including collaboration and shared decision-making as effective leader attributes, Weiner and Burton (2016) reported male and female participants had differing views of themselves as leaders. Weiner and Burton (2016) explain:

> …the men, encouraged and cultivated by authority figures to take on leadership roles, moved quickly through the teaching ranks toward school administration and leadership, and they described their leadership journeys as natural and somewhat inevitable. Alternatively, our female participants tended to frame their story in terms of challenge; they had to fight to attain leadership, often with others actively discouraging their efforts. (p. 359)

Although research conducted by the Pew Research Center (2015) suggests the public views no distinctions between males and females in the business and political worlds, Burkman (2011) asserts that females, outside of elementary education, face several issues specific to gender as barriers to advancement in leadership. According to Eagly and Carli (2003), when females move into leadership roles, they are judged more harshly than males. When compared to their male counterparts, females receive lower

support from peers and mentors, and experience lower perceptions of effectiveness from themselves and others (Murakami & Tornsen, 2017).

Conversely, Munoz et al. (2014) discovered that women were more likely to aspire to leadership positions in education when they experienced strong mentor relationships with other women and men who recognized their potential. According to Sherman and Wrushen (2009), the women in their study who reported strong relationships with female mentors were more successful; their mentors acted as an inspirational and driving force behind their desire to attain leadership positions and lead successfully. These women who acted as mentors also felt it their duty to "pay it forward" in offering advice and mentorship to aspiring female leaders (Sherman & Wrushen, 2009, p. 189). In order for females to successfully advance into leadership positions, a more developed mentoring system is necessary in order to offer females aspiring to leadership role models and mentors (Munoz, et al., 2014; Grogan & Brunner, 2005). However, women in principal preparation programs and who currently hold leadership positions, have felt opposition to their position reinforced through their relationships with principal mentors, feedback from program instructors, and even from their relationships outside of school, including friends and family members (Weiner & Burton, 2016; Murakami & Tornsen, 2017). Female leaders in a study conducted by Murakami and Tornsen (2017) reported it difficult to attain mentoring, especially when a known mentor was female.

In order to become a successful leader, Burkman (2011) explains that female administrators must first overcome the "male dominant culture of leadership, [leading] to pressures on women to perform with different expectations than those of men" (p. 71). Additionally, Burkman (2011) reported female administrators, when compared to male administrators, have less support from upper administration and parents and must break

several cultural barriers in order to attain respect in their leadership positions. Wrushen and Sherman (2008) report a difficulty for female administrators in earning respect from campus personnel at schools previously led by males and in continuing the rigid standards of leadership previously established by male administrators. Female leaders often report having to prove themselves worthy of leadership positions when directly under a male leader (Murakami & Tornsen, 2017).

Despite the roadblocks women often overcome on their road to leadership in the educational field, research continues to support females as competent and successful educational leaders. Women possess the knowledge, training, skills, and leadership characteristics necessary to lead schools as effectively as male educational leaders. Yet the number of female educational administrators continues to fall below the number of male administrators.

Gap in the Research

While there is much research on female leaders in the educational field, much of this research is qualitative and is only representative of the few participants and their specific experiences. The following research questions will address the need for a study that will examine female leadership roles in education on a national level. This research not only seeks to determine if female leadership trends in education are rising as in the political and business worlds, but also how female leaders compare to male leaders in the realm of education from a quantitative perspective. This research will examine teacher and principal perceptions of leadership effectiveness and determine if a significant difference in perceived principal effectiveness exists between male and female teachers and principals.

Research Questions

The following research questions will guide this investigation:

Research question one

Is there a significant difference in overall teachers' perceptions of principal support based on principal gender?

- Is there a significant difference in teachers' perceptions of principal support based on teacher gender?

Research question two

Are there significant differences in female and male principals' perceptions of school problems?

Research question three

Are there significant differences in teachers' perceptions of school problems based on principal gender?

- Is there a significant difference in teachers' perceptions of school problems based on teacher gender?

Research question four

Are there significant differences in principals' perceptions of school climate based on principal gender?

Hypotheses

Based on the research, the following hypotheses have been drawn:

- There will be a significant difference in overall teacher perceptions of principal support based on principal gender.
    - There will be a significant difference in teachers' perceptions of principal support based on teacher gender.

- There will be a significant difference in male and female principals' perceptions of school problems.
- There will be a significant difference in teacher perceptions of school problems based on principal gender.
    - There will be a significant difference in teachers' perceptions of school problems based on teacher gender.
- There will be a significant difference in principals' perceptions of school climate based on principal gender.

CHAPTER III:

METHODOLOGY

In the previous chapter, current research in effective school leadership, principal support, school problems, school climate, perceptions of effective leadership, leadership and gender, male and female leadership characteristics, perceptions of male and female leadership, and roadblocks to female advancement in educational leadership was discussed. A gap in research exists: there is a need for a study that will examine female leadership roles in education on a national, quantitative level. The current study examines teacher and principal perceptions of effective school leadership.

Population and Sample

Population

This study analyzed data collected from the High School Longitudinal Study of 2009 (HSLS:09) conducted by the National Center for Education Statistics (NCES). The population for the HSLS:09 includes a stratified random sample of 944 eligible schools, both public and private, in which both 9th and 11th grades were taught. In order to ensure diverse representation and distribution, schools were selected based on their physical location within four different regions across the United States: 15.78% of schools selected were located in the Northeast, 26.47% were located in the Midwest, 40.49% were located in the South, and 17.25% were located in the West. Selected schools were also characterized by locale, or urbanicity: 28.64% of schools were located in a city, 36.5% were located in a suburb, 11.6% were located in a town, and 23.26% were located in a rural area. Additionally, 81.96% of school were public schools while 18.04% were private schools, and 3.57% reported as single-sex schools.

A stratified random sample was used to identify 1,889 eligible schools within these regions to partake in the HSLS:09 study, from which a total of 944 schools

participated. From the selected schools, ninth-grade students were randomly chosen, and 25,206 eligible students were identified; a total of 21,444 students participated (Ingles et al., 2011). According to Ingles et al. (2011), the "HSLS:09 school and student samples are nationally representative" (p. vi). As shown in Table 1, student participants at selected schools consisted of 6.9% American Indian/Alaska Native, 11.03% Asian, 15.75% Black/African American, 15.87% Hispanic, 2.5% Native Hawaiian/Pacific Islander, and 71.32% White. Additionally, 51% of student participants were male and 48.77% of students were female.

Table 1

Selected student demographics

	N	*Percentage of sample*
Male	12860	51
Female	12290	48.77
American Indian/Alaska Native	1740	6.9
Asian	2780	11.03
Black/African American	3960	15.73
Hispanic	4000	15.87
Native Hawaiian/Pacific Islander	630	2.5
White	17980	71.32

Note: N values have been rounded to protect data security

Table 2 describes the type of each school included in the sample, as reported for each student participant: 88.05% regular, 1.96% charter, 3.42% special program or magnet, 0.48% vocational or technical, and 0.4% alternative. School administrators reported the approximate percentage of the student body receiving free or reduced-price

lunch. Table 3 indicates the percentages of the student population at selected schools receiving free or reduced-price lunch as reported by each student participant (Ingles et al., 2011).

Table 2

School type

	N	*Percentage of sample*
Regular school	22194	88.05
Charter school	495	1.96
Special program or magnet school	861	3.42
Vocational or technical school	120	0.48
Alternative school	102	0.40

Note: N values have been rounded to protect data security

Table 3

Students receiving free or reduced-price lunch

	N	*Percentage of sample*
0%	3213	12.75
More than 0%, less than 10%	1914	7.59
At least 10%, less than 20%	2808	11.14
At least 20%, less than 30%	3110	12.34
At least 30%, less than 40%	2967	11.77
At least 40%, less than 50%	2557	10.14
At least 50%, less than 60%	2341	9.29
At least 60%, less than 70%	1952	7.74
At least 70%, less than 80%	1150	4.56
At least 80%, less than 90%	548	2.17
At least 90%, less than 100%	407	1.61
100%	111	0.44

Note: N values have been rounded to protect data security

Sample

Contextual respondent groups attached to each student were also sampled as part of the HSLS:09 data. These groups included the school's head administrator and the mathematics and science teachers of ninth grade students (Ingles et al., 2011). The participants for this study include the principals, math teachers, and science teachers of the selected students who participated in the HSLS:09 data collection from the schools described in the population. Demographic data for the sample is reported below; however, several demographic data is missing due to items coded as "Item legitimate

skip," "Unit non-response," or "Missing," indicating that not all participants chose to report demographic information.

      Teachers. From the stratified random sampling of schools and random sampling of students, 17,882 mathematics teachers, and 16,269 science teachers participated in the HSLS:09 survey data collection (Ingles et al., 2011). As shown in Table 4, 27.83% of participating math teachers were male and 43.11% were female. The sample of math teachers consisted of 0.12% American Indian/Alaska Native, 1.71% Asian, 2.47% Black/African American, 2.65% Hispanic, 0.04% Native Hawaiian/Pacific Islander, and 62.77% White. Table 5 indicates 28.18% of participating science teachers were male and 36.35% were female. The sample of science teachers consisted of 0.01% American Indian/Alaska Native, 1.4% Asian, 2.73% Black/African American, 2.3% Hispanic, 0.13% Native Hawaiian/Pacific Islander, and 56.49% White.

Table 4

Math teacher demographics

	N	*Percentage of sample*
Male	7020	27.83
Female	10870	43.11
American Indian/Alaska Native	30	0.12
Asian	430	1.71
Black/African American	620	2.47
Hispanic	670	2.65
Native Hawaiian/Pacific Islander	10	0.04
White	15820	62.77

Note: N values have been rounded to protect data security

Table 5

Science teacher demographics

	N	*Percentage of sample*
Male	7100	28.18
Female	9160	36.35
American Indian/Alaska Native	5	0.01
Asian	350	1.4
Black/African American	690	2.73
Hispanic	580	2.3
Native Hawaiian/Pacific Islander	30	0.13
White	14240	56.49

Note: N values have been rounded to protect data security

Administrators. From the stratified random sampling of schools and random sampling of students, 888 administrators participated in the HSLS:09 survey data collection (Ingles et al., 2011). As shown in Table 6, 60.59% of participating administrators were male and 22.67% were female. The sample of administrators consisted of 0.64% American Indian/Alaska Native, 0.32% Asian, 5.08% Black/African American, 3.3% Hispanic, 0% Native Hawaiian/Pacific Islander, and 77.01% White.

Table 6

Administrator demographics

	N	*Percentage of sample*
Male	570	60.59
Female	210	22.67
American Indian/Alaska Native	5	0.64
Asian	5	0.32
Black/African American	50	5.08
Hispanic	30	3.3
Native Hawaiian/Pacific Islander	0	0
White	727	77.01

Note: N values have been rounded to protect data security

Operational Definitions and Measurement of Variables

Gender

For the purpose of this study, gender will be defined as participants responding "male" or "female" on the survey instrument. This is a dichotomous variable, coded 1 for male and 2 for female.

School setting

For the purpose of this study, school setting, also referred to as "urbanicity" (Ingles et al., 2011, p. 37), will be defined as school locale. This variable was measured and coded categorically: city (1), suburb (2), town (3), and rural (4) (Ingles et al., 2011).

Demographics

For the purpose of this study, demographics will be defined using information pertaining to student ethnicity and student socio-economic status (SES). This information is defined as a percentage in the groups listed below (Ingles et al., 2011).

Ethnicity

The variable of ethnicity, as determined by the instrument-created composite variable, will be defined as percentage of total participants in the following measured categories: American Indian or Alaska Native (coded 1), Asian (coded 2), Black or African American/non-Hispanic (coded 3), Hispanic, no race specified (coded 4) or Hispanic, race specified (coded 5), more than one race, non-Hispanic (coded 6), Native Hawaiian Pacific Islander (coded 7), and White/non-Hispanic (coded 8) (Ingles et al., 2011). This variable was self-reported by participants.

Socio-Economic Status

The variable of SES will be defined as percentage of students receiving free or reduced lunch, as determined by an instrument-created composite variable, X1FREELUNCH (Ingles et al., 2011). This variable was coded categorically as follows: 0% (0), more than 0% but less than 10% (1), at least 10% but less than 20% (2), at least 20% but less than 30% (3), at least 30% but less than 40% (4), at least 40 % but less than 50% (5), at least 50% but less than 60% (6), at least 60% but less than 70% (7), at least 70% but less than 80% (8), at least 80% but less than 90% (9), at least 90% but less than 100% (10), and 100% (11) (Ingles et al., 2011).

School type

For the purpose of this study, school type, as determined by the instrument-created composite variable, was measured and coded categorically: regular school (1), charter school (2), special program or magnet school (3), vocational or technical school

(4), and alternative school (5), (variable A1SCHTYPE). Additionally, school type will be defined using the variable single-sex school (variable, A1SINGLESEX). This variable is dichotomous and is coded as either no (0) or yes (1). Finally, school type will also be defined as school control (variable A1SCHCONTROL). This variable is dichotomous and is coded as either public (1) or private (2) (Ingles et al., 2011).

Teachers

For the purpose of this study, teachers will be defined as either high school math or high school science teachers; the HSLS09 teacher surveys were only administered to math and science teachers in high schools (Ingles et al., 2011).

Teacher perceptions of principal support

Teacher perceptions of principal support will be defined as how teachers perceive their principal's effectiveness in supporting the school and staff in several different areas. Table 7 illustrates the teacher responses that will be used to measure this variable (Ingles et al., 2011). Responses to these questions are measured on a 4-point scale of responses measured and coded as the following: strongly agree (1), agree (2), disagree (3), and strongly disagree (4). The scale score (coded as X1TMPRINC and X1TSPRINC) represents a variable "created through principal components factor analysis and standardized to a mean of 0 and a standard deviation of 1" and includes all the inputs listed in Table 7 (Ingles et al., 2011, p. F-23). This study examined teacher perceptions of principal support in each area listed in Table 7 both as the input separately and as the scale score representing all the inputs as an overall perception of principal support.

Table 7

Teacher Perceptions of principal support

Survey Question	Coded Variable, Math Teachers	Coded Variable, Science Teachers
The principal…		
Deals effectively with outside pressures	M1PRESSURES	N1PRESSURES
Does a poor job of getting resources for this school	M1POORJOBRES	N1POORJOBRES
Sets priorities, makes plans, and sees that they are carried out	M1SETSPRIO	N1SETSPRIO
Knows what kind of school he or she wants and has communicated it to the staff	M1PSCHVISION	N1PSCHVISION
Lets staff members know what is expected of them	M1PCOMEXP	N1PCOMEXP
Is interested in innovation and new ideas	M1PINNOVATE	N1PINNOVATE
Usually consults with staff members before he or she makes decisions that affect them	M1PCONSULTS	N1PCONSULTS
Scale score of teacher perceptions of principal support	X1TMPRINC	X1TSPRINC

(Ingles et al., 2011)

School problems

School problems will be defined as indicated by survey items. Table 8 illustrates the variable school problems; it will be measured by teachers' and principals' responses to several survey questions. Responses to these questions were categorized and coded on a 4-point scale of the following responses: not a problem (1), minor problem (2), moderate problem (3), and serious problem (4) (Ingles et al., 2011).

Table 8

Teacher and principal perceptions of school problems

Survey Question To what degree is each of the following a problem at your school…	Coded Variable, Math Teachers	Coded Variable, Science Teachers	Coded Variable, Principals
Student tardiness	M1TARDY	N1TARDY	A1TARDY
Student absenteeism	M1STUABSENT	N1STUABSENT	A1STUABSENT
Student class cutting	M1CUT	N1CUT	A1CUT
Teacher absenteeism	M1TCHRABSENT	N1TCHRABSENT	A1TCHRABSENT
Students dropping out	M1DROPOUT	N1DROPOUT	A1DROPOUT
Student apathy	M1APATHY	N1APATHY	A1APATHY
Lack of parental involvement	M1INVOLVEMENT	N1INVOLVEMENT	A1PRNTINV
Students come to school unprepared to learn	M1UNPREPPROB	N1UNPREPPROB	A1UNPREP
Poor student health	M1HEALTH	N1HEALTH	A1HEALTH
Lack of resources and materials for teachers	M1RESOURCES	N1RESOURCES	A1RESOURCES

(Ingles et al., 2011)

School Climate. School climate will be defined as indicated by survey items. Table 9 illustrates the variable school climate will be measured by principals' responses to several survey questions. Responses to these questions were categorized and coded on a 5-point scale of the following responses: daily (1), at least once a week (2), at least once

a month (3), on occasion (4), and never happens (5) (Ingles et al., 2011). The final

variable (X1SCHOOLCLI) is a scale of administrator responses and "was created

through principal component factor analysis and standardized to a mean of 0 and a

standard deviation of 1" and includes all the inputs listed in Table 9 (Ingles et al., 2011,

p.F-28). This study examined principal perceptions of school climate in each area listed

in Table 9 both as the input separately and as the scale score representing all the inputs as

an overall perception of school climate.

Table 9

Principal perceptions of school climate

Survey Question	Coded Variable, Principals
How often do the following types of problems occur at your school?	
Physical conflicts among students	A1CONFLICT
Robbery or Theft	A1ROBBERY
Vandalism	A1VANDALISM
Student use of illegal drugs while at school	A1DRUGUSE
Student use of alcohol while at school	A1ALCOHOL
The sale of drugs on the way to or from school or on school grounds	A1DRUGSALE
Student possession of weapons	A1WEAPONS
Physical abuse of teachers	A1PHYSABUSE
Student racial tensions	A1TENSION
Student bullying	A1BULLY
Student verbal abuse of teachers	A1VERBAL
Student in-class misbehavior	A1MISBEHAVE
Student acts of disrespect for teachers	A1DISRESPECT
Student gang activities	A1GANG
Scale score of principal perceptions of school climate	X1SCHOOLCLI

Research Design

For the purpose of this quantitative study, a multiple causal-comparative design was used. A causal-comparative design was used to examine differences among the following:

- Teacher perceptions of principal support by principal and teacher gender
- Teacher and principal perceptions of school problems by principal and teacher gender
- Principal perceptions of school climate by principal gender

The dependent variables for the casual-comparative design are teachers' perceptions of principal support, principals' perceptions of school problems, teachers' perceptions of school problems, and principals' perceptions of school climate. The independent variables for each comparison was either principal gender or teacher gender.

Data Collection Procedures

The researcher obtained consent for research from the University of Houston-Clear Lake Committee for the Protection of Human Subjects (CPHS). Following research approval from CPHS, the researcher and the dissertation chair submitted an application to request access to restricted data for the High School Longitudinal Study of 2009 (HSLS:09) from the National Center for Education Statistics (NCES), listing the researcher and the dissertation committee members as users. Upon acceptance from NCES, the researcher received the HSLS:09 data on CD. The researcher viewed the data on a non-networked, campus computer. The data was stored on CD in a locked office during the study and was returned to NCES following the completion of the study in order to protect the privacy of the restricted data.

Instrumentation

The ultimate focus of the HSLS:09 is the student as primary unit of analysis. Guided by a conceptual model, the creators of the HSLS:09 recognized the importance of contextual factors and their influence on student experiences. For this reason, school administrators, math teachers, and science teachers of selected student participants were asked to complete questionnaires (Ingles et al., 2011). According to Ingles et al. (2011), the development of these questionnaires was guided by the framework and included the following review process to ensure validity:

1) *Literature review.* Literature from research was examined to develop particular constructs. Additionally, well-known items from past NCES studies were considered as well as items new to the study's purpose. All items were field tested and new items were considered, dependent on cognitive interviews (Ingles et al., 2011).

2) *Consultation.* Federal government offices and interest groups were consulted (Ingles et al., 2011).

3) *Circulation of drafts.* Questionnaire drafts were shared among NCES and Education Statistical Services Institute (ESSI) teams (Ingles et al., 2011).

4) *Technical review panel (TRP).* Three meetings were held among a group of experts for technical review of questionnaires. The meetings were held in November of 2007, January 2008, and January 2009. The panel reviewed plans for field testing, edited drafts, reviewed instruments, and made final recommendations for the questionnaires (Ingles et al., 2011).

5) *Writing of justifications.* Justifications for each questionnaire item, both on the field tests and the main study, were written for review and approval by the federal Office of Management and Budget (OMB). Time was also given for

public comment. Questionnaires were amended based on OMB

recommendations and comments and the NCES project officer responded to

questions from the public (Ingles et al., 2011).

6) ***Field testing and revision.*** The final instrument was a product of "results

from field tests, cognitive interviews, and OMB feedback" as well as "hands-

on testing of the programming logic for the questionnaires" (Ingles et al.,

2011, p. 13).

In addition to this review process, questionnaire items were reverse coded and

evaluated using Cronbach's Alpha for reliability. Table 10 illustrates specific

measurements and their determined coefficient of reliability (alpha) for the scale (Ingles

et al., 2011).

Table 10

Coefficient of reliability for scale scores

Scale Item	Coded Variable, Principals	Coefficient of Reliability (alpha)
Mathematics teachers' perceptions of support from his or her school's principal	X1TMPRINC	$\alpha = .90$
Science teachers' perceptions of support from his or her school's principal	X1TSPRINC	$\alpha = .90$

(Ingles et al., 2011)

School Administrator Questionnaire

The school administrator questionnaire accepted information from two separate

respondents: questions concerning required factual information in the first four sections

could be answered by any knowledgeable staff member. The first section collected

information pertaining to the school's characteristics (public/private, daily attendance, academic calendar, course scheduling) and school's needs (AYP improvement and efforts to help struggling students). The second section gathered information about the school's student body (demographics and enrollment), the third section gathered faculty information, and the fourth section gathered data pertaining to the math and science curriculum. The final section required response from the campus principal. This section contained content specific to the principal's background, beliefs, hours worked, and evaluation of school programs, challenges, and characteristics (Ingles et al., 2011).

Teacher (Mathematics and Science) Questionnaire

Math and science teachers of selected student participants were asked to respond to a teacher questionnaire. Teacher respondents self-reported as teachers of student participants. Student schedule data was not analyzed. The questionnaire included questions pertaining to the teacher's educational background, teaching experience, and demographic information. Teachers were also asked to evaluate several school-level questions pertaining to content-specific departments, principal leadership, faculty, limitations, and school problems (Ingles et al., 2011).

<div align="center">

Data Analysis Procedures

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The researcher collected data from NCES and extracted from the entire data set the required inputs for analysis. These inputs include school administrators', math teachers', and science teachers' questionnaire responses. The researcher used the Statistical Package for Social Sciences (SPSS) software program (SPSS Inc., 1999) to analyze the data.

Research Questions 1-4

The research questions were explored using multiple One-Way Analysis of Covariance (ANCOVA). The HSLS:09 study included responses from educators across

the United States in various school settings and school types where students from various demographic and socio-economic status backgrounds attended. In order to ensure that school setting, school type, school demographics, and socio-economic status did not have an impact on the data analysis of the preceding research questions, multiple One-Way Analysis of Covariance (ANCOVA) was utilized. According to Green and Salkind (2014), an ANCOVA "evaluates the null hypothesis that population means on the dependent variable are equal across levels of a factor, [and will adjust] for differences on the covariate… the population adjusted means are equal across groups" (p. 188). Additionally, an ANCOVA was appropriate because the current study presents with potential confounding, meaning "cases are in different groups, but are neither randomly assigned to groups nor assigned to groups based on their pretest scores… the groups may differ due to variables other than the factor and the covariate" (Green & Salkind, 2014, p.190). An ANCOVA was used in order to hold constant the following covariates: school locale (urbanicity), geographic region, school control (public or private), school type (regular, charter, special program, vocational or technical, alternative), single-sex school (either yes or no), percent of student population receiving free or reduced lunch, principal race, teacher race, and student race. In order to complete a one-way ANCOVA, the data must meet four assumptions:

1. The dependent variable is normally distributed in the population for any specific value of the covariate and for any one level of a factor

2. The variances of the dependent variable for the condition distributions in assumption one are equal

3. The cases represent a random sample from the population, and the scores on the dependent variable are independent of each other

4. The covariate is linearly related to the dependent variable within all levels of the factor, and the weights or slopes relating to the covariate to the dependent variable are equal across all levels of the factor (Green & Salkind, 2014, p. 191).

Research Question 1. Is there a significant difference in overall teachers' perceptions of principal support based on principal gender?

    a. Is there a significant difference in math teachers' perceptions of principal support based on math teacher gender?

    b. Is there a significant difference in science teachers' perceptions of principal support based on science teacher gender?

In order to answer the first research question, teachers' perceptions of principal support was compared by principal gender, math teachers' perceptions of principal support will be compared by teacher gender and science teachers' perceptions of principal support will be compared by teacher gender. Multiple ANCOVAs will be used to complete this analysis. The dependent variable is teachers' perceptions (overall, math, and science), the independent variables, or groups, are male principal and female principal, and male teacher or female teacher, and the covariates to be held constant include school locale (urbanicity), geographic region, school control (public or private), school type (regular, charter, special program, vocational or technical, alternative), single-sex school (either yes or no), percent of student population receiving free or reduced lunch, principal race, teacher race, and student race.

Research Question 2. Are there significant differences in female and male principals' perceptions of school problems? In order to answer the third research question, multiple ANCOVAs were used to determine if significance existed between principal perceptions of school problems and principal gender. The dependent variable is

principals' perceptions of school problems, the independent variables are male and female principals, and the covariates to be held constant include school locale (urbanicity), geographic region, school control (public or private), school type (regular, charter, special program, vocational or technical, alternative), single-sex school (either yes or no), percent of student population receiving free or reduced lunch, principal race, teacher race, and student race.

Research Question 3. Are there significant differences in teachers' perceptions of school problems based on principal gender?

    a. Is there a significant difference in math teachers' perceptions of school problems based on math teacher gender?

    b. Is there a significant difference in science teachers' perceptions of school problems based on science teacher gender?

    c. Is there a significant difference in principals' perceptions of school problems based on principal gender?

In order to answer the fourth research question, teachers' and principals' perceptions of school problems were compared by principal gender and teacher gender using multiple ANCOVAs. The dependent variable is teachers' perceptions of school problems (overall, math, and science), and principals' perceptions of school problems, the independent variables are male and female principals and teachers, and the covariates to be held constant include school locale (urbanicity), geographic region, school control (public or private), school type (regular, charter, special program, vocational or technical, alternative), single-sex school (either yes or no), percent of student population receiving free or reduced lunch, principal race, teacher race, and student race.

Research Question 4. Are there significant differences in principals' perceptions of school climate based on principal gender? In order to answer the fifth research

question, principals' perceptions of school climate were compared by principal gender using multiple ANCOVAs. The dependent variable is principals' perceptions of school climate, the independent variables are male and female principals, and the covariates to be held constant include school locale (urbanicity), geographic region, school control (public or private), school type (regular, charter, special program, vocational or technical, alternative), single-sex school (either yes or no), percent of student population receiving free or reduced lunch, principal race, teacher race, and student race.

CHAPTER IV:

RESULTS

The purpose of this study was two-fold. First, the researcher sought to explore the relationship between principal gender and the 9-12 school setting across a national data set. Second, the study intended to explore how the perceptions of teachers and principals across the nation differ according to principal and teacher gender. This study examined perceptions specifically in the areas of principal support, school climate, and school problems. The analysis in this chapter investigates four research questions. Question one seeks to determine if there is a significant difference in overall teachers' perceptions of principal support based on principal gender. Furthermore, this question examined perceptions of principal support based on teacher gender. The second research question examined differences in female and male principals' perceptions of school problems. Question three explores differences in teachers' perceptions of school problems based on principal gender and also examines perceptions of school problems based on teacher gender. Additionally, question three explores principal perceptions of school problems based on principal gender. Finally, question four explores significant differences in principals' perceptions of school climate based on principal gender.

Data Preparation for Analysis

The researcher obtained access to the HSLS:09 survey data from a password protected CD from NCES. The data collected was imported into Statistical Package for the Social Sciences (SPSS). The CD included data collected for the entire survey, not all of which was needed for this study; therefore, data not utilized for analysis were removed. Various sets of the HSLS:09 data came coded to include negative numbers, representing missing answers or skipped questions. Each affected variable was recoded

to remove these missing and skipped participant answers. Table 11 shows the variable

codes that were recoded to "system missing" in SPSS.

Table 11

Missing or skipped variable codes recorded to "system missing"

Variable name	Variable description	Orig-inal code	Code description	N	N remaining
X1RACE	Student's race/ethnicity composite	-9	Missing	938	24268
A1FREELUNCH	Percent of student body receiving free or reduced-price lunch	-8	Unit non-response	56	860
		-9	Missing	28	
A1SCHTYPE	School type	-8	Unit non-response	56	887
		-9	Missing	1	
A1SINGLESEX	Whether school is a single-sex school	-8	Unit non-response	56	819
		-9	Missing	69	
A1WHITE	Principal is White	-8	Unit non-response	56	777
		-9	Missing	111	
A1BLACK	Principal is Black or African American	-8	Unit non-response	56	777
		-9	Missing	111	
A1SEX	Principal's Sex	-8	Unit non-response	56	786
		-9	Missing	102	
X1TMRACE	Math teacher's race/ethnicity composite	-7	Item legitimate skip/NA	1585	17835
		-8	Unit non-response	5739	
		-9	Missing	47	
X1TSRACE	Science teacher's race/ethnicity composite	-7	Item legitimate skip/NA	2609	16200
		-8	Unit non-response	6328	
		-9	Missing	69	

Table 11 (continued)

M1SEX	Math teacher's sex	-8	Unit non-response	7324	17882
N1SEX	Science teacher's sex	-8	Unit non-response	8937	16267
		-9	Missing	2	
M1PRESSURES	Deals effectively with outside pressures (Math)	-8	Unit non-response	7324	16200
		-9	Missing	1682	
N1PRESSURES	Deals effectively with outside pressures (Science)	-8	Unit non-response	8937	14633
		-9	Missing	1636	
M1POORJOBRES	Does a poor job of getting resources for this school (Math)	-8	Unit non-response	7324	16145
		-9	Missing	1737	
N1POORJOBRES	Does a poor job of getting resources for this school (Science)	-8	Unit non-response	8937	14635
		-9	Missing	1638	
M1SETSPRIO	Sets priorities, makes plans, and sees that they are carried out (Math)	-8	Unit non-response	7324	16204
		-9	Missing	1678	
N1SETSPRIO	Sets priorities, makes plans, and sees that they are carried out (Science)	-8	Unit non-response	8937	14739
		-9	Missing	1530	
M1PSCHVISION	Knows what kind of school he or she wants and has communicated it to the staff (Math)	-8	Unit non-response	7324	16255
		-9	Missing	1627	
N1PSCHVISION	Knows what kind of school he or she wants and has communicated it to the staff (Science)	-8	Unit non-response	8937	14723
		-9	Missing	1546	
M1COMPEXP	Lets staff members know what is expected of them (Math)	-8	Unit non-response	7324	16297
		-9	Missing	1585	
N1COMPEXP	Lets staff members know what is expected of them (Science)	-8	Unit non-response	8937	14781
		-9	Missing	1488	

Table 11 (continued)

M1PINNOVATE	Is interested in innovation and new ideas (Math)	-8	Unit non-response	7324	16238
		-9	Missing	1644	
N1PINNOVATE	Is interested in innovation and new ideas (Science)	-8	Unit non-response	8937	14772
		-9	Missing	1497	
M1PCONSULTS	Usually consults with staff members before	-8	Unit non-response	7324	16192
	he or she makes decisions that affect them (Math)	-9	Missing	1690	
N1PCONSULTS	Usually consults with staff members before	-8	Unit non-response	8937	14678
	he or she makes decisions that affect them (Science)	-9	Missing	1591	
X1TMPRINC	Scale score of teacher perceptions of principal support (Math)	-7	Item legitimate skip/NA	1585	15715
		-8	Unit non-response	5739	
		-9	Missing	2170	
X1TSPRINC	Scale score of teacher perceptions of principal support (Science)	-7	Item legitimate skip/NA	2609	14167
		-8	Unit non-response	6328	
		-9	Missing	2102	
M1ADMSUPPORT	Inadequate administrative support limits how I teach (Math)	-8	Unit non-response	7324	16300
		-9	Missing	1582	
N1ADMSUPPORT	Inadequate administrative support limits how I teach (Science)	-8	Unit non-response	8937	14774
		-9	Missing	1495	
M1TARDY	Student tardiness (Math)	-8	Unit non-response	7324	16340
		-9	Missing	1542	

Table 11 (continued)

N1TARDY	Student tardiness (Science)	-8	Unit non-response	8937	14810
		-9	Missing	1459	
A1TARDY	Student tardiness (Administrator)	-8	Unit non-response	1406	20885
		-9	Missing	2915	
M1STUABSENT	Student absenteeism (Math)	-8	Unit non-response	7324	16320
		-9	Missing	1562	
N1STUABSENT	Student absenteeism (Science)	-8	Unit non-response	8937	14811
		-9	Missing	1458	
A1STUABSENT	Student absenteeism (Administrator)	-8	Unit non-response	1406	20867
		-9	Missing	2933	
M1CUT	Student class cutting (Math)	-8	Unit non-response	7324	16348
		-9	Missing	1534	
N1CUT	Student class cutting (Science)	-8	Unit non-response	8937	14796
		-9	Missing	1473	
A1CUT	Student class cutting (Administrator)	-8	Unit non-response	1406	20912
		-9	Missing	2888	
M1TCHRABSENT	Teacher absenteeism (Math)	-8	Unit non-response	7324	16321
		-9	Missing	1561	
N1TCHRABSENT	Teacher absenteeism (Science)	-8	Unit non-response	8937	14804
		-9	Missing	1465	
A1TCHRABSENT	Teacher absenteeism (Administrator)	-8	Unit non-response	1406	20814
		-9	Missing	2986	
M1DROPOUT	Students dropping out (Math)	-8	Unit non-response	7324	16318
		-9	Missing	1564	
N1DROPOUT	Students dropping out (Science)	-8	Unit non-response	8937	14753
		-9	Missing	1516	
A1DROPOUT	Students dropping out (Administrator)	-8	Unit non-response	1406	20849
		-9	Missing	2951	

Table 11 (continued)

M1APATHY	Student apathy (Math)	-8	Unit non-response	7324	16286
		-9	Missing	1596	
N1APATHY	Student apathy (Science)	-8	Unit non-response	8937	14706
		-9	Missing	1563	
A1APATHY	Student apathy (Administrator)	-8	Unit non-response	1406	20938
		-9	Missing	2862	
M1INVOLVEMENT	Lack of parental involvement (Math)	-8	Unit non-response	7324	16382
		-9	Missing	1500	
N1INVOLVEMENT	Lack of parental involvement (Science)	-8	Unit non-response	8937	14824
		-9	Missing	1445	
A1PRNTINV	Lack of parental involvement (Administrator)	-8	Unit non-response	1406	20898
		-9	Missing	2902	
M1UNPREPPROB	Students come to school unprepared to learn (Math)	-8	Unit non-response	7324	16373
		-9	Missing	1509	
N1UNPREPPROB	Students come to school unprepared to learn (Science)	-8	Unit non-response	8937	14822
		-9	Missing	1447	
A1UNPREP	Students come to school unprepared to learn (Administrator)	-8	Unit non-response	1406	20797
		-9	Missing	3003	
M1HEALTH	Poor student health (Math)	-8	Unit non-response	7324	16299
		-9	Missing	1583	
N1HEALTH	Poor student health (Science)	-8	Unit non-response	8937	14783
		-9	Missing	1486	
A1HEALTH	Poor student health (Administrator)	-8	Unit non-response	1406	20889
		-9	Missing	2911	
M1RESOURCES	Lack of resources and materials for teachers (Math)	-8	Unit non-response	7324	16329
		-9	Missing	1553	

Table 11 (continued)

N1RESOURCES	Lack of resources and materials for teachers (Science)	-8	Unit non-response	8937	14810
		-9	Missing	1459	
A1RESOURCES	Lack of resources and materials for teachers (Administrator)	-8	Unit non-response	1406	20812
		-9	Missing	2988	
A1CONFLICT	Physical conflicts among students (Administrator)	-8	Unit non-response	1406	20764
		-9	Missing	3036	
A1ROBBERY	Robbery or theft (Administrator)	-8	Unit non-response	1406	20880
		-9	Missing	2920	
A1VANDALISM	Vandalism (Administrator)	-8	Unit non-response	1406	20860
		-9	Missing	2940	
A1DRUGUSE	Student use of illegal drugs while at school (Administrator)	-8	Unit non-response	1406	20880
		-9	Missing	2920	
A1ALCOHOL	Student use of alcohol while at school (Administrator)	-8	Unit non-response	1406	20777
		-9	Missing	3023	
A1DRUGSALE	The sale of drugs on the way to or from school or on school grounds (Administrator)	-8	Unit non-response	1406	20750
		-9	Missing	3050	
A1WEAPONS	Student possession of weapons (Administrator)	-8	Unit non-response	1406	20769
		-9	Missing	3031	
A1PHYSABUSE	Physical abuse of teachers (Administrator)	-8	Unit non-response	1406	20846
		-9	Missing	2954	
A1TENSION	Student racial tensions (Administrator)	-8	Unit non-response	1406	20748
		-9	Missing	3052	
A1BULLY	Student bullying (Administrator)	-8	Unit non-response	1406	20845
		-9	Missing	2955	

Table 11 (continued)

A1VERBAL	Student verbal abuse of teachers (Administrator)	-8	Unit non-response	1406	20907
		-9	Missing	2893	
A1MISBEHAVE	Student in-class misbehavior (Administrator)	-8	Unit non-response	1406	20774
		-9	Missing	3026	
A1DISRESPECT	Student acts of disrespect for teachers (Administrator)	-8	Unit non-response	1406	20935
		-9	Missing	2865	
A1GANG	Student gang activities (Administrator)	-8	Unit non-response	1406	20793
		-9	Missing	3007	
X1SCHOOLCLI	Scale score of principal perceptions of school climate (Administrator)	-8	Unit non-response	1406	19897
		-9	Missing	3903	

The research questions were explored using multiple One-Way Analysis of Covariance (ANCOVA). The HSLS:09 study included responses from educators across the United States in various school settings and school types where students from various demographic and socio-economic status backgrounds attended. In order to ensure that school setting, school type, school demographics, and socio-economic status did not have an impact on the data analysis of the preceding research questions, multiple One-Way Analysis of Covariance (ANCOVA) were utilized. According to Green and Salkind (2014), an ANCOVA "evaluates the null hypothesis that population means on the dependent variable are equal across levels of a factor, [and will adjust] for differences on the covariate… the population adjusted means are equal across groups" (p. 188). Additionally, an ANCOVA was appropriate because the current study presents with potential confounding, meaning "cases are in different groups, but are neither randomly assigned to groups nor assigned to groups based on their pretest scores… the groups may differ due to variables other than the factor and the covariate" (Green & Salkind, 2014, p.190). For each research question, an ANCOVA was used in order to hold constant

covariates which showed a significant correlation. In order to complete an ANCOVA, the data must meet the following four assumptions:

1. The dependent variable is normally distributed in the population for any specific value of the covariate and for any one level of a factor

2. The variances of the dependent variable for the condition distributions in assumption one are equal

3. The cases represent a random sample from the population, and the scores on the dependent variable are independent of each other

4. The covariate is linearly related to the dependent variable within all levels of the factor, and the weights or slopes relating to the covariate to the dependent variable are equal across all levels of the factor (Green & Salkind, 2014, p. 191). Levene's Test of Equality of Error Variances was used to determine whether the data met the homogeneity of slopes assumption and will be discussed within each research question.

In order to determine which covariates to hold constant, correlation coefficients were computed among school, principal, and teacher descriptive variables and variables pertaining to principal support, school problems, and school climate. A Pearson Product-Moment Correlation was completed prior to the ANCOVA for each research question. A p value of less than .05 was required for significance.

The results of the correlational analysis presented in Table 12 represent correlations between school descriptive variables and math teachers' perceptions of principal support and shows that three correlations were statistically significant. The results of the correlational analysis presented in Table 13 represent correlations between principal and teacher descriptive variables and math teachers' perceptions of principal support and shows that 14 correlations were statistically significant.

Table 12

Correlation coefficients between school descriptive variables and math teachers'
perceptions of principal support

	School Control: public or private	School locale (urban-icity)	Census geo-graphic region	Single-Sex School	School type	Free or reduced -price lunch
Deals effectively with outside pressures	-.092*	0.005	-0.003	-.100*	-0.029	0.077
Does a poor job of getting resources for this school	0.025	0.067	0.012	0.083	0.069	0.014
Sets priorities, makes plans, and see they are carried out	-0.039	-0.048	-0.031	-.096*	-0.032	0.054
Knows what kind of school he/she wants and communicated it to the staff	-0.002	-0.018	-0.006	-0.049	-0.057	-0.004
Lets staff members know what is expected of them	0.017	-0.04	-0.009	-0.033	-0.059	0.024
Is interested in innovation and new ideas	0.006	0	-0.011	-0.052	-0.08	-0.021
Usually consults with staff members before he or she makes decisions that affect them	-0.066	-0.035	-0.018	-0.079	-0.032	0.029
Scale score of teacher perceptions of principal support	0.038	0.023	0.014	0.084	0.068	-0.048

* $p < .05$
** $p < .01$

Table 13

Correlation coefficients between principal and teacher descriptive variables and math teachers' perceptions of principal support

Principal is	White	Black, African American	Asian	Hispanic /Latino origin	Am. Indian/ Alaska Native	Teacher Sex	Teacher Race
Deals effectively with outside pressures	-.127**	.105*	0.004	0.045	.098*	0.048**	-.019*
Does a poor job getting resources for the school	0.079	-0.076	-0.018	0.035	-0.001	-0.009	-0.003
Sets priorities, plans, sees they are complete	-0.078	0.079	0.006	-0.065	0.042	0.026**	0.006
Knows the kind of school he/she wants and communicated it to the staff	-0.032	0.017	0.013	0.023	.089*	0.004	.019*
Lets staff members know what is expected	-0.001	-0.015	0.012	-0.041	.090*	0.008	.016*
Is interested in innovation and new ideas	-0.024	0.008	0.017	0.064	0.066	-0.004	.011
Usually consults with staff members before he or she makes decisions that affect them	-.091*	.095*	0.043	0.016	0.032	0.059**	.005
Scale score of teacher perceptions of principal support	0.085	-0.071	-0.019	0	-0.087	-.026**	-0.006

* *p< .05*
** *p< .01*

The results of the correlational analysis presented in Table 14 represent correlations between school descriptive variables and science teachers' perceptions of principal support and shows that nine correlations were statistically significant. The results of the correlational analysis presented in Table 15 represent correlations between principal and teacher descriptive variables and science teachers' perceptions of principal support and shows that 12 correlations were statistically significant.

Table 14

Correlation coefficients between school descriptive variables and science teachers'
perceptions of principal support

	School Control: public or private	School locale (urban-icity)	School geo-graphic region	Single-Sex School	School type	Free or reduced-price lunch
Deals effectively with outside pressures	-0.076	-0.064	-0.09*	0.011	0.033	-0.006
Does a poor job of getting resources for this school	0.058	0.027	0.052	0.056	-0.056	0.002
Sets priorities, plans, and sees they are complete	-.111*	0.031	-0.064	-0.044	-0.017	0.073
Knows what kind of school he or she wants and has communicated it to the staff	-.115**	0.025	-0.081	-0.075	0.007	0.037
Lets staff members know what is expected of them	-0.072	-0.045	-.086*	-0.009	0.002	0.003
Is interested in innovation and new ideas	-0.108*	0.016	-0.019	-0.05	0.002	0.064
Usually consults with staff members before he or she makes decisions that affect them	-0.11*	-0.043	-.094*	-0.002	0.065	0.025
Scale score of teacher perceptions of principal support	.116*	0.009	0.091*	0.043	-0.027	-0.045

* p< .05
** p< .01

Table 15

Correlation coefficients between principal and teacher descriptive variables and science teachers' perceptions of principal support

Principal is	White	Black, African American	Asian	Hispanic/Latino origin	American Indian/ Alaska Native	Teacher Sex	Teacher Race
Deals effectively with outside pressures	-0.01	0.009	0.003	-0.055	0.004	0.027**	.035**
Does a poor job of getting resources for this school	0.021	-0.015	0.021	0.079	0.006	0.024*	-0.02
Sets priorities, makes plans, and see that they are carried out	-0.091*	0.055	0.042	-0.064	0.063	-0.001	.051**
Knows what kind of school he/she wants and communicated it to the staff	-0.078	0.016	0.052	-0.078	0.049	-0.018	.042**
Lets staff members know what is expected	-0.043	0.001	0.014	-0.114*	0.076	0.002	.027**
Is interested in innovation and new ideas	-0.048	0.041	0.028	-0.087	0.006	-0.008	.037**
Usually consults with staff members before he or she makes decisions that affect them	-0.031	0.019	0.007	-0.06	0.042	0.078**	0.03**
Scale score of teacher perceptions of principal support	0.048	-0.009	-0.031	0.094	-0.05	-0.011	-.044**

* p< .05
** p< .01

The results of the correlational analysis presented in Table 16 represent correlations between school descriptive variables and principals' perceptions of school problems and shows that 51 correlations were statistically significant. The results of the correlational analysis presented in Table 17 represent correlations between principal and teacher descriptive variables and principals' perceptions of school problems and shows that 16 correlations were statistically significant.

Table 16

Correlation coefficients between school descriptive variables and principals' perceptions of school problems

	School Control: public or private	School locale (urban-icity)	School geo-graphic region	Single-Sex School	School type	Free or reduced-price lunch
Student tardiness	-.284**	-0.056	0.069*	-.161**	0.132**	0.364**
Student absenteeism	-.392**	0.058	0.144**	-.177**	0.095**	0.478**
Student class cutting	-0.43**	-0.072*	0.117**	-.161**	0.09*	0.372**
Teacher absenteeism	-.279**	0.064	0.1**	-.092**	-0.019	0.211**
Students dropping out	-.474**	0.134**	0.153**	-.197**	0.08*	0.491**
Student apathy	-.326**	0.177**	0.104**	-.179**	0.064	0.405**
Lack of parental involvement	-.405**	0.108**	0.102**	-.156**	0.11**	0.625**
Students come unprepared to learn	-.326**	0.06	0.128**	-.204**	0.11**	0.486**
Poor student health	-.238**	0.023	0.086**	-.125**	0.163**	0.348**
Lack of resources and materials for teachers	-0.069*	0.063	0.141**	-.118**	0.056	0.164**

* p< .05
** p< .01

Table 17

Correlation coefficients between principal and teacher descriptive variables and principals' perceptions of school problems

Principal is	White	Black, African American	Asian	Hispanic /Latino origin	Am. Indian/ Alaska Native	Teacher Sex	Teacher Race/ Ethnicity
Student tardiness	-0.1**	0.078*	0.005	0.05	0.067	-0.002	-0.094*
Student absenteeism	-0.055	0.046	0.008	0.042	0.001	-0.044	-0.074*
Student class cutting	-.135**	.121**	-0.016	0.031	0.014	-0.047	-0.078*
Teacher absenteeism	-.074*	0.061	-0.024	0.056	-0.01	-0.085*	-0.06
Students dropping out	-0.044	0.026	0.024	0.008	0.042	-0.031	-0.027
Student apathy	0.004	-0.012	0.024	0.015	-0.007	-0.051	-0.023
Lack of parental involvement	-.083*	0.066	0.047	0.03	0.036	-0.009	-0.088*
Students come to school unprepared to learn	-.077*	0.069	0.075*	0.015	0.014	-0.048	-0.033
Poor student health	-.095**	0.065	0.072*	-0.002	0.047	0.015	-0.03
Lack of resources and materials for teachers	-0.001	-0.001	0.084*	0.053	-0.032	-0.024	-0.039

* p< .05
** p< .01

The results of the correlational analysis presented in Table 18 represent correlations between school descriptive variables and math teachers' perceptions of school problems and shows that 40 correlations were statistically significant. The results of the correlational analysis presented in Table 19 represent correlations between

principal and teacher descriptive variables and math teachers' perceptions of school

problems and shows that 30 correlations were statistically significant.

Table 18

*Correlation coefficients between school descriptive variables and math
teachers' perceptions of school problems*

	School Control: public or private	School locale (urban-icity)	School geo-graphic region	Single-Sex School	School type	Free or reduced -price lunch
Student tardiness	-.245**	-.099*	0.036	-.120**	.083*	.345**
Student absenteeism	-.330**	-0.016	.102*	-.139**	0.078	.493**
Student class cutting	-.393**	-.108**	.132**	-.151**	.108*	.439**
Teacher absenteeism	-.154**	0.011	0.039	-0.083	-0.002	.167**
Students dropping out	-.437**	0.035	.182**	-.192**	0.05	.583**
Student apathy	-.340**	0.062	.158**	-.178**	.082*	.431**
Lack of parental involvement	-.466**	0.068	.084*	-.199**	0.051	.623**
Students come unprepared to learn	-.372**	0.003	.101*	-.162**	.085*	.503**
Poor student health	-.162**	0.039	0.072	-0.082	0.076	.300**
Lack of resources and materials for teachers	-.145**	0.059	0.069	-.139**	-0.011	.240**

* p< .05
** p< .01

Table 19

Correlation coefficients between principal and teacher descriptive variables and math teachers' perceptions of school problems

Principal is	White	Black, African American	Asian	Hispanic /Latino origin	Am. Indian/ Alaska Native	Teacher Sex	Teacher Race
Student tardiness	-.147**	.143**	-.012	0.073	0.022	0.002	-.072**
Student absenteeism	-.128**	.125**	0.024	0.064	0.002	.019*	-.078**
Student class cutting	-.210**	.193**	-.043	.109*	0.035	-.012	-.121**
Teacher absenteeism	-.154**	.162**	-.027	0.005	-0.053	0.009	4**
Students dropping out	-.100*	0.081	0.002	0.043	0.054	.030**	-.111**
Student apathy	-.093*	0.083	0.058	0.078	0.048	-.042**	0.005
Lack of parental involvement	-.152**	.142**	0.021	0.062	0.083	-.063**	-.074**
Students come unprepared to learn	-.174**	.165**	0.06	0.084	0.051	-0.013	-.070**
Poor student health	-0.031	0.039	0.022	-0.029	-0.018	0.012	-.028**
Lack of resources/ materials for teachers	-.113**	.124**	0.061	-0.001	-0.006	0.006	-.045**

* p< .05
** p< .01

The results of the correlational analysis presented in Table 20 represent correlations between school descriptive variables and science teachers' perceptions of school problems and shows that 43 correlations were statistically significant. The results of the correlational analysis presented in Table 21 represent correlations between

principal and teacher descriptive variables and science teachers' perceptions of school

problems and shows that 27 correlations were statistically significant.

Table 20

Correlation coefficients between school descriptive variables and science teachers' perceptions of school problems

	School Control: public or private	School locale (urban-icity)	School geo-graphic region	Single-Sex School	School type	Free or reduced-price lunch
Student tardiness	-.319**	-0.04	0.028	-.188**	0.101*	0.326**
Student absenteeism	-.408**	0.036	0.05	-.186**	0.096*	0.425**
Student class cutting	-.388**	-0.048	0.102*	-.207**	0.171**	0.357**
Teacher absenteeism	-.128**	-0.049	0.044	0.001	0.09*	0.137**
Students dropping out	-.413**	0.056	0.172**	-.208**	0.092*	0.503**
Student apathy	-0.36**	0.137**	0.051	-.164**	0.038	0.372**
Lack of parental involvement	-.449**	0.149**	0.05	-.184**	0.16**	0.576**
Students come unprepared to learn	-.401**	0.1*	0.033	-.145**	0.098*	0.493**
Poor student health	-0.2**	0.051	0.027	-.102*	0.083	0.308**
Lack of resources/ materials for teachers	-.157**	0.066	0.094*	-.132**	0.097*	0.238**

* $p < .05$
** $p < .01$

Table 21

Correlation coefficients between principal and teacher descriptive variables and science teachers' perceptions of school problems

Principal is	White	Black, African American	Asian	Hispanic/Latino origin	Am. Indian/ Alaska Native	Teacher Sex	Teacher Race
Student tardiness	-.141**	0.168**	-.055	0.019	0.06	0.049**	-.097**
Student absenteeism	-0.13**	0.121**	-0.01	0.061	0.017	0.042**	-.058**
Student class cutting	-.173**	0.178**	-0.02	0.025	-0.01	0.035**	-.13**
Teacher absenteeism	-.126**	0.133**	-0.048	0.058	-0.025	-0.033	-.084**
Students drop out	-.106*	0.122**	-0.032	0.085	-0.039	0.033**	-.077**
Student apathy	-0.03	0.024	-0.061	0.013	0.07	0.005	0.006
Lack parent involvement	-0.047	0.044	0.017	0.077	0.036	-0.019*	-.032**
Students unprepared	-0.043	0.046	-0.003	0.022	0.011	-0.008	-.046**
Poor student health	-0.15**	0.157**	0.001	0.06	-0.038	0.025**	-0.012
Lack of resources for teachers	-0.014	-0.003	-0.059	0.037	0.016	0.029**	-.039**

* p< .05
** p< .01

The results of the correlational analysis presented in Table 22 represent correlations between school descriptive variables and principals' perceptions of school climate and shows that 59 correlations were statistically significant. The results of the correlational analysis presented in Table 23 represent correlations between principal and teacher descriptive variables and principals' perceptions of school climate and shows that 19 correlations were statistically significant.

Table 22

Correlation coefficients between school descriptive variables and principals'
perceptions of school climate

	School Control: public or private	School locale (urban-icity)	School geo-graphic region	Single-Sex School	School type	Free or reduced-price lunch
Physical conflicts among students	.386**	0.041	-0.06	0.154**	0.016	-.333**
Robbery or theft	.274**	0.082*	-.108**	0.099**	0.008	-0.1**
Vandalism of school	.293**	0.05	-.154**	0.11**	0.024	-.214**
Student use of illegal drugs at school	.398**	0.008	-.233**	0.129**	0.014	-.214**
Student use of alcohol	.358**	0.018	-.224**	0.151**	0.053	-.149**
Sale of drugs to/from/on school	.391**	0.014	-.176**	0.102**	0.045	-.218**
Student possession of weapons	.469**	-0.005	-.085*	0.21**	0.021	-.284**
Physical abuse of teachers	.203**	0.13**	-0.022	0.089*	-0.061*	-.261**
Student racial tensions	.197**	-0.018	-.111**	0.061	0.007	-0.051
Student bullying	.282**	-.104**	-0.002	0.13**	0.023	-.122**
Student verbal abuse of teachers	.415**	-0.034	0.024	0.183**	-.114**	-.332**
Student in-class misbehavior	0.42**	-0.058	-0.045	0.251**	-0.015	-.307**
Student acts of disrespect for teachers	.422**	-0.014	-0.026	0.182**	-.081*	-.399**
Student gang activities	.329**	.119**	-.215**	0.117**	-0.043	-.413**
Scale score of principal perceptions of school climate	.539**	0.015	-.156**	0.214**	-0.011	-.375**

* p< .05
** p< .01

Table 23

Correlation coefficients between principal and teacher descriptive variables and principals'
perceptions of school climate

Principal is	White	Black, African American	Asian	Hispanic /Latino origin	Am. Indian/ Alaska Native	Teach. Sex	Teach. Race/ Ethnicity
Physical conflicts among students	.133**	-.114**	0.031	-0.018	-0.12**	0.048	0.074*
Robbery or theft	0.01	0.011	0.033	-0.042	-0.053	-0.004	0.057
Vandalism of the school	0.025	-0.02	0.047	-0.079	-0.056	0.002	0.044
Student use of illegal drugs at school	0.016	-0.006	0.011	-0.057	-0.008	0.003	0.045
Student use of alcohol	0.004	0.007	-0.013	-0.04	-0.015	0.056	0.028
Sale of drugs to/from/on school	0.016	0.011	0.014	-0.031	-0.061	0.028	-0.002
Student possession of weapons	0.014	-0.016	-0.007	0.023	-0.019	0.019	0.05
Physical abuse of teachers	.121**	-0.1**	-0.027	0.023	-0.015	0.028	0.111*
Student racial tensions	-0.044	0.075*	0.011	0.03	-0.026	-0.031	0.002
Student bullying	-0.031	0.068	-0.015	-0.022	-0.036	0.043	-0.005
Student verbal abuse of teachers	.111**	-0.085*	-0.016	-0.025	-0.024	0.014	0.059
Student in-class misbehavior	0.033	-0.01	0.03	-0.002	-0.007	0.02	0.068
Student acts of disrespect for teachers	.098**	-0.068	-0.008	-0.041	-0.004	0.021	0.081*
Student gang activities	.141**	-.098**	-0.03	-.114**	-0.102**	0.044	0.182**
Scale score of perceptions of school climate	.085*	-0.051	0.006	-0.051	-0.06	0.04	0.092*

* p< .05
** p< .01

Correlations among descriptive variables and research variables were analyzed. Each descriptive variable had a possibility of correlation with 61 research variables at most. Table 24 represents each descriptive variable and the number of significant correlations within research variables.

Table 24

Correlations between descriptive variables and research variables

Descriptive Variable	Total number of correlations with research variables	Total percentage of significant correlations with research variables
School control (public/private)	51	83.6
School locale (urbanicity)	13	21.3
Geographical region	31	50.8
Single-sex school	43	70.5
School type	23	37.7
Free or reduced-price lunch	45	73.8
Principal is White	31	50.8
Principal is Black, African American	23	37.7
Principal is Asian	4	6.6
Principal is Hispanic/Latino origin	4	6.6
Principal is Am. Indian/Alaska Native	5	8.2
Teacher Sex	19	31.1
Teacher Race	37	60.7

Based on the results of all correlations, the following variables were held constant across all ANCOVA analysis due to a percentage of significant correlations above 20.0: school control (public or private), school locale (urbanicity), geographic region, single-

sex school (either yes or no), school type (regular, charter, special program, vocational or technical, alternative), percent of student population receiving free or reduced lunch, principal race, teacher sex (when principal sex was the independent variable), and teacher race.

<p style="text-align:center">Research Question One</p>

Research question one examined whether there would be a significant difference in teachers' perceptions of principal support based on principal gender. The researcher hypothesized that there would be a significant difference in teachers' perceptions of principal support based on principal gender.

A one-way analysis of covariance (ANCOVA) was conducted. The independent variable, principal gender, included male and female. The dependent variable included multiple variables defined as teacher perceptions of principal support. The covariates held constant were school control (public or private), school locale (urbanicity), geographic region, single-sex school (either yes or no), school type (regular, charter, special program, vocational or technical, alternative), percent of student population receiving free or reduced lunch, principal race, teacher sex, and teacher race. Levene's Test of Equality of Error Variances was used for evaluating the homogeneity-of-slopes assumption. This test indicated that the relationship between the covariate and the dependent variable did not differ significantly as a function of the independent variable and that the assumption of homogeneity-of-slopes was met. Table 25 demonstrates the results for Levene's Test of Equality of Error Variances and the ANCOVA results for each variable related to math teachers' perceptions of principal support. Table 26 demonstrates the results for Levene's Test of Equality of Error Variances and the ANCOVA results for each variable related to science teachers' perceptions of principal support. The results of the ANCOVA reveal no significance with any variable, indicating

<p style="text-align:center">79</p>

no significant difference in neither math nor science teachers' perceptions of principal support based on principal gender.

Table 25

Math teacher perceptions of principal support and principal gender

Variable	Levene's Test of Equality of Error Variances	ANCOVA
The principal…		
Deals effectively with outside pressures (M1PRESSURES)	$F(1,488) = 3.42$, $p = .07$	$F(1,478) = 0.21$, $p = .65$
Does a poor job of getting resources for this school (M1POORJOBRES)	$F(1,488) = 2.78$, $p = .096$	$F(1,478) = 0.61$, $p = .81$
Sets priorities, makes plans, and sees that they are carried out (M1SETSPRIO)	$F(1,489) = 0.06$, $p = .81$	$F(1,479) = 1.54$, $p = .22$
Knows what kind of school he/she wants and communicated it to the staff (M1PSCHVISION)	$F(1,493) = 0.03$, $p = .85$	$F(1,483) = 0.001$, $p = .98$
Lets staff members know what is expected of them (M1PCOMEXP)	$F(1,492) = 0.03$, $p = .87$	$F(1,482) = 0.57$, $p = .45$
Is interested in innovation and new ideas (M1PINNOVATE)	$F(1,493) = 0.26$, $p = .61$	$F(1,483) = 0.103$, $p = .75$
Usually consults with staff before he/she makes decisions that affect them (M1PCONSULTS)	$F(1,491) = 0.14$, $p = .71$	$F(1,481) = 0.07$, $p = .79$
Scale score of teacher perceptions of principal support (X1TMPRINC)	$F(1,476) = 0.09$, $p = .77$	$F(1,466) = 0.18$, $p = .67$

* p< .05
** p< .01

Table 26

Science teacher perceptions of principal support and principal gender

Variable	Levene's Test of Equality of Error Variances	ANCOVA
The principal…		
Deals effectively with outside pressures (N1PRESSURES)	$F(1,445) = 0.45, \ p = .50$	$F(1,435) = 0.81, \ p = .37$
Does a poor job of getting resources for this school (N1POORJOBRES)	$F(1,445) = 0.003, \ p = .95$	$F(1,435) = 0.26, \ p = .61$
Sets priorities, makes plans, and sees that they are carried out (N1SETSPRIO)	$F(1,446) = 0.02, \ p = .88$	$F(1,436) = 1.004, \ p = .32$
Knows what kind of school he or she wants and has communicated it to the staff (N1PSCHVISION)	$F(1,444) = 1.34, \ p = .25$	$F(1,434) = 0.91, \ p = .34$
Lets staff members know what is expected of them (N1PCOMEXP)	$F(1,446) = 0.35, \ p = .55$	$F(1,436) = 0.06, \ p = .81$
Is interested in innovation and new ideas (N1PINNOVATE)	$F(1,448) = 0.36, \ p = .55$	$F(1,438) = 0.002, \ p = .96$
Usually consults with staff members before he or she makes decisions that affect them (N1PCONSULTS)	$F(1,444) = 1.02, \ p = .31$	$F(1,434) = 1.82, \ p = .18$
Scale score of teacher perceptions of principal support (X1TSPRINC)	$F(1,432) = 0.06, \ p = .81$	$F(1,422) = 0.15, \ p = .70$

* p< .05
** p< .01

Additionally, research question one explored whether there was a significant

difference in perceptions of principal support based on teacher gender. The researcher

hypothesized that there would be a significant difference in teachers' perceptions of

principal support based on teacher gender. A one-way analysis of covariance (ANCOVA) was conducted. The independent variable, teacher gender, included male and female. The dependent variable included multiple variables defined as teacher perceptions of principal support. The covariates held constant were school control (public or private), school locale (urbanicity), geographic region, single-sex school (either yes or no), school type (regular, charter, special program, vocational or technical, alternative), percent of student population receiving free or reduced lunch, principal race, principal sex, and teacher race. Levene's Test of Equality of Error Variances was used for evaluating the homogeneity-of-slopes assumption.

Table 27 demonstrates the results for Levene's Test of Equality of Error Variances and the ANCOVA results for each variable related to math teachers' perceptions of principal support. Levene's Test of Equality of Error Variances indicated that the relationship between the covariate and the dependent variable did not differ significantly as a function of the independent variable and that the assumption of homogeneity-of-slopes was met. The results of the ANCOVA reveal no significance with any variable, indicating no significant difference in math teachers' perceptions of principal support based on math teacher gender.

Table 28 demonstrates the results for Levene's Test of Equality of Error Variances and the ANCOVA results for each variable that met all the assumptions of the ANCOVA related to science teachers' perceptions of principal support. The assumptions of the ANCOVA were not met for the variables "Deals effectively with outside pressures" (N1PRESSURES) and "Usually consults with staff members before he or she makes decisions that affects them" (N1PCONSULTS); therefore, results for these ANCOVAs were not reported. All other Levene's Test of Equality of Error Variances reported indicate that the relationship between the covariate and the dependent variable

did not differ significantly as a function of the independent variable and that the assumption of homogeneity-of-slopes was met. The results of the ANCOVA reveal no significance with any variable, indicating no significant difference in science teachers' perceptions of principal support based on science teacher gender.

Table 27

Math teacher perceptions of principal support and math teacher gender

Variable	Levene's Test of Equality of Error Variances	ANCOVA
The principal…		
Deals effectively with outside pressures (M1PRESSURES)	$F(1,504) = 0.05, \ p = .82$	$F(1,495) = 0.22, \ p = .64$
Does a poor job of getting resources for this school (M1POORJOBRES)	$F(1,504) = 0.70, \ p = .41$	$F(1,495) = 0.93, \ p = .34$
Sets priorities, makes plans, and sees that they are carried out (M1SETSPRIO)	$F(1,505) = 0.19, \ p = .67$	$F(1,496) = 0.75, \ p = .39$
Knows what kind of school he or she wants and has communicated it to the staff (M1PSCHVISION)	$F(1,509) = 0.17, \ p = .68$	$F(1,500) = 0.07, \ p = .80$
Lets staff members know what is expected of them (M1PCOMEXP)	$F(1,508) = 0.73, \ p = .39$	$F(1,499) = 0.08, \ p = .78$
Is interested in innovation and new ideas (M1PINNOVATE)	$F(1,509) = 0.63, \ p = .43$	$F(1,500) = 0.25, \ p = .62$
Usually consults with staff members before he or she makes decisions that affect them (M1PCONSULTS)	$F(1,507) = 1.04, \ p = .31$	$F(1,498) = 0.16, \ p = .69$
Scale score of teacher perceptions of principal support (X1TMPRINC)	$F(1,492) = 0.48, \ p = .49$	$F(1,483) = 0.00, \ p = .99$

* $p< .05$
** $p< .01$

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Table 28

Science teacher perceptions of principal support and science teacher gender

Variable	Levene's Test of Equality of Error Variances	ANCOVA
The principal…		
Does a poor job of getting resources for this school (N1POORJOBRES)	$F(1,460) = 0.22, \ p = .64$	$F(1,451) = 0.28, \ p = .60$
Sets priorities, makes plans, and sees that they are carried out (N1SETSPRIO)	$F(1,462) = 1.24, \ p = .27$	$F(1,453) = 0.01, \ p = .94$
Knows what kind of school he or she wants and has communicated it to the staff (N1PSCHVISION)	$F(1,460) = 0.06, \ p = .80$	$F(1,451) = 0.68, \ p = .41$
Lets staff members know what is expected of them (N1PCOMEXP)	$F(1,462) = 0.19, \ p = .67$	$F(1,453) = 0.001, \ p = .98$
Is interested in innovation and new ideas (N1PINNOVATE)	$F(1,464) = 1.43, \ p = .23$	$F(1,455) = 0.16, \ p = .69$
Scale score of teacher perceptions of principal support (X1TSPRINC)	$F(1,447) = 1.47, \ p = .23$	$F(1,438) = 0.00, \ p = .10$

* p< .05
** p< .01

Research Question Two

Research question two examined differences in female and male principals' perceptions of school problems. The researcher hypothesized that there would be a significant difference in principals' perceptions of school problems based on principal gender.

A one-way analysis of covariance (ANCOVA) was conducted. The independent variable, principal gender, included male and female. The dependent variable included multiple variables defined as principal perceptions of school problems. The covariates

held constant were school control (public or private), school locale (urbanicity), geographic region, single-sex school (either yes or no), school type (regular, charter, special program, vocational or technical, alternative), percent of student population receiving free or reduced lunch, principal race, teacher sex, and teacher race. Levene's Test of Equality of Error Variances was used for evaluating the homogeneity-of-slopes assumption.

Table 29 demonstrates the results for Levene's Test of Equality of Error Variances and the ANCOVA results for each variable related to principals' perceptions of school problems. Levene's Test of Equality of Error Variances indicated that the relationship between the covariate and the dependent variable did not differ significantly as a function of the independent variable and that the assumption of homogeneity-of-slopes was met. The results of the ANCOVA reveal no significance with any variable, indicating no significant difference in principals' perceptions of school problems based on principal gender.

Table 29

Administrator perceptions of school problems and principal gender

Variable	Levene's Test of Equality of Error Variances	ANCOVA
To what degree is each of the following a problem at your school…		
Student tardiness (A1TARDY)	$F(1,741) = 1.65,\ p = .20$	$F(1,733) = 0.25,\ p = .62$
Student absenteeism (A1STUABSENT)	$F(1,740) = 1.94,\ p = .16$	$F(1,732) = 0.03,\ p = .86$
Student class cutting (A1CUT)	$F(1,742) = 1.26,\ p = .26$	$F(1,734) = 0.002,\ p = .96$
Teacher absenteeism (A1TCHRABSENT)	$F(1,739) = 0.30,\ p = .58$	$F(1,731) = 0.04,\ p = .84$
Students dropping out (A1DROPOUT)	$F(1,740) = 0.03,\ p = .85$	$F(1,732) = 0.002,\ p = .97$
Student apathy (A1APATHY)	$F(1,743) = 0.79,\ p = .38$	$F(1,735) = 2.34,\ p = .13$
Lack of parental involvement (A1INVOLVEMENT)	$F(1,741) = 0.02,\ p = .90$	$F(1,733) = 0.10,\ p = .75$
Students come to school unprepared to learn (A1UNPREPPROB)	$F(1,739) = 0.12,\ p = .73$	$F(1,741) = 0.26,\ p = .61$
Poor student health (A1HEALTH)	$F(1,741) = 0.003,\ p = .96$	$F(1,733) = 0.26,\ p = .61$
Lack of resources and materials for teachers (A1RESOURCES)	$F(1,739) = 0.03,\ p = .86$	$F(1,731) = 0.23,\ p = .63$

* p< .05
** p< .01

Research Question Three

Research question three examined the differences in teachers' perceptions of school problems based on principal gender. The researcher hypothesized that there

would be a significant difference in teachers' perceptions of school problems based on principal gender.

A one-way analysis of covariance (ANCOVA) was conducted. The independent variable, principal gender, included male and female. The dependent variable included multiple variables defined as math or science teachers' perceptions of school problems. The covariates held constant were school control (public or private), school locale (urbanicity), geographic region, single-sex school (either yes or no), school type (regular, charter, special program, vocational or technical, alternative), percent of student population receiving free or reduced lunch, principal race, teacher sex, and teacher race. Levene's Test of Equality of Error Variances was used for evaluating the homogeneity-of-slopes assumption.

Table 30 demonstrates the results for Levene's Test of Equality of Error Variances and the ANCOVA results for each variable that met all the assumptions of the ANCOVA analysis related to math teachers' perceptions of school problems based on principal gender. The assumptions of the ANCOVA were not met for the variable "Student absenteeism (M1STUABSENT)." Therefore, results for this ANCOVA were not reported. All other Levene's Test of Equality of Error Variances indicated that the relationship between the covariate and the dependent variable did not differ significantly as a function of the independent variable and that the assumption of homogeneity-of-slopes was met. The results of the ANCOVA reveal no significance with any variable, indicating no significant difference in math teachers' perceptions of school problems based on principal gender.

Table 30

Math teacher perceptions of school problems and principal gender

Variable	Levene's Test of Equality of Error Variances	ANCOVA
To what degree is each of the following a problem at your school…		
Student tardiness (M1TARDY)	$F(1,496) = 2.15,\ p = .14$	$F(1,486) = 0.03,\ p = .85$
Student class cutting (M1CUT)	$F(1,494) = 0.33,\ p = .57$	$F(1,484) = 0.014,\ p = .91$
Teacher absenteeism (M1TCHRABSENT)	$F(1,492) = 0.73,\ p = .39$	$F(1,482) = 0.31,\ p = .58$
Students dropping out (M1DROPOUT)	$F(1,494) = 0.02,\ p = .88$	$F(1,484) = 1.45,\ p = .23$
Student apathy (M1APATHY)	$F(1,497) = 0.25,\ p = .62$	$F(1,487) = 1.61,\ p = .21$
Lack of parental involvement (M1INVOLVEMENT)	$F(1,497) = 0.46,\ p = .50$	$F(1,487) = 0.05,\ p = .82$
Students come to school unprepared to learn (M1UNPREPPROB)	$F(1,496) = 0.35,\ p = .56$	$F(1,486) = 0.09,\ p = .77$
Poor student health (M1HEALTH)	$F(1,496) = 0.01,\ p = .91$	$F(1,486) = 0.33,\ p = .57$
Lack of resources and materials for teachers (M1RESOURCES)	$F(1,496) = 0.52,\ p = .47$	$F(1,486) = 0.05,\ p = .82$

* *p< .05*
** *p< .01*

Table 31 demonstrates the results for Levene's Test of Equality of Error

Variances and the ANCOVA results for each variable related to science teachers'

perceptions of school problems and principal gender. Levene's Test of Equality of Error

Variances indicated that the relationship between the covariate and the dependent

variable did not differ significantly as a function of the independent variable and that the

assumption of homogeneity-of-slopes was met. The results of the ANCOVA revealed significance for the variable "Poor student health (N1HEALTH)," but no significance with any other variable, indicating no significant difference in science teachers' perceptions of school problems based on principal gender except for in the area of student health.

Table 31

Science teacher perceptions of school problems and principal gender

Variable	Levene's Test of Equality of Error Variances	ANCOVA
To what degree is each of the following a problem at your school…		
Student tardiness (N1TARDY)	$F(1,445) = 0.06, \ p = .81$	$F(1,435) = 0.01, \ p = .92$
Student absenteeism (N1STUABSENT)	$F(1,446) = 0.40, \ p = .53$	$F(1,436) = 0.06, \ p = .81$
Student class cutting (N1CUT)	$F(1,446) = 0.99, \ p = .32$	$F(1,436) = 0.19, \ p = .67$
Teacher absenteeism (N1TCHRABSENT)	$F(1,445) = 0.17, \ p = .68$	$F(1,435) = 0.11, \ p = .74$
Students dropping out (N1DROPOUT)	$F(1,431) = 0.05, \ p = .83$	$F(1,433) = 1.04, \ p = .31$
Student apathy (N1APATHY)	$F(1,444) = 1.58, \ p = .21$	$F(1,434) = 1.58, \ p = .21$
Lack of parental involvement (N1INVOLVEMENT)	$F(1,447) = 0.01, \ p = .91$	$F(1,437) = 1.40, \ p = .24$
Students come to school unprepared to learn (N1UNPREPPROB)	$F(1,447) = 0.004, \ p = .95$	$F(1,437) = 0.58, \ p = .45$
Poor student health (N1HEALTH)	$F(1,446) = 0.44, \ p = .51$	$F(1,436) = 9.46, \ p = .002^{**}$
Lack of resources and materials for teachers (N1RESOURCES)	$F(1,445) = 0.91, \ p = .34$	$F(1,435) = 0.19, \ p = .67$

* p< .05
** p< .01

Additionally, research question three explored whether there was a significant difference in perceptions of school problems based on teacher gender. The researcher hypothesized that there would be a significant difference in teachers' perceptions of school problems based on teacher gender. A one-way analysis of covariance (ANCOVA) was conducted. The independent variable, teacher gender, included male and female. The dependent variable included multiple variables defined as teacher perceptions of school problems. The covariates held constant were school control (public or private), school locale (urbanicity), geographic region, single-sex school (either yes or no), school type (regular, charter, special program, vocational or technical, alternative), percent of student population receiving free or reduced lunch, principal race, principal sex, and teacher race. Levene's Test of Equality of Error Variances was used for evaluating the homogeneity-of-slopes assumption.

Table 32 demonstrates the results for Levene's Test of Equality of Error Variances and the ANCOVA results for each variable related to math teachers' perceptions of school problems and math teacher gender. Levene's Test of Equality of Error Variances indicated that the relationship between the covariate and the dependent variable did not differ significantly as a function of the independent variable and that the assumption of homogeneity-of-slopes was met. The results of the ANCOVA revealed significance for the variable "Student apathy (M1APATHY)," but no significance with any other variable, indicating no significant difference in science teachers' perceptions of school problems based on math teacher gender except for in the area of student apathy.

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Table 32

Math teacher perceptions of school problems and math teacher gender

Variable	Levene's Test of Equality of Error Variances	ANCOVA
To what degree is each of the following a problem at your school…		
Student tardiness (M1TARDY)	$F(1,512) = 0.63,\ p = .43$	$F(1,503) = 0.00,\ p = .99$
Student absenteeism (M1STUABSENT)	$F(1,511) = 2.15,\ p = .14$	$F(1,502) = 0.72,\ p = .40$
Student class cutting (M1CUT)	$F(1,510) = 2.63,\ p = .11$	$F(1,501) = 0.39,\ p = .53$
Teacher absenteeism (M1TCHRABSENT)	$F(1,508) = 0.99,\ p = .32$	$F(1,499) = 0.09,\ p = .09$
Students dropping out (M1DROPOUT)	$F(1,509) = 0.008,\ p = .93$	$F(1,500) = 0.17,\ p = .68$
Student apathy (M1APATHY)	$F(1,513) = 0.05,\ p = .82$	$F(1,504) = 4.18,\ p = .04*$
Lack of parental involvement (M1INVOLVEMENT)	$F(1,513) = 0.18,\ p = .68$	$F(1,504) = 2.16,\ p = .14$
Students come to school unprepared to learn (M1UNPREPPROB)	$F(1,512) = 0.16,\ p = .69$	$F(1,503) = 0.02,\ p = .88$
Poor student health (M1HEALTH)	$F(1,512) = 0.05,\ p = .82$	$F(1,503) = 0.02,\ p = .90$
Lack of resources and materials for teachers, M1RESOURCES	$F(1,512) = 0.13,\ p = .72$	$F(1,503) = 0.06,\ p = .81$

* p< .05
** p< .01

Table 33 demonstrates the results for Levene's Test of Equality of Error

Variances and the ANCOVA results for each variable that met all the assumptions of the

ANCOVA analysis related to science teachers' perceptions of school problems based on

science teacher gender. The assumptions of the ANCOVA were not met for the variable

"Teacher absenteeism (N1TCHRABSENT)." Therefore, results for this ANCOVA were not reported. All other Levene's Test of Equality of Error Variances indicated that the relationship between the covariate and the dependent variable did not differ significantly as a function of the independent variable and that the assumption of homogeneity-of-slopes was met. The results of the ANCOVA reveal no significance with any variable, indicating no significant difference in science teachers' perceptions of school problems based on science teacher gender.

Table 33

Science teacher perceptions of school problems and science teacher gender

Variable	Levene's Test of Equality of Error Variances	ANCOVA
To what degree is each of the following a problem at your school…		
Student tardiness, N1TARDY	$F(1,461) = 0.21$, $p = .65$	$F(1,452) = 1.31$, $p = .25$
Student absenteeism, N1STUABSENT	$F(1,462) = 0.54$, $p = .46$	$F(1,453) = 0.75$, $p = .39$
Student class cutting, N1CUT	$F(1,462) = 3.49$, $p = .06$	$F(1,453) = 0.28$, $p = .59$
Students dropping out, N1DROPOUT	$F(1,459) = 0.01$, $p = .91$	$F(1,450) = 0.12$, $p = .73$
Student apathy, N1APATHY	$F(1,459) = 0.68$, $p = .41$	$F(1,450) = 1.57$, $p = .21$
Lack of parental involvement, N1INVOLVEMENT	$F(1,463) = 0.37$, $p = .55$	$F(1,454) = 1.81$, $p = .18$
Students come to school unprepared to learn, N1UNPREPPROB	$F(1,463) = 0.65$, $p = .42$	$F(1,454) = 3.01$, $p = .08$
Poor student health, N1HEALTH	$F(1,462) = 0.06$, $p = .81$	$F(1,453) = 0.01$, $p = .91$
Lack of resources and materials for teachers, N1RESOURCES	$F(1,461) = 0.15$, $p = .70$	$F(1,452) = 0.18$, $p = .67$

* $p< .05$
** $p< .01$

Research Question Four

Research question four examined differences in female and male principals' perceptions of school climate. The researcher hypothesized that there would be a significant difference in principals' perceptions of school climate based on principal gender.

A one-way analysis of covariance (ANCOVA) was conducted. The independent variable, principal gender, included male and female. The dependent variable included multiple variables defined as principal perceptions of school climate. The covariates held constant were school control (public or private), school locale (urbanicity), geographic region, single-sex school (either yes or no), school type (regular, charter, special program, vocational or technical, alternative), percent of student population receiving free or reduced lunch, principal race, teacher sex, and teacher race. Levene's Test of Equality of Error Variances was used for evaluating the homogeneity-of-slopes assumption.

Table 34 demonstrates the results for Levene's Test of Equality of Error Variances and the ANCOVA results for each variable that met all the assumptions of the ANCOVA analysis related to principals' perceptions of school climate based on principal gender. The assumptions of the ANCOVA were not met for the variables of "Student use of illegal drugs while at school (A1DRUGUSE)," "Student use of alcohol while at school (A1ALCOHOL)," "The sale of drugs on the way to or from school or on school grounds (A1DRUGSALE)," and "Scale score of principal perceptions of school climate, X1SCHOOLCLI)." Therefore, results for these ANCOVAs were not reported. All other Levene's Test of Equality of Error Variances indicated that the relationship between the covariate and the dependent variable did not differ significantly as a function of the independent variable and that the assumption of homogeneity-of-slopes was met. The

results of the ANCOVA reveal no significance with any variable, indicating no significant difference in principals' perceptions of school climate based on principal gender.

Table 34

Administrator perceptions of school climate and principal gender

Variable	Levene's Test of Equality of Error Variances	ANCOVA
How often do the following types of problems occur at your school?		
Physical conflicts among students (A1CONFLICT)	$F(1,737) = 0.93, \ p = .34$	$F(1,729) = 0.07, \ p = .79$
Robbery or Theft (A1ROBBERY)	$F(1,741) = 1.20, \ p = .27$	$F(1,733) = 0.25, \ p = .62$
Vandalism (A1VANDALISM)	$F(1,740) = 1.18, \ p = .28$	$F(1,732) = 1.05, \ p = .31$
Student possession of weapons (A1WEAPONS)	$F(1,737) = 0.32, \ p = .58$	$F(1,729) = 0.40, \ p = .53$
Physical abuse of teachers (A1PHYSABUSE)	$F(1,741) = 2.25, \ p = .13$	$F(1,733) = 0.31, \ p = .58$
Student racial tensions (A1TENSION)	$F(1,737) = 3.62, \ p = .06$	$F(1,729) = 2.48, \ p = .12$
Student bullying (A1BULLY)	$F(1,740) = 1.02, \ p = .31$	$F(1,732) = 0.46, \ p = .50$
Student verbal abuse of teachers (A1VERBAL)	$F(1,742) = 0.18, \ p = .68$	$F(1,734) = 0.007, \ p = .93$
Student in-class misbehavior (A1MISBEHAVE)	$F(1,739) = 0.002, \ p = .97$	$F(1,731) = 0.87, \ p = .35$
Student acts of disrespect for teachers (A1DISRESPECT)	$F(1,743) = 0.31, \ p = .58$	$F(1,735) = 0.26, \ p = .61$
Student gang activities (A1GANG)	$F(1,738) = 1.52, \ p = .22$	$F(1,730) = 1.69, \ p = .19$

* p< .05
** p< .01

CHAPTER V:

SUMMARY, IMPLICATIONS, AND CONCLUSIONS

While women continue to rise into leadership positions in fields traditionally dominated by men, such as the business and political fields, it seems only natural that female leadership would be rising in fields traditionally dominated by women: female leadership in education should more than mirror the business and political trend; it should reflect the majority of the working force. However, Grogan and Shakeshaft (2011) report that while more than 80% of the teaching force is female, women only hold 50.3% of all school principal positions and they maintain that males continue to dominate educational leadership positions in K-12 schools.

A report by the Pew Research Center (2015) found that a majority of Americans view female leaders, when compared with male leaders, as equally capable in leadership ability and equal in the possession of important leadership traits. As supported by research, if females are perceived as equal or superior leaders to their male counterparts in the previously stated areas, then why does the number of female administrators in education continue to lag behind the number of male administrators when the majority of the working force is female? It is time to examine possible explanations for such a disproportionate representation of females in educational leadership.

Additionally, Labby, Lunenburg, and Slate (2013) assert that the role of the principal is becoming increasingly more demanding and complicated. As the role of principal changes, it is necessary to determine if females are as capable as males of meeting these demands. While research conducted by the Pew Research Center (2015) revealed the publics' perception of female leadership in business and politics, national data must be examined to determine if perceptions of female educational leaders reflect

national trends. Research on a national level will increase gender awareness and bring light to the advancement of females in leadership roles in educational positions.

The purpose of this study was two-fold. First, the research sought to explore the relationship between principal gender and the 9-12 school setting across a national data set. Second, the study investigated how the perceptions of teachers and principals across the nation differ according to principal and teacher gender. The study specifically focused on principal and teacher perceptions in the areas of principal support, school climate, and school problems. The following research questions guided this study:

Research question 1: Is there a significant difference in overall teachers' perceptions of principal support based on principal gender?

　　a. Is there a significant difference in math teachers' perceptions of principal support based on math teacher gender?

　　b. Is there a significant difference in science teachers' perceptions of principal support based on science teacher gender?

Research Question 2: Are there significant differences in female and male principals' perceptions of school problems?

Research Question 3: Are there significant differences in teachers' perceptions of school problems based on principal gender?

　　a. Is there a significant difference in math teachers' perceptions of school problems based on math teacher gender?

　　b. Is there a significant difference in science teachers' perceptions of school problems based on science teacher gender?

　　c. Is there a significant difference in principals' perceptions of school problems based on principal gender?

Research Question 4: Are there significant differences in principals' perceptions of school climate based on principal gender?

This study analyzed data collected from the High School Longitudinal Study of 2009 (HSLS:09) conducted by the National Center for Education Statistics (NCES). The population for the HSLS:09 includes a stratified random sample of math teachers, science teachers, and administrators from 944 eligible high schools. The study was designed to be representative of schools and populations across the United States.

The research questions were explored using multiple One-Way Analysis of Covariance (ANCOVA). The HSLS:09 study included responses from educators across the United States in various school settings and school types where students from various demographic and socio-economic status backgrounds attended. In order to ensure that school setting, school type, school demographics, and socio-economic status did not have an impact on the data analysis of the preceding research questions, multiple One-Way Analysis of Covariance (ANCOVA) was utilized. The covariates held constant included school locale (urbanicity), geographic region, school control (public or private), school type (regular, charter, special program, vocational or technical, alternative), single-sex school (either yes or no), percent of student population receiving free or reduced lunch, principal race, teacher race, and student race.

Summary of Findings

Principal support

 Research question one. A One-Way Analysis of Covariance (ANCOVA) was conducted to determine whether differences in teachers' perceptions of principal support based on principal gender existed. Additionally, another ANCOVA was conducted to determine if there was a difference in teachers' perceptions of principal support based on teacher gender. The dependent variables in these analyses were math teachers'

perceptions of principal support and science teachers' perceptions of principal support. The independent variables for these analyses were male and female principals, and male and female math or science teachers. In conducting an ANCOVA, several covariates are held constant to ensure they have no impact on the data analysis.

In order to determine which covariates to hold constant, Pearson Product-Moment Correlations were computed among school, principal, and teacher descriptive variables and math teachers' perceptions of principal support variables; correlations were also computed among school, principal, and teacher descriptive variables and science teachers' perceptions of principal support. The results of the correlational analysis showed that 23 out of a possible 104 total correlations between math teachers' perceptions of principal support and school, principal, and teacher descriptive factors were statistically significant at the $p = .05$ level. Additionally, 21 out of a possible 104 total correlations between science teachers' perceptions of principal support and school, principal, and teacher descriptive factors were statistically significant at the $p = .05$ level. Collectively, school control (public or private), principal race, teacher race, and teacher sex had the strongest correlations with the principal support variables. Therefore, these variables were among those held constant for the ANCOVA analysis.

The previously stated research questions sought to determine whether a difference existed between the ability of male principals and female principals to effectively support teachers from the perspective of the teacher. According to the current study, no significance was found in math or science teachers' perceptions of principal support based on principal gender in any of the seven variables or the scale score. Additionally, no significance was found in math or science teachers' perceptions of principal support based on teacher gender in any of the seven variables or the scale score. The results of

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the current study do not support the hypothesis of an existence of a significant difference in teacher perceptions of principal support based on both principal and teacher gender.

The HSLS:09 defined principal support in terms of seven different variables which included: teacher perceptions of how each principal deals effectively with outside pressures, does a poor job of getting resources for this school, sets priorities, makes plans, and see that they are carried out, knows what kind of school he or she wants and has communicated it to the staff, lets staff members know what is expected of them, is interested in innovation and new ideas, and usually consults with staff members before he or she makes decisions that affect them. A final 8th variable was computed to reflect a scale score of teacher perceptions of principal support.

The principal support variables of the HSLS:09 study are aligned with research and encompass components such as instructional leadership, visibility, shared leadership, collaboration, goal-setting, building and communicating a clear vision, and embracing innovation (Weiner & Burton, 2016; Berebitsky, Goddard, & Carlisle, 2014; Hauserman, Ivankova, & Stick, 2013). Additionally, teachers report supportive principals are direct in what they expect of staff members, hold staff accountable, build relationships based on trust and mutual respect (Hauserman, Ivankova, & Stick, 2013; Provost, Boscardin & Wells, 2010), support instruction on campus, and clearly articulate the school mission and goals (Supovitz, Sirinides, & May, 2010).

The current study contradicts current research in that no significant difference was found in math or science teachers' perceptions of principal support based on principal gender. According to research, both male and female leaders should exhibit strengths in different components of principal support. Females tend to demonstrate a shared, democratic, and collaborative leadership style (Murakami & Tornsen, 2017; Sanchez & Thornton, 2010; Wrushen & Sherman, 2008; Eagly & Carli, 2003; Lee, Smith, & Cioci,

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1993) and are strong in developing and communicating the school's goals, promoting professional development and innovation in learning (Nogay & Beebe, 1997). Additionally, a supportive principal builds trust by discussing school issues with teachers and encourages them in improving their practice and involves teachers in shared decision-making (Wahlstrom & Louis, 2008). These characteristics link directly to the following HSLS:09 data variables: knows what kind of school he/she wants and communicates it with staff, is interested in innovation and new ideas, acquires resources for the school, and usually consults with staff before making decisions.

Male leaders tend to be more direct in their leadership style (Lee, Smith, & Cioci, 1993), exhibiting more authoritative and autocratic behavior (Sanchez & Thornton, 2010; Wrushen & Sherman, 2008; Eagly & Carli, 2003; Lee, Smith, & Cioci, 1993) and are found to be more assertive, controlling, aggressive, dominant, and self-confident (Eagly & Karau, 2002). These characteristics link to the following data variables: deals effectively with outside pressure, sets priorities, makes plans, and sees that they are carried out, lets staff know what is expected, and knows what kind of school he/she wants and communicates it with staff.

According to Nichols and Nichols (2014), female leaders are often evaluated more harshly than their male counterparts even when similar leadership characteristics are present. The current study contradicts the research of Burton and Weiner (2016) who noted that when the role of principal is stereotyped as a masculine role, females will be evaluated differently, often seen as lacking necessary skills.

Furthermore, the current study contradicts current research in that no significant difference was found in math or science teachers' perceptions of principal support based on teacher gender. According to Lee, Smith, and Cioci (1993), male and female teachers have similar perceptions of male-led schools but have differing perceptions of female-led

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schools. Male teachers tend to elicit a negative response when under a female leader, often feeling marginalized and uncomfortable when participating in shared decision-making (a strong female-leader characteristic) or when females do not follow a more traditional, masculine style of leadership (Lee, Smith, & Cioci, 1993). In contrast, female teachers are either impartial of prefer female leadership, feeling encouraged by shared decision-making and eliciting positive responses to new ideas and clear communication of school goals and expectations (Lee, Smith, & Cioci, 1993). Eagly and Karau (2002) also report a discrepancy in male and female teachers' perceptions of female leaders, explaining that males who associate leadership as a traditional, masculine role will view women as less qualified than men for leadership positions, even if a female's effectiveness as a leader is equal to that of her male peers. The results of the current study suggest that the role a principal plays in supporting teachers is no longer viewed as a masculine role and that principal support traits previously distinguished as male or female are now accepted by both male and female principals and teachers and evaluated in all leaders.

School problems

      Research questions two and three. A One-Way Analysis of Covariance (ANCOVA) was conducted to determine whether differences in principals' perceptions of school problems based on principal gender existed. The dependent variable in this analysis was principals' perceptions of school problems. The independent variables for this analysis were male and female principals. In conducting an ANCOVA, several covariates are held constant to ensure they have no impact on the data analysis.

      In order to determine which covariates to hold constant, Pearson Product-Moment Correlations were computed among school, principal, and teacher descriptive variables and principal perceptions of school problems variables. The results of the correlational

analysis showed that 67 out of a possible 130 total correlations between principal perceptions of school problems and school, principal, and teacher descriptive factors were statistically significant at the $p = .05$ level. Collectively, school control (public or private), school geographic region, single-sex school, school type, percentage of students receiving free or reduced-price lunch, and principal race had the strongest correlations with the principals' perceptions of school problems variables. Therefore, these variables were among those held constant for the ANCOVA analysis.

The previously stated research questions sought to determine whether a difference existed between the ability of male principals and female principals to effectively deal with school problems from the perspectives of principals. According to the current study and the results of the ANCOVA, no significance was found in administrator perceptions of school problems based on principal gender. The current study did not consistently support the hypothesis in the existence of a significant difference in principal perceptions of school problems based on principal gender. Research question three also addressed perceptions of school problems.

In order to answer research question three, a One-Way Analysis of Covariance (ANCOVA) was conducted to determine whether differences in teachers' perceptions of school problems based on principal gender and teacher gender existed. The dependent variable in these analyses were math and science teachers' perceptions of school problems. The independent variables for these analyses were male and female principals and male and female math and science teachers. In conducting an ANCOVA, several covariates are held constant to ensure they have no impact on the data analysis.

In order to determine which covariates to hold constant, Pearson Product-Moment Correlations were computed among school, principal, and teacher descriptive variables and principal perceptions of school problems variables. The results of the correlational

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analysis showed that 140 out of a possible 260 total correlations between math and science teachers' perceptions of school problems and school, principal, and teacher descriptive factors were statistically significant at the $p = .05$ level. Collectively, school control (public or private), school geographic region, single-sex school, school type, percentage of students receiving free or reduced-price lunch, principal race, teacher sex, and teacher race had the strongest correlations with the math and science teachers' perceptions of school problems variables. Therefore, these variables were among those held constant for the ANCOVA analysis.

This research sought to determine if there was a difference in teacher perceptions of school problems based on both principal and teacher gender. The current study found no significance in math teachers' perceptions of school problems based on principal gender. A significant difference was noted in science teachers' perceptions of school problems based on principal gender in one area: poor student health ($p = .002$). A significant difference was noted in math teachers' perceptions of school problems based on math teacher gender in one area: student apathy ($p = .04$). There was no significant difference in science teachers' perceptions of school problems based on science teacher gender in any area. The current study did not consistently support the hypothesis in the existence of a significant difference in teacher perceptions of school problems based on principal or teacher gender.

The HSLS:09 defined school problems in terms of ten different variables which included: student tardiness, student absenteeism, student class cutting, teacher absenteeism, students dropping out, student apathy, lack of parental involvement, students coming to school unprepared to learn, poor student health, and lack of resources and materials for teachers.

The current study contradicts previous research in that no consistent significance was found in teacher or principal perceptions of school problems based on principal or teacher gender. Davis and Leon (2014) present research that maintains a school principal must possess several leadership characteristics in order to face the challenges presented by school problems; these characteristics include strong management skills, a clear direction for the school, and the ability to inspire their staff to forge ahead when challenges arise. A school leader who possesses these characteristics can effectively handle school problems, diminishing the negative impact of these problems on the school he or she leads (Davis & Leon, 2014). These leadership traits tend to be more commonly considered masculine traits (Sanchez & Thornton, 2010; Wrushen & Sherman, 2008; Eagly & Carli, 2003; Lee, Smith, & Cioci, 1993).

However, research also suggests several leadership traits associated with females are necessary for combatting school problems. Davis and Leaon (2014) also assert that in order to navigate a school through problems, a principal must also "understand and effectively convey who they are, what they believe in, [and] what they value as professionals" (Davis & Leon, 2014, p. 4); the belief in a divine purpose, a duty to fulfill, and being held morally and ethically accountable are considered female leadership traits (Sherman & Wrushen, 2009; Murakami & Tornsen, 2017). Additionally, teachers view a strong principal as one who engages in collaboration and shared decision-making to solve school problems and upholds a shared school vision (Hauserman, Ivankova, & Stick, 2013; Tableman, 2004), also characteristic of a female leader (Murakami & Tornsen, 2017; Sanchez & Thornton, 2010; Wrushen & Sherman, 2008; Eagly & Carli, 2003; Lee, Smith, & Cioci, 1993).

Perhaps that the holding constant of several covariates suggests that a discrepancy in leadership ability lies not in gender but within the principal's ability to handle school

problems. School problems are much more associated with school descriptive factors than they are with the gender of the school leader. High correlations were noted between school problems and school control (20 out of 20), single-sex school (17 out of 20), percentage of student body receiving free or reduced-price lunch (20 out of 20), principal race (15 out of 20), and teacher race (17 out of 20). The current study suggests that future leadership training needs to focus on supporting leaders in dealing with school problems in a variety of school settings.

School Climate

  Research question four. A One-Way Analysis of Covariance (ANCOVA) was conducted to determine whether differences in principals' perceptions of school climate based on principal gender existed. The dependent variable in this analysis was principals' perceptions of school climate. The independent variables for this analysis were male and female principals. In conducting an ANCOVA, several covariates are held constant to ensure they have no impact on the data analysis.

  In order to determine which covariates to hold constant, Pearson Product-Moment Correlations were computed among school, principal, and teacher descriptive variables and principal perceptions of school climate variables. The results of the correlational analysis showed that 76 out of a possible 195 total correlations between principal perceptions of school problems and school, principal, and teacher descriptive factors were statistically significant at the $p = .05$ level. Collectively, school control (public or private), school geographic region, single-sex school, and percentage of students receiving free or reduced-price lunch had the strongest correlations with the principals' perceptions of school climate variables. Therefore, these variables were among those held constant for the ANCOVA analysis.

The previously stated research question sought to determine whether a difference existed between principal perceptions of school climate based on principal gender. According to the current study and the results of the ANCOVA, no significance was found in administrator perceptions of school climate based on principal gender. The current study did not consistently support the hypothesis in the existence of a significant difference in principal perceptions of school climate based on principal gender.

The HSLS:09 defined school climate in terms of 14 different variables which included: physical conflicts among students, robbery or theft, vandalism, student use of illegal drugs while at school, student use of alcohol while at school, the sale of drugs on the way to or from school or on school grounds, student possession of weapons, physical abuse of teachers, student racial tensions, student bullying, student verbal abuse of teachers, student in-class misbehavior, student acts of disrespect for teachers, and student gang activities. A final 15th variable was computed to reflect a scale score of principal perceptions of school climate.

All the variables listed by HSLS:09 as evidence of school climate are items for which students would likely receive a discipline referral, would be handled by the administrator, and would fall under discipline management. While agreeing that discipline management contributes to the school climate, Tableman (2004) emphasizes that school climate also encompasses components such as relationships, interactions, and attitudes among students, staff, and the community, physical appearance, attendance, and the overall learning environment. While the current study does not show a significant difference in school climate based on principal gender, it also does not incorporate all elements of the school climate as supported by research. However, the components of school climate that are addressed by the HSLS:09, mainly discipline management, are areas that are typically strengths for male principals who tend to lead with directness and

authority (Sanchez & Thornton, 2010; Wrushen & Sherman, 2008; Eagly & Carli, 2003; Lee, Smith, & Cioci, 1993); therefore, the current study contradicts previous research in that no significant difference was found between male and female administrators in their support of the school climate.

As previously noted, perhaps the holding constant of several covariates suggests that a discrepancy in leadership ability lies not in gender but within the principal's ability to handle school discipline, or, as labeled by HSLS:09, school climate. High correlations were noted between school climate and school control (15 out of 15), school geographic region (8 out of 15), single-sex school (14 out of 15), and percentage of student body receiving free or reduced-price lunch (14 out of 15).

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Limitations

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External validity

While this study was designed to be nationally generalizable, it only includes the perspectives of high school math and science teachers. Further research which includes the perspectives of teachers across multiple disciplines and different levels (elementary and middle school) is warranted.

Internal validity

The HSLS:09 study was intended to assess the students as the primary unit of analysis. Teachers and principals responded to surveys as result of connection to a selected student. It is unclear as to whether or not the results from teachers and administrators can stand alone, separate of student data.

Other limitations

Subjectivity. The honesty of participants is a limitation one must consider when humans are asked to complete a survey that is at any level subjective. Teachers and administrators are self-reporting. The researchers must consider several factors that may

influence questionnaire responses such as confidentiality or fear of retribution. Additionally, the terms of the current study are difficult to measure. The data relied on opinions and perceptions of participants as they viewed the survey items. It should be considered that factors other than teacher or principal gender contribute to a teacher's or principal's perception of principal support, school problems, and school climate. As the correlational analyses showed, many of the research variables were highly correlated with school, principal, and teacher descriptive variables. Finally, the study was limited to only the questions the survey asked and of whom they were asked. For example, principals were asked questions pertaining to school problems and school climate while teachers were only asked questions pertaining to school problems and principal support. The current study only assesses school climate from the perspective of principals and not teachers.

   Longevity of participants in current role. One must also consider that teachers and principals are sharing their perceptions for HSLS:09 data and it is unclear as to how long each participant has worked at the school. Grissom, Blisset, and Mitani (2018) noted that principal evaluation scores increased with each year of experience the principal gained. Fuller and Hollingworth (2014) point out that it is often difficult to assess the effectiveness of a new principal due to the level of effectiveness of the previous principal. Fuller and Hollingworth (2014) assert that in order to truly "isolate" the effectiveness of a principal, one must determine the effects of prior principals, student characteristics, and other school factors before making a determination of the effectiveness of current leadership (p. 485). This research brings up the question, how much of teachers' perceptions were influenced by previous school leadership? Fuller and Hollingworth (2014) conclude that "principal effectiveness is best measured by within-school effectiveness… [and] by school improvement at the same school" (p.485-489), including

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that any estimates to measure principal effectiveness "simply do not accurately reflect the independent contributions principals make to" school improvement (p. 492). It is unclear as to how the current study was influenced by the experience and longevity, or lack thereof, of the current staff participating in the HSLS:09 research.

School climate. Principal and teacher race were perhaps not highly correlated with school climate because this variable of the HSLS:09 was only assessed school climate in terms of discipline management and was only assessed by administrators. Bevans et al. (2007) suggests that school leaders may view their organization's health as a job performance indicator and thus, may report the health of their organization, or their abilities as leaders, as more positive or as better than other staff would report, even after controlling for school characteristics. School leaders would not want to be perceived as unable to handle discipline issues at their school.

School climate should be assessed by more than just discipline management and should be assessed by all staff, not only administrators. According to Price (2012), school climate is shaped by the learning environment which is created by the attitudes of both teachers and principals in the school. This environment is positive when trust, a common vision, and openness are present among all the staff, teachers and administrators included. Additionally, positive school climate is fostered when teachers have a voice and participate in shared decision-making in areas such as "choosing the curriculum, discipline policies, in-service programming, teacher evaluations, hiring, and budget decisions" Price, 2012, p. 54). When school leaders work to build relationships with and among staff, the school climate benefits (Price, 2012). According to Price (2012), female principals consistently work to develop relationships in a school setting, resulting from a small increase in positive school climate from the perspectives of all staff. School discipline is only a part of what makes up the school climate and school administrators

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are only one voice. Had the current study, the HSLS:09 data, also included the perceptions of teachers and more components of school climate, a difference in teacher perceptions of school climate based on gender may have been discovered.

Assumptions of ANCOVA not met. Several research variables in the study did not meet all the assumptions necessary to run the ANCOVA analysis. Levene's Test of Equality of Error Variances indicated a significant relationship between the covariates and the following dependent variables from the perspective of science teachers: "The principal deals effectively with outside pressures (N1PRESSURES)," "The principal usually consults with staff members before he or she makes decisions that affect them (N1PCONSULTS)," and "Teacher absenteeism is a problem at this school (N1TCHRABSENT)." Additionally, Levene's Test of Equality of Error Variances indicated a significant relationship between the covariates and the following dependent variable from the perspective of math teachers: "Student absenteeism is a problem at this school (M1STUABSENT)." Finally, Levene's Test of Equality of Error Variances indicated a significant relationship between the covariates and the following school climate dependent variables from the perspective of administrators: "Student use of illegal drugs while at school (A1DRUGUSE)," "Student use of alcohol while at school (A1ALCOHOL)," "The sale of drugs on the way to or from school or on school grounds (A1DRUGSALE)," and "Scale score of principal perceptions of school climate, X1SCHOOLCLI)." For the variables listed, the assumption of homogeneity-of-slopes was not met, suggesting that the significance level of the ANCOVA results for these variables is either over- or underestimated. Due to this assumption not being met, an ANCOVA analysis could not be conducted for the variables previously listed.

Implications

The overall results of this study show no significant difference in teachers' perceptions of principal support or school problems based on principal gender, no significant difference in teachers' perceptions of principal support or school problems based on teacher gender, and no significant difference in principals' perceptions of school problems or school climate based on principal gender. Although research suggests differences in the ways both males and females lead, the current study suggests there are factors other than gender which must be considered when evaluating the effectiveness of school leadership.

Although no significance was found in the ANCOVA analysis, several strong correlations were found between the HSLS:09 research variables (principal support, school problems, and school climate) and principal and teacher race, school control (public or private), school geographic region, single-sex school, and percentage of students receiving free or reduced-price lunch. The current study supports the idea that factors other than gender contribute to principal and teacher perceptions of the effectiveness of school leadership. According to Bevans, Bradshaw, Miech, and Leaf (2007), "Structural aspects of a community, such as urbanism, concentration of poverty, racial and ethnic heterogeneity, and residential mobility, affect the level of organization present within the environment and the collective efficacy of the residents" (p. 295). According to the results of the current study, when these variables are held constant, there is no significant difference in perceptions of leadership based on gender. As suggested by Grissom and Loeb (2011), "Without comprehensive data, it is difficult to statistically separate the effect of a principal from the effect of other school-level characteristics" (p. 1092). The results of this study indicate the need for a closer look at how school leaders are perceived, and more specifically evaluated, and how school descriptive factors, such

as student demographics and free and reduced-price lunch population, influence the principal role, teacher perceptions and principal evaluations.

Grissom, Blisset, and Mitani (2018) present research that explores the effectiveness of principal evaluations. In their research on Tennessee's Educator Acceleration Model (TEAM) system, Grissom, Blisset, and Mitani (2018) found significant differences in principal evaluation ratings when school factors were accounted for. The largest difference in principal ratings was in schools with large student populations receiving free or reduced-price lunch; these principals consistently received lower ratings than principals in schools without large free and reduced-price lunch student populations. Grissom, Blisset, and Mitani (2018) attribute this discrepancy to either less effective principals overseeing these schools or a "bias in the rating process toward principals in [these] schools… Raters might, for example, inadvertently attribute challenges in the school environment resulting from student poverty to poor principal performance" (p. 460).

Not only are principals of schools with large populations of students receiving free and reduced-price lunch rated more harshly by their superiors, but principals in these schools rated themselves as less effective than principals at schools with lower populations of students receiving free or reduced-price lunch (Grisson & Loeb, 2011). Such school factors not only influence supervisor evaluations of principals, but also teacher perceptions of principal leadership. According to Bevans et al. (2007), "Student socioeconomic conditions may be more likely to influence non-administrators' [teachers'] perceptions of organizational health because these staff have more direct contact with students and, therefore, are more readily influenced by some of the academic risk factors that are prevalent among low-socioeconomic status students" (301). The current study does not look at the relationship between free and reduced-price lunch

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student population and principal support, school problems, or school climate; however, other research and the correlational analysis of this study suggest further research on leadership in schools with such a student population is warranted.

Student socioeconomic status, defined by student population receiving free and reduced-price lunch, is not the only factor exhibiting a high correlation with principal support, school problems, and school climate. Additionally, principal race and teacher race were variables held constant in the ANCOVA analysis due to high correlations with principal support and school problems. According to research conducted by Price (2012), the combination of a non-White principal and teacher "worsens the teacher's levels of satisfaction, cohesion, and commitment even after school conditions are controlled. In addition, cohesion levels worsen when … White, non-Hispanic teachers are paired with non-White, non-Anglo principals" (p. 61). Grissom, Blisset, and Mitani (2018) also found principal ratings to be significantly associated with principal characteristics such as race; for example, "Black principals tend to receive lower scores than White principals" (p. 461) and the research cannot determine "whether these differences are a result of actual differences in principal performance or biases in the rubric or raters" (p. 467). Grissom, Blisset, and Mitani (2018) also noted differences in principal ratings by school characteristics; principals were rated higher in schools with fewer Hispanic students, larger populations of gifted students, and higher populations of White students. The strong correlations found in the current study suggest the need for further research on the impact of teacher and principal race on principal effectiveness in supporting staff, dealing with school problems, and establishing school climate. This research is needed in order to impact the validity of principal evaluations.

While current research, such as studies completed by Grissom, Blisset, and Mitani (2018) and Grissom and Loeb (2011), explores principal evaluation systems by a

supervisor of a principal, the current study looks at how principals are evaluated, or perceived, by teachers. One must take into account the differences between a supervisor and a teacher evaluating a principal's effectiveness. Bevans et al. (2007) explore this difference in their research on school organizational health, asserting that perceptions within a single school can vary greatly. For example, a non-administrator, such as a teacher, might view high teacher turnover rates as poor principal leadership, an administrator might view turnover rates as positive, attributing the turnover to substandard staff replaced with more qualified staff. It is important to note that even though an administrator might view it as positive, high turnover is linked to weaker relationships among school staff, creating a negative perception of leadership among teachers (Bevans et al., 2007). District supervisors who include teacher feedback in school leadership appraisals should take this difference in teacher and principal perspectives into account when evaluating school principals.

Recommendations for Further Research

While the current study included a large, nationally representative sample of teachers and administrators, several questions still remain regarding effective leadership and gender. Furthermore, the survey items of the HSLS:09 left out some very important variables for assessing principal support, school problems, and school climate. Additionally, the current study revealed some other topics that warrant further research.

Although not the focus of this study, the current study found several significant correlations between the HSLS:09 variables in the area of principal support, school problems, and school climate, and school characteristics such as school control (public or private), school geographic region, single-sex school, and student population receiving free or reduced-price lunch. These school characteristics may impact teacher perceptions of leadership and how a principal decides to lead the school, establish expectations, and

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build school climate. Additionally, these school characteristics may impact how a school administrator faces school problems and supports the school staff. Further research concerning how these school characteristics influence school leadership is warranted.

The current study is limited in terms of the participants. Although participants represent a national sample, only 9th grade math and science teachers and high school administrators were surveyed. It is possible that no significant difference in perceptions of leadership based on gender were found due to the limited nature of participants; only high school math and science teachers were surveyed. Although no research exists to prove teachers of different contents or levels or administrators of different levels have distinctly different perceptions about leadership, further research should include teachers of all content areas and teachers and administrators from all school levels including elementary, middle/junior high school, and high school.

A more comprehensive, quantitative survey that addresses teacher perceptions of school climate is also warranted. The current HSLS:09 data only provided responses on school climate from administrators and only addressed discipline management. Research shows that school climate encompasses much more than just discipline management. Further research to include teacher and administrator perceptions of comprehensive school climate is warranted.

Finally, the current study found no significant differences in leadership based on gender, but there were several strong correlations between leadership characteristics of principal support, school problems, and school climate. Further research should compare leadership effectiveness in groups determined by school factors such as free and reduced-price lunch population, geographic regions, public or private schools, and single-sex schools. This research, instead of generalizing leadership characteristics to all schools, could determine what leadership characteristics are needed in different schools. Perhaps

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the question is not about the traits a male or female leader needs to possess in order to be effective, but about the traits an administrator needs to possess in order to be effective at a school of any variety of characteristics.

Conclusions

In the development of this study, a need to determine whether or not female representation in educational leadership was rising, reflecting that of business and political fields, through the examination of a national data set was presented. While this particular study did not suggest that female roles in educational leadership were either rising or declining, it did examine teacher and principal perceptions of school leadership based on teacher and principal gender. The overall results of this study show no significant difference in teachers' perceptions of principal support or school problems based on principal gender, no significant difference in teachers' perceptions of principal support or school problems based on teacher gender, and no significant difference in principals' perceptions of school problems or school climate based on principal gender. Each research question explored the impact of gender on school leadership characteristics. An ANCOVA analysis was used in order to hold constant certain variables which have an impact on the results of the study. Variables held constant included school control (public or private), school locale (urbanicity), geographic region, single-sex school (either yes or no), school type (regular, charter, special program, vocational or technical, alternative), percent of student population receiving free or reduced lunch, principal race, principal sex, and teacher race.

Although research reviewed in the literature suggested a difference in perceptions of school leadership based on principal and teacher gender, the current study suggests that other factors impact teachers' and principals' perspectives of principal support, school problems, and school climate. These factors include, and may not be limited to,

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school characteristics such as free and reduced-price lunch population, student race, teacher race, and principal race. Furthermore, the current study suggests that future leadership training needs to focus on supporting leaders in dealing with school disciplinary problems, supporting staff, establishing a positive climate, and handling school problems in a variety of school settings.

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JULIE MURRAY

EDUCATION

EdD in Educational Leadership, May 2020
University of Houston-Clear Lake

MA in Curriculum and Instruction, August 2005
Teacher Education Program, University of Colorado at Colorado Springs

BA in English, May 2004
University of Colorado at Colorado Springs

COLORADO STATE EDUCATION CERTIFICATIONS

- *Principal*
- *Professional Teacher, Grades K-6*

TEXAS STATE EDUCATION CERTIFICATIONS

- *Principal*
- *ESL Generalist, Grades EC – 6*
- *PDAS, T-TESS, and ILD*

ADMINISTRATIVE AND LEADERSHIP EXPERIENCE

July 2019 to present
Assistant Principal
Explorer Elementary School, Academy School District 20
1490 Bardot Dr, Colorado Springs, CO 80920, (719) 234-4400

Special tasks and committees:
- *Teacher Appraisal:* complete classroom walkthroughs and teacher observations, develop and implement teacher improvement plans, collaborate in goal setting and student-growth plans with teachers, supervise and appraise paraprofessional staff members, monitor teacher growth goals, evaluate completeness of goals and teacher effectiveness, implement and support teachers in new evaluation system

- *Discipline:* enforce Explorer Elementary discipline management plan, collaborate and communicate with teachers, students, and parents, create proactive plans to prevent misbehavior, work with a team of teachers to develop appropriate discipline procedures
- *School Safety:* write, implement, and manage school safety plan, conduct monthly fire drills and quarterly lock-down, severe weather, and shelter-in-place drills, complete reports of safety drills, uphold communication with security, develop and oversee student safety plans, assess and implement safety procedures on campus, train staff in campus and district safety protocols
- *Attend Special Education Meetings (IEPs) as Public Agency Representative:* meeting minutes, ensure special education services as school and district representative, attend student staffing meetings to review data and determine student needs
- *Schedules and Assignments:* Master Schedule, Teacher Duties and Assignments, and Student Class Placement
- *School Assessment Coordinator:* facilitate state and district testing (STAR, DIBELS, CoGAT, ITBS, WIDA, CMAS, CoAlt, DLM) according to Colorado Department of Education and Academy School District 20 guidelines, manage small groups and ensure student accommodations, train staff and teachers, ensure and coordinate proper testing procedures across campus
- *Attendance and Registration:* coordinate student registration process, monitor student attendance, implement Attendance Improvement Plans, verify compliance of students' legal documents
- *Staffing:* participate on interviewing committees and collaborate with committee members to hire staff in various positions ranging from teachers, paraprofessionals, and clerical staff, complete postings, requisitions, and recommendations for hire in Workday Management System
- *School Accountability Committee:* collaborate with school Principal, staff, community and parents to develop and implement the Site Plan and Unified Improvement Plan
- *Campus, District, and Community Events:* support in planning campus and community events such as Fall Festival, PTA events, Fundraiser events, Choir, STEM Days, etc., attend, supervise, and participate in various campus, district, and community events

May 2016 to June 2019
Assistant Principal
Diane Winborn Elementary School, Katy Independent School District
 22555 Prince George Lane, Katy, TX 77449, (281) 237-6650

Special tasks and committees:
- *Teacher Appraisal:* complete classroom walkthroughs and teacher observations, develop and implement teacher improvement plans, collaborate in goal setting and student-growth plans with teachers, supervise and appraise paraprofessional staff members

- **Discipline:** enforce Katy ISD discipline management plan, collaborate and communicate with teachers, students, and parents, create proactive plans to prevent misbehavior
- **RTI Coordinator:** track student data, hold collaborative conferences, plan and organize Kid Chat data meetings, monitor intervention, complete student referrals to special education and 504
- **504 Coordinator:** identify students, complete referrals for 504 services, communicate with teachers and parents, develop individual accommodation plans, facilitate 504 committee meetings
- **Campus Testing Coordinator:** facilitate state testing (STAAR, STAAR Alt. 2, TELPAS) according to Texas Education Agency and Katy ISD guidelines, train staff and teachers, ensure and coordinate proper testing procedures across campus
- **Positive Behavior Intervention and Supports Coordinator:** facilitate PBIS meetings, collaboratively develop and implement school-wide PBIS system, supervise PBIS program
- **PEIMS Administrator:** collect, input, and report student and staff data to the state using the e-School data system
- **Attendance and Registration:** coordinate student registration process, monitor student attendance, implement Attendance Improvement Plans, supervise attendance clerk and registrar, verify compliance of students' legal documents
- **Attend Special Education Meetings (ARDs) as Public Agency Representative:** meeting minutes, ensure special education services as school and district representative, attend student staffing meetings to review data and determine student needs
- **LPAC Representative:** attend LPAC meetings as school and district representative, monitor student progress in English language proficiency and academic growth
- **Leader of Professional Learning:** Lead4ward, Writing Strategies, Classroom Management, Thinking Maps, Restorative Practices, Mandatory District Trainings, attend teacher team planning meetings
- **Sister Schools Coordinator:** arrange events with sister school, attend Sister School events as school representative
- **Schedules and Assignments:** Master Schedule, Teacher Duties and Assignments, and Student Class Placement
- **Staffing:** participate on interviewing committees and collaborate with committee members to hire staff in various positions ranging from teachers, paraprofessionals, and clerical staff
- **Campus Advisory Team:** collaborate with school Principal, staff, community and parents to develop and implement the Campus Improvement Plan
- **Campus, District, and Community Events:** support in planning campus and community events such as Literacy Night, Math Night, Science Fair, Open House, etc., attend, supervise, and participate in various campus, district, and community events

TEACHING EXPERIENCE

August 2010 to May 2016
Kindergarten and 1st grade Teacher
Diane Winborn Elementary School, Katy Independent School District
        22555 Prince George Lane, Katy, TX 77449, (281) 237-6650

Special tasks and committees:
- *Teacher of the Year, 2014-2015*
- *Team Leader, January 2011 – May 2016*
- *Read, Deed, Run Coach and Coordinator, August 2013 – May 2016*
- *Positive Behavior Intervention and Support (PBIS) Committee, April 2013 – May 2016*
- *Student Council Sponsor, January 2016 – May 2016*
- *Mentor Teacher, January 2016 – May 2016*
- *Eagle Guide, 2011, 2012, 2013, 2014*
- *Employee Roundtable Representative, August 2011 – November 2013*

August 2005 to May 2010
1st grade Teacher
Lewis-Palmer Elementary, Lewis-Palmer School District 38
        1315 Lake Woodmoor Dr., Monument, CO 80132, (719) 488-4750

Special tasks and committees:
- *Principal and Teacher Interview Committees, July and August 2007*
- *Response to Intervention (RTI) Building Committee, August 2007 to June 2010*
- *Building Leadership Team, August 2007 – May 2009*
- *District Common Assessment Development Teams: Science (2007–2008) & Math (2007-2009)*
- *Curriculum Mapping: Math, June 2009*
- *Report Card Development Committee, June 2008*