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Perceived Climate in Urban Schools: an Examination of Risk-Taking Behavior and Self-Reported Beliefs Regarding Educational Attainment

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PERCEIVED CLIMATE IN URBAN SCHOOLS: AN EXAMINATION OF RISK-TAKING

BEHAVIOR AND SELF-REPORTED BELIEFS REGARDING EDUCATIONAL

ATTAINMENT

by

Caitlin Reynolds, M.S.

A Dissertation Submitted in

Partial Fulfillment of the

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ABSTRACT

PERCEIVED CLIMATE IN URBAN SCHOOLS: AN EXAMINATION OF RISK-TAKING
BEHAVIOR AND SELF-REPORTED BELIEFS REGARDING EDUCATIONAL
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by

Caitlin Reynolds, M.S.

The University of Wisconsin-Milwaukee, 2015
Under the Supervision of Professor Karen Stoiber, PhD

The purpose of this study was to examine the relationships between school climate and the outcomes of risk-taking behaviors and self-reported beliefs regarding educational attainment. A school climate survey was administered to students attending an urban high school, and three perceptions of school climate were measured: Teacher-student relationships, safety, and attitude toward the school environment. Students also completed measures of self-reported risk-taking behaviors and beliefs regarding educational attainment. A total of 456 students were included in the current sample. Preliminary analyses indicated that a higher GPA was significantly associated with lower risk-taking behaviors, and also with self-reported beliefs regarding better educational attainment outcomes. Regression analyses were conducted to explore whether school climate was predictive of risk-taking behaviors after controlling for self-reported GPA. Results indicated that whereas self-reported GPA and student attitudes toward the school environment were predictive of risk-taking behaviors, the other school climate variables did not predict risk-taking. Regression analyses were also conducted to explore whether school climate was predictive of self-reported beliefs regarding educational attainment after controlling for self-reported GPA and gender. Results indicated that while GPA did significantly predict self-reported beliefs regarding educational attainment, school climate did not. Mediation analyses

were conducted in order to explore how a feeling of connectedness mediates the relationship between school climate and risk-taking behaviors, and the relationship between school climate and self-reported beliefs regarding educational attainment. Results suggested that while a feeling of connectedness was not found to mediate the relationship between school climate and risk-taking behaviors, a feeling of connectedness or belonging was shown to mediate the relationship between school climate and self-reported belief regarding educational attainment. The results of this study highlight a need for further research on student attitudes toward the school environment in relation to the outcome of risk, as well as the importance of fostering stronger feelings of connectedness to the school community in order to increase motivation for educational attainment.

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ACKNOWLEDGEMENTS

"It's a lesson that I've learned over and over again but it bears repeating. No one achieves

anything alone." – Leslie Knope

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CHAPTER ONE

Introduction

With a growing interest in the Positive Behavior Intervention and Support (PBIS) in schools, there has been increased attention on school climate as an important aspect of the quality of school experiences (Wang, Berry, & Swearer, 2013). School climate has been defined as, "shared values, beliefs, values, and attitudes that shape interactions between students, teachers, and administrators, and set the parameters of acceptable behavior and norms for the school" (Koth, Bradshaw, & Leaf, 2008, p. 96). Therefore, school climate consists of the many perceptions of the teachers and students as they interact in the environment. These perceptions shape both the students' and teachers' attitudes and beliefs about the school itself.

It is important to explore the effect of school climate on student academic and behavioral outcomes because youth spend a significant percentage of their time in schools (Juster, Ono, & Stafford, 2004; Chhuon & Wallace, 2014). In addition, it has been shown that a more positive school climate can result in improved interactions between students and teachers, as well as positive academic outcomes (Bayar & Ucanok, 2012). Furthermore, a student's perception of his or her school climate has been linked significantly to their academic achievement, such that a student who perceives his or her school to be a positive and healthy environment typically demonstrates higher levels of achievement. Several researchers suggest that school climate may influence student scores on state standardized reading and math testing (Sherblom, Marshall, & Sherblom, 2006). The positive effects of school climate also extend beyond strictly academic gains (Hopson & Lee, 2011). Positively perceived school climate has been associated with fewer violent behaviors, higher overall academic success, and improved adolescent health (DeAngelis & Presley, 2011). However, what remain unknown are the dimensions of school climate that

create these positive effects and the ways in which these variables interact to produce outcomes. Understanding which variables contribute to school climate can help school psychologists, administrators, and educators take the proper steps to create a more positive school environment for students and staff. This gap in the literature is addressed, in part, by the current study by exploring the specific school climate variables that contribute to student outcomes.

Moreover, the focus of this study is school climate within high-risk school populations because a better understanding of school climate may prove beneficial in designing interventions that can be useful with one of the most vulnerable student populations—urban students. Within the introduction, the author will define the primary variables of school climate outlined by the National School Climate Center: perceived safety, relationships between teachers and students, perceptions of the school environment, and an overall sense of connection or belonging (Kohl, Recchia, & Steffgen, 2013). School climate is a multi-layered concept comprised of many interfacing variables. Although the precise components that constitute school climate have been debated in the literature, some characteristics have included safety, relationships between students and teachers, and feelings of connectedness.

Safety

One key variable of school climate is safety. Furlong, Greif, Bates, Whipple, and Jimenez (2005) describe safety as encompassing both the safety of staff and students, as well as the prevention of violence, threats, and victimization. According to Chen and Weikart (2008), when students do not feel safe in their school environment or climate, their cognitive resources are consumed with avoidance and fear, to the detriment of learning. In this setting, the student is left with less energy to dedicate to academics or the development of other cognitive skills such as problem solving. Exposure to a school environment perceived as threatening or unsafe is not

only distracting, but can also result in decreased attendance, which may lead to higher dropout rates and truancy. The effects of school safety may produce a compounding effect because schools with more safety concerns also tend to have higher percentages of poor, marginalized, and mobile residents, who are already at risk of experiencing violence in the surrounding neighborhood, higher school dropout rates, and lower grades (Chen & Weikart, 2008). Researchers and educators may benefit from identifying these populations when studying school climate in an effort to help better structure educational environments. When students feel safer in their school they are better able to attend to academic tasks and focus on their schoolwork.

Relationships Between Teachers and Students

Another key dimension constituting school climate is the relationship that exists between teachers and students as they interact in the school. Of all the factors related to education that predict student learning, teachers and the manner in which students perceive them are the one of the most significant (DeAngelis & Presley, 2011). Research conducted by Chhuon and LeBaron Wallace (2014) suggested that positive interactions between teachers and students lead to age-appropriate development, academic attainment, and engagement in learning. Thus, teacher-student relationships in the educational context can be important predictors of both academic and developmental outcomes. Feelings of support derived from teachers act as an important catalyst for the development of future academic and career aspirations and can also aid in students' transitions into adulthood (Chhuon & LeBaron Wallace, 2014). Students who view themselves as working and learning collaboratively with teachers set better academic and social goals and seek out more positive and well-adjusted peer relationships (Johnson, 2009).

The importance of this relationship between teachers and their students is especially evident when measured from the perception of the student. Students who do not perceive a

positive relationship with their teachers may become socially isolated and experience "academic failure" (Chhuon & LeBaron Wallace, 2014, p. 380). In contrast, students who view their teachers as role models, mentors, or counselors can experience increased confidence, motivation, and resiliency. In addition, when students and teachers have positive interactions and build strong relationships, the end result is greater buy-in of school values and increased adaptations toward more positive behaviors. Bayar and Ucanok (2012) found that this positive teacher perception then influences relationships among peer groups, leading to fewer bullying behaviors.

Research by Chhuon and LeBaron Wallace has also explored the ways in which teachers provide the support necessary for students, particularly adolescents, to engage in self-reflection regarding metacognitive abilities and "communicable competencies" (Chhuon & LeBaron Wallace, 2014, p. 381). These competencies include an adolescent's ability to engage in analytical thinking, and be able to comprehend and explain their own life experiences. Teachers can promote this level of critical thinking for their students, in addition to modeling problem-solving skills (Chhuon & LeBaron Wallace, 2014). Subsequently, a teacher who fosters critical thinking in their instruction is necessary to ensure this level of support. Given the profound impact that teachers have on their students, it is desirable for all teachers to be of the utmost quality. Unfortunately this is not always the case, particularly in low-income, low-performing schools (DeAngelis & Presley, 2011). Schools with lower socio-economic status often have high rates of teacher turnover due to factors such as poor working conditions. As a result, the school environment becomes unstable for students and the overall climate is perceived as negative. In fact, many of the reasons teachers leave their schools are related to school climate, and include: lack of perceived level of support from administration; poor relationships with staff, students,

and parents; and perceived level of limited involvement in making decisions that impact the school (DeAngelis & Presley, 2011).

Furthermore, teachers may leave a school due to high perceived levels of stress. For a variety of reasons, teachers in urban schools often indicate high levels of perceived stress. One of the primary reasons for this level of stress includes students with disruptive or challenging behaviors. Teachers at all levels of education have identified disruptive behaviors as one of the most stressful issues that they experience in school (Stoiber, Gettinger, & Goetz, 1998). In addition, both teachers and school psychologists working in urban school settings report that classroom management of these behaviors would be important for future professional development and training (Shernoff, Hill, Danis, Leventhal, & Wakschlag, 2014; Stoiber & Vanderwood, 2008). Understanding the relationship between challenging behaviors and stress is valuable to explore when studying school climate in urban areas, as many of the students exhibit disruptive or challenging behaviors. Students attending school in urban areas face more psychosocial stressors, including poverty, violence in their neighborhood, and instability in the peer group or family environment (Stoiber & Good, 1998). Due to these negative influences, students in predominantly low-income, diverse schools engage in a higher frequency of disruptive and challenging behaviors. These problem behaviors are even more prevalent in middle school and high school students, as these students typically engage in more risk-taking behaviors, such as drug use, risky sexual activity, and drinking (Stoiber & Good, 1998).

A Sense of Belonging

Another important factor that is an indicator of the overall school climate is a sense of belonging. Students' sense of belonging in school has been defined as, "the sense of being accepted, valued, included, and encouraged by others in the setting" (Chhuon & LeBaron

Wallace, 2014, p. 381). When students feel accepted, they perceive that they are part of an educational community. This perception cultivates stronger engagement in their school, improved relationships with school staff, and increased motivation to be actively involved in the learning process (Chhuon & LeBaron Wallace, 2014). Psychologists have identified this concept of a sense of belonging as being "fundamental to human motivation," and this variable is grounded in motivation theory (Johnson, 2009, p. 100). Maslow posited that in order for individuals to be motivated to complete an action, they must feel like they are loved, included, and like they belong (Chhuon & LeBaron Wallace, 2014). Without this feeling of inclusion, students may become alienated, disengage from learning, and lose motivation to work towards academic achievement. When students do not feel as though they belong, they can become inattentive and bored (Johnson, 2009). A greater sense of belonging can also lead to a decrease in student attrition. Literature indicates that this lower attrition rate is a direct result of students feeling like they are "cared for," which ensures that students "perform to the best of their abilities" (O'keefe, 2013, p. 607). A sense of connectedness is related to increased self-esteem, better use of healthier coping skills and supports, higher overall perceived happiness, and a decrease in feelings of loneliness (Lester, Waters, & Cross, 2013). Students who feel supported in their school environment will feel more confident and secure in both their relationships and interactions. One study indicated that teacher-student interactions and relationships influenced students' sense of belonging (Meeuwisse, Severiens, & Born, 2010). Further, additional research suggests positive correlations between supportive teacher-student relations and feelings of belongingness in school communities (Nichols, 2006). Thus, there is a strong link between teacher-student interactions and a sense of belonging as key variables in the overall school climate.

While researchers have established relationships between school climate variables, little research has examined factors that predict specific outcomes of risk and resilience, such as risk-taking behaviors and motivation for educational attainment. Particularly, research is needed to examine these relationships with high school students. Further, most studies of risk and resilience at the high school level has focused more on fixed child factors that predict risk and resilience, such as self-esteem or cognitive ability, rather than alterable environmental predictors of risk and resilience (Reynolds, 1998). Thus, it is important to explore the role of risk and resilience by examining the risky behaviors high school students engage in and their "positive attitude about the future" (Aronowitz & Morrison-Beedy, 2004, p. 31). It is also necessary to explore school climate and other environmental variables more closely, in order to understand how these variables contribute to the prediction of outcomes of risk and resilience. Some pertinent questions remain such as "Does one school climate variable (e.g., perceptions of school safety or the student-teacher relationship) contribute more to the prediction of student risk and resilience behavior over another?" What is the best model to utilize in the prediction of risk and resilience? This study directly addressed how different school climate variables relate to each other, contributed to an understanding of student outcomes of risk and resilience, and vary by grade and ethnicity at an urban high school. Moreover, this study sought to investigate the nature of these relationships, further examine the role that school climate variables play in predicting risk and resilience, and understand how these variables impact vulnerable populations for future research.

Overview of Study

The purpose of this study was to carefully explore the relationships among several critical variables of school climate and to examine the ways in which these dimensions impact outcomes

of risk and resilience. This study examined the role of school climate in an urban high school setting, in which there are higher percentages of minority students, poverty, and mobility. Schools with these characteristics typically struggle to create positive and safe school climates and are challenged with a variety of stressors that make a positive environment and high academic achievement difficult to maintain (Bradshaw, Waasdorp, Goldweber, & Johnson, 2013). The current study targeted these more vulnerable populations by exploring how students' perceptions of school climate variables predict their outcomes related to risk and resilience in urban schools. Students' risk-taking behaviors were measured via self-report of the frequency of their overall risky behaviors, whereas resilience was measured indirectly via students' self-reported beliefs regarding educational attainment. Low-income, racial minority youths in urban schools have been traditionally underrepresented in the literature, yet are at the greatest risk for negative behavioral and academic outcomes (Fletcher, 2008). The research questions in this current study sought to address the gaps in the research for these students in order to understand the degree to which specific school climate variables contribute to risk and resiliency behavior in an urban setting.

The sample used in this study was unique in that the urban school from which the data were collected was considered a more "selective" school. The word "selective" was used to describe the school in which the study was conducted. The population of this school consisted of low-income and racially diverse students. However, students had to apply in order to be admitted, and were accepted based on merit (prior school grades and extracurricular activities). Key variables associated with school climate were included in the study, including perceptions of safety, relationships between students and teachers, and perceptions of belonging to the school. Research shows that school climate is best understood through the perspectives of those

interacting within the system, such as students, parents, and school staff (Kohl et al., 2013). This belief regarding the importance of these perspectives provided the rationale for using self-reported perceptions of school climate variables. This study sought to explore the school climate variables that predict multiple student outcomes such as self-reported risk-taking behaviors and beliefs regarding educational attainment. Identifying these variables was helpful in order to understand how school climate was associated with student risk-taking behaviors and motivation for educational attainment. In addition, the results of this study will hopefully guide the field in identifying how urban schools can create a more positive school environment so as to achieve better overall outcomes for their students and promote protective factors.

In this study, the following questions were addressed:

1. What is the relationship between perceived school climate variables -- feelings of safety, teacher-student relationships, and perception of the school environment, and risk-taking behaviors? In other words, does a student's perception of safety, perception of relationships with teachers, and perception of the school environment influence the negative behaviors in which a student engages (i.e. fighting, truancy, and substance use)?

2. What is the relationship between perceived school climate variables -- feelings of safety, teacher-student relationships, and perception of the school environment, and resiliency, such as self-reported beliefs regarding educational attainment? In other words, does a student's perception of safety, perception of relationships with teachers, and perception of the school environment influence the intent or motivation that a student has to graduate and go on to college?

3. Is the relationship between perceived school climate variables – safety, perception of relationships with teachers, and perception of the school environment, and student reported risk-taking behaviors explained by their feelings of connectedness?

4. Is the relationship between perceived school climate variables – safety, perception of relationships with teachers, and perception of the school environment, and self-reported beliefs regarding educational attainment explained by feelings of connectedness?

The current study sought to investigate the relationship among school climate variables and risk-taking behaviors. Specifically, this study explored the contribution of three different school climate variables (teacher-student relationships, safety, and attitude to the school environment) in the prediction of risk-taking behaviors. The current literature indicates that there is a relationship between student perceptions of school climate and risk-taking behaviors such as drug use, fighting, and smoking (Worrell & Hale, 2001). This research question was raised because the unique contribution of specific school climate variables in the prediction of self-reported risk-taking behaviors has not yet been identified, and would therefore contribute significantly to the understanding of school climate factors. Moreover, this study sought to explore in more depth, the ways in which these student perceptions of specific school climate variables contributed to student involvement in risk-taking behaviors in an urban, selective school.

Second, the purpose of this study was to understand the relationship among student perceptions of school climate variables and self-reported beliefs regarding educational attainment. Researchers have identified a well-established relationship between a positive school climate and positive outcomes. One of these outcomes is the development of protective factors that foster a sense of resilience to adversity, such as a hope for the future (Worrell & Hale,

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2001). A hope for the future, or positive future orientation, has been identified as an important protective factor in the literature for urban youth. More specifically to the school setting, a hope for the future or positive future orientation translates to achievement motivation, and student beliefs regarding their own educational attainment. Students who are motivated to achieve and intend to graduate and go on to further their education, are more resilient when compared with at-risk peers (Aronowitz & Morrison-Beedy, 2004). The current study sought to further investigate the relationship between school climate and resiliency by identifying the ways in which school climate variables significantly contribute to the prediction of an aspect of resilience achievement motivation or beliefs regarding motivation for educational attainment.

Third, this study sought to examine how students' feeling of connectedness mediated these relationships. One common theme that has been established in the school climate literature is that a student's sense of connectedness to the school community is important for helping that student feel supported and accepted (Chhuon & LeBaron Wallace, 2014). Do students feel respected, valued, included in decision-making, and do they feel as if they belong? While feelings of connectedness are associated with many other school climate variables, this question was unique in that the analyses explored how this particular variable mediated the relationship between other school climate variables and outcomes of self-reported risk-taking and beliefs regarding educational attainment. Mediation and moderation models are often utilized in risk and resilience research in order to identify the specific mechanisms that interrupt the cycle of risk (Gaylord, 2003).

In this study, four categorical variables were controlled for: gender, grade level, ethnicity, and self-reported GPA. There is a paucity of research looking at how school climate impacts outcomes of risk-taking behaviors and beliefs regarding educational attainment at varying grade

levels (Kieffer, Marinell, & Neugebauer, 2014). Do students report differences in school climate when they are first enrolled in high school compared to when they graduate? Exploring the variable of grade assisted in understanding how the relationship between school climate and measures for risk and resilience varied by grade. In addition to grade level, ethnicity and self-reported GPA were included in analysis in order to explore how these variables impacted the relationship between school climate, and risk-taking and beliefs regarding educational attainment.

CHAPTER TWO

Literature Review

Effective School Climate

For schools to build a positive and effective school climate, they must foster positive student perceptions of the schools, promote caring and warm relationships between students and teachers and students, and establish a safe and supportive environment. In general, a positive school climate is constructed from an environment that makes students feel both supported, yet challenged to meet high expectations (Gregory, Cornell, & Fan, 2012). Teachers and school staff must provide high levels of supports to students, as well as high levels of structure. Building this supportive yet challenging atmosphere can be accomplished by setting clear and consistent rules, as well as providing help and resources to students when needed. An effective school climate also aims to set higher learning goals, so as to promote academic achievement. Overall, building a positive school climate must be addressed systemically so that effective and comprehensive interventions and services may be implemented. When creating an effective and positive school climate, it is necessary to study populations that are the most vulnerable, and the most at-risk for negative outcomes. In order to create the most effective climate in a school, it is important to understand the theoretical underpinnings of what school climate is, how it impacts students and staff in schools, and what outcomes it predicts.

Theoretical Background

Several theories have been utilized as a framework to understand the impact of school climate, how this construct is associated with relationships, and the ways in which it is related to student risk and resilience. It is important to understand school climate through an ecological perspective to further examine how the school climate impacts staff and students, and in turn the

relationships between them as a system. The development of this lens for understanding school climate can result in either increasing risk or fostering protective factors. Some of the theories that are helpful in guiding this understanding of school climate are (a) Bronfenbrenner's ecological model of human development, (b) Stockard and Mayberry's theoretical framework of school climate, (c) social support theories, and the (d) risk and resilience paradigm.

Bronfenbrenner's ecological model of human development. Bronfenbrenner's ecological model describes how school climate impacts students. Bronfenbrenner identified four systems that all impact an individual. These four systems influence an individual's thoughts, feelings, and behavior. Bronfenbrenner theorized that individuals do not develop in isolation. Rather, the ways in which individuals come to see the world depends on their social context and the interacting systems in their environment.

Bronfenbrenner identified the first level as the "microsystem" (Kohl et al., 2013, p. 412). This system is comprised of an individual's perceptions of the world. An example of the microsystem in relation to school would be an individual student's personality. The next level was identified as the "mesosystem" (Kohl et al., 2013, p. 412). The school itself would be one good example of this level, because mesosystems are the settings in which an individual interacts. Other mesosystems include interactions between parents, teachers, peers, and community leaders (Stewart, 2007). The third level is the "exosystem," which is the level at which the mesosystems interact. For example, parents interacting with the overarching community or neighborhood. The final system is the "macrolevel," which is indicative of the overall culture (Kohl et al., 2013, p. 412). These systems all interact to contribute to an individual's experience of the world, which is why it is important to understand how the climate of a school might impact an individual student as they learn, develop, and interact within the

system. These levels also impact how safe a student feels, how well they get along with other people in the school, and how connected they feel. Overall, school climate influences student development at multiple levels.

      Stockard and Mayberry's theoretical framework of school climate. Stockard and Mayberry utilized ecological and organizational theories to understand school climate as a dichotomy of demandingness and responsiveness. This framework was developed from sociological research that explored differences between an individual's norms and values, and the impact of group values and norms (Stockard & Mayberry, 1985). For example, Stockard and Mayberry explored how group values impact individual behaviors and attitudes. When applied in a school context, the culture or nature of a school organization will influence the behaviors and attitudes of the individuals interacting within the system. The overall school system may set group expectations for normative behavior, both in completing tasks within the organization (i.e. instrumental activities) and in fostering social-emotional connections between the individuals who interact within the system (i.e. expressive activities). The norms for instrumental activities may include high levels of academic achievement, different learning goals that are set for the group, and higher expectations for teacher training in terms of instructional and leadership skills (Stockard & Mayberry, 1985). The norms for expressive activities can consist of supportive administration and teachers, which can be influenced by the size of the school. Larger schools may not be able to provide the high levels of warmth that are necessary for teachers and students to feel interpersonally involved in the organization and set high learning goals. Within Stockard and Mayberry's model, (1985) school climate is a direct product of how much students and teachers accept or reject these norms, when comparing group values to individual (Stockard &

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Mayberry, 1985). Increased acceptance of these norms can lead to an increase in perceived positive school climate, and vice versa.

Within this framework, school climate can be viewed as consisting of both social order and social action. In terms of social action, teachers and students who demonstrate care, concern, and respect, contribute to the norms that are set for expressive activities. If care, concern, and respect are the group norms of a school organization, the school climate will most likely develop to be a warm, responsive, and positive environment. In addition, schools that demand a high level of structure, high quality of work, and a safe environment, which can be viewed as the standards set for instrumental activities, also lead to a positive environment for students, teachers, and administrators (Bear, Gaskins, Blank, & Chen, 2011). Stockard and Mayberry's underlying theory is important to understand school climate from a social-ecological perspective, as schools operate as systems. It is necessary to explore the interactions between individuals in the system in order to understand how individual norms and values interact with group-level expectations and, subsequently, how these interactions impact the overall school environment.

Social support theory. When studying school climate from a social-ecological perspective, it is also helpful to understand the importance of relationships. School climate impacts the interactions that take place within a social context. Therefore, we must further examine the development of positive relationships between students and teachers. As mentioned previously, having a positive relationship with a teacher can produce more positive academic and behavioral outcomes in a student (DeAngelis & Presley, 2011). In fact, having a relationship with a competent and compassionate adult who makes students feel connected to and cared for can improve outcomes overall (Aronowitz & Morrison-Beedy, 2004).

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Additional research on social support, particularly the role of supportive mentors, has provided a strong foundation for understanding teacher-student relationships. Theories of social support indicate that a positive relationship between youth and a supportive adult can promote positive mental and physical health, mitigate the effects of adverse experiences, and act as a protective factor for youth (Hurd & Zimmerman, 2010). The relationship between non-parental adults and students is especially relevant when examining risk and resilience. Having a positive relationship with a natural mentor can promote overall protective factors and resilience in children (Werner & Smith, 1992). Natural mentors promote resilience by providing increased levels of support that some children and adolescents might not be receiving in the home setting. Natural mentors can also share knowledge and skills, and model appropriate moral values. The supportive relationship between natural mentors and students helps reduce an adolescent's risk of engaging in problem behaviors, fosters positive attachments, and improves self-esteem (Southwick, Morgan, Vythilingam, & Charney, 2006). The influence of natural mentors also continues into young adulthood. Literature has suggested that relationships with mentors may be the most important resource for students, and that this relationship is often reported to be similar to a parental relationship in terms of support (Hurd & Zimmerman, 2010).

An example of a natural mentor is a teacher. Teachers who are perceived as caring are viewed as more likely to model positive behaviors to their students, engage in perspective taking, demonstrate mutual respect with their students, and exhibit high expectations matched by high levels of support. If students do not perceive that they are cared for, supported, and included in decision-making, they may also perceive the school climate accordingly. They will be less likely to feel as connected to the community of the school, experience positive relationships with other students and teachers, and demonstrate motivation to achieve high levels of academic success

(Barile et al., 2012). These positive relationships can also be helpful for teachers as well. If relationships with students are positive, teachers have been reported to implement curricula and academic interventions with greater fidelity. In schools with positive climate and positive relationships, teachers are less likely to burnout. They are also at an increased likelihood to report higher levels of job satisfaction and are more likely to endorse positive and trusting relationships with their colleagues (You, O'Malley, & Furlong, 2014). Positive relationships help foster a sense of self-efficacy in their instruction, promote positive mental health, and create stronger attachments to the school personnel and the school itself.

The literature on social support has provided a strong foundation from which to understand school climate, and past research on social support has been useful in identifying the variables that create a positive school climate. As mentioned previously, school climate can either aid in creating better outcomes for students through promoting protective factors to overcome adversity, or can serve to put students at greater risk for negative outcomes. Thus, in order to create the best outcomes for all students, it is useful for researchers to focus on the most vulnerable populations using a risk-resilience paradigm, which is described next.

Risk and resilience. Another way that school climate can be understood is to consider theories of risk and resilience. The concepts of risk and resilience explain the ways in which individuals interpret the world, especially after experiencing a significant or adverse life event. Risk is defined as "biological or psychosocial hazards that increase the likelihood of a negative developmental outcome" (Worrell & Hale, 2001, p. 370). Risk factors may result in maladaptive outcomes for children, including increased engagement in risk-taking or problem behaviors, poor mental or physical health, and psychopathology. On the contrary, individuals who do not exhibit any of the negative outcomes associated with risk are identified as resilient (Masten et al., 1999;

Rutter, 2013). Resilience has been defined in the literature as "successful adaptation in the context of significant threats to development" (Masten, 1994, p. 143). Resilient children tend to be successful academically, emotionally, and socially, despite facing significant adversity. In order for resilience to develop, the environment and supports a child has must foster protective factors (Dyer & McGuiness, 1996). General protective factors that have been identified in the literature include high cognitive skills, a positive temperament, and a supportive environment (Reynolds, 1998).

The school environment can act as a buffer to home-related risk that urban youths might experience (O'Malley, Voight, Renshaw, & Eklund, 2015). In the context of a school, protective factors such as hope in the future, academic competence, and positive perceptions of school climate typically lead to less risk (Worrell & Hale, 2001). Gonzalez and Padilla (1997) found that a supportive school climate and feelings of connectedness or belonging lead to less risk and more resilience in a group of Mexican American high school students (Mirkiani, 2007). While youth spend the majority of their day in the school setting, the home setting and relationships with parents are also important factors to consider when looking at risk and resilience. Therefore, it is important to consider the psychosocial stressors that students may bring with them from home, and the ways in which these stressors can influence school climate.

One psychosocial stressor that impacts school climate is poverty. Students living in poverty and receiving free and reduced price lunch at school characteristically perform lower in reading and math when compared to same age peers. They also experience lower GPA and do not score as well on standardized testing (Hopson & Lee, 2011). Despite these negative outcomes, positive interactions in the school can mitigate any detrimental effects of poverty on learning and development through the provision of supports and resources. Feeling cared for,

connected to, and respected by other members of the school community can help shape students' values and promote resilience (Hopson & Lee, 2011). Such resiliency is particularly important for schools in low-income neighborhoods because a positive school environment promotes protective factors and minimizes risk. For example, a positive school climate would help reduce the negative impact of living in poverty on a student's academic achievement (Hopson & Lee, 2011). Although we know that a positive school climate has a positive impact on these populations, and can minimize risk and maximize resilience, we do not know how perceived safety, teacher-student relationship, and the perception of the school environment each influence risk-taking behaviors and self-reported beliefs regarding educational attainment. Thus, the next section outlines the existing literature available to explain how school climate impacts academic and behavioral outcomes, and provides a rationale for why the effects of more specific school climate variables requires further exploration.

Influence of School Climate Variables

Academic climate. Academic climate consists of the academic goals and expectations that are set for students, classrooms, and the school as a whole (Urick & Bowers, 2014). In other words, academic climate represents how dedicated a school is to achieving and maintaining high levels of academic excellence (Chong, Klassen, Huan, Wong, & Kates, 2010). An academic climate that promotes higher standards for both students and teachers results in teachers experiencing higher levels of job satisfaction, which in turn fosters higher academic achievement for students. While academic climate can be assessed with more objective measures, it is best understood by considering the perceptions of both teachers and students.

From the perspective of the teachers, the academic climate is dependent on the standards that are set by the school. If the administrators of the school encourage a culture that emphasizes

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academic achievement and higher levels of academic excellence, teachers will perceive a more positive academic climate. Teachers and staff will be motivated to believe in their ability to uphold higher standards of academic performance in their students. In turn, teachers and staff will feel empowered to set higher personal teaching goals and implement more evidence-based instructional strategies (Chong et al., 2010). If teachers are motivated to set higher goals for themselves and their students, students will feel more motivated as well and the end result will be a more positive academic climate. When teachers perceive an environment that seeks to advance growth and learning, research indicates that they feel more capable of managing their classrooms, are more likely to engage their students academically, and experience higher levels of self-efficacy (Collie, Shapka, & Perry, 2012). Self-efficacy is the belief or expectation that an individual has the capacity to overcome adversity and succeed in different aspects of life, such as school, relationships, and work (Sutton & Fall, 1995).

In addition to experiencing an increase in self-efficacy, teachers will also experience better job satisfaction and less work stress. They will feel that their needs are being met and experience higher levels of commitment to their job. Teachers are often faced with high workloads, challenging student behaviors, and feel that too much time is spent disciplining students rather than teaching. When the administration and school systems are supportive, encouraging, and create a positive school climate for teachers, staff typically endorse less stress related to working with challenging students. Teachers feel happier about coming to work, will be absent or sick less often, and will experience more professional growth (Collie et al., 2012). In general, a more positive academic climate produces more motivated teachers, and thus more engaged students, resulting in higher academic achievement and performance.

It is also important to understand academic climate from the viewpoint of the students. Student perceptions of academic climate are indicative of their willingness to participate in academics, how empowered they feel to complete their work consistently, and how capable they are in meeting the learning expectations that teachers create for them. As previously stated, schools with a positive academic climate produce more motivated teachers, who in turn provide a structured setting and set clear and consistent learning goals for their students. Thus, students understand and can follow-through with the learning goals and expectations that are set for them, resulting in higher academic achievement (Urick & Bowers, 2014).

Academic achievement as an outcome. If a more positive academic climate leads to higher academic achievement, schools and administrators must identify the key components to cultivate this structured and supportive environment. Research indicates that challenging learning goals, high expectations for behavior, and interventions targeting positive peer interactions can improve academic achievement (Holen, Waaktaar, Lervag, & Ystgaard, 2013). If students are working toward challenging learning goals and not worrying about potential threats to safety, their motivation and attitude toward school will improve. Improvements in motivation and attitude will lead to higher scores on standardized testing, particularly in reading and math (You et al., 2014).

For example, Patrick et al. (2007) found that a supportive classroom environment characterized by positive social interactions was associated with higher levels of student cognitive engagement and self-regulated learning. This higher level of engagement led to higher grades in math (Dotterer & Lowe, 2011). In another study that examined achievement in mathematics, Bryan et al. (2012) found that students who felt more attached to their school earned higher grades in math. Researchers continue to help support the idea that school climate

and student engagement can be predictive of academic achievement, particularly with math. School climate is also positively correlated with specific academic skills and is predictive of overall GPA. Wang et al. (2014) conducted a study with a sample of fifth-grade students using a nested multilevel model. Results indicated that a positive school climate was associated with higher GPA (Wang et al., 2014). As previous research has shown, school climate and academic achievement are closely linked. It is important to explore the relationships between these two factors to better understand how enacting changes in the school climate may result in better academic performance for students.

Achievement motivation as an outcome. Another way that positive school climate is associated with positive academic outcomes, is through associations with the variable of achievement motivation or self-reported beliefs regarding educational attainment. Research shows that a positive future orientation or "hope in the future" can act as a protective factor for at-risk students (Worrell & Hale, 2001, p. 371). When students believe that they have control over their own lives, set goals for themselves, and have positive intentions for the future, they are less likely to drop out of high school. Student motivation is also closely linked with academic achievement. Among students, a motivation to further education and achieve academically is related to support and encouragement (Waxman, Huang, & Padron, 1997). Students with positive orientations for the future have been found to have healthier coping strategies for stress, engage more in school, and are more resilient when faced with adversity.

Researchers have suggested that this optimistic orientation about the future is especially important for populations of poverty. Children growing up in poverty experience more adversity and are at a greater risk for problem behaviors and poor mental health. Hope, including an "optimistic future orientation," can be an indicator of resiliency in children faced with greater

adversity (Bennett, Wood, Butterfield, Kraemer, & Goldhagen, 2014, p. 314). Achievement

motivation is an example of a future orientation, as children who are hopeful about their

scholastic achievement believe they will be successful. Children, who are academically or

educationally resilient, tend to have a higher achievement motivation. They feel encouraged by

their parents and teachers to attend college and also show motivation to work towards a positive

academic future (Alva, 1991). Unfortunately, there has been a lack of research in the literature

exploring achievement motivation and how this protective factor relates to school climate.

However, one study found that school engagement was related to academic resilience or

motivation in a group of low-SES minority students (Mirkiani, 2007). In another study,

Aronowitz and Morrison-Beedy (2004) found that when students do not have any expectations

about their own future, they have a "present time perspective" (Aronowitz & Morrison-Beedy,

2004, p. 31). This perspective leads to engaging in risk-taking behaviors or more pleasurable

behaviors with no thought of consequences or future orientation. However, feeling connected to

or cared for by a significant adult in their lives lead to a "future time perspective," which resulted

in less risk-taking behaviors and more resilience (Aronowitz & Morrison-Beedy, 2004, p. 30).

More research needs to explore which school climate variables predict specific outcomes of

resilience, such as self-reported beliefs regarding educational attainment, and what mediates this

relationship.

Behavior and risk-taking. Changes in school climate are not only associated with

academic risk and resilience, but are also connected to behavioral outcomes in the school. In

addition to creating clear and consistent learning goals, schools should establish rules and

expectations for student behavior. Principals can be key players in developing standards for

positive behaviors, in addition to guiding the curriculum and prioritizing learning goals.

Principals can also assist in fostering a safe environment leading to less victimization, more positive behaviors, and better peer and teacher relationships. Different ways in which schools can set better behavioral standards are by delineating clear expectations for being late or absent, intervening when there is a verbal or physical conflict between students, and managing other behavioral issues that might require discipline. In addition to administration, teachers also play a role in modeling positive relationships. When administrators and teachers emphasize and model positive interactions, students typically follow suit. In contrast, if the leaders and staff of a school do not set high expectations for positive behaviors, an unsafe, unsupportive, and overall negative environment can develop. Perceived negative school climate can lead to a number of poor behavioral outcomes, such as bullying, high dropout and truancy, suspensions, and other risk-taking behaviors (Klein, Cornell, & Konold, 2012).

Bullying. School climate plays a significant role in bullying behaviors (Burdick-Will, 2013). Schools operate as systems, with multiple interacting pieces. Teachers, students, and staff all interact within the context of the school and have the ability to influence one another. The policies and procedures that the system has in place, the overall moral environment, and the different programs that may be implemented in the setting may all contribute to negative peer interactions and misconduct (Lee & Song, 2012). The negative influence of peers and friends in the school setting has been linked to risk-taking behaviors, including general "deviancy" and "rule-breaking" (Kwon & Lease, 2014, p. 1117). The interactions between peers and friends are often characterized by bullying. Bullying is the result of a student or group of students victimizing one another. The students who become victims often feel a loss of control in their environment and view peers and teachers as threats rather than supports (Burdick-Will, 2013). Students who bully often do so because of their own traits and characteristics, such as a lack of

empathy or the ability to perceive and attend to the emotions of others (Goldweber, Waasdorp, & Bradshaw, 2013). Other times students engage in bullying because they have witnessed violence or aggression at home or in the community, and subsequently model these behaviors in school (Baldry, 2003). While these traits and experiences are part of the problem, school is also a contributing factor. When students do not perceive the school climate to be positive and safe, bullying behaviors increase and students report higher levels of victimizing behaviors (Wang et al., 2013). Negative behaviors can also occur more frequently if teachers and administrators do not set clear and consistent rules for bullying or are not actively working towards promoting a school climate that emphasizes positive peer relationships.

One of the ways in which administration can promote positive peer interactions is by creating a safe environment for students and staff. When students feel safe, they are better able to trust each other and their teachers (Burdick-Will, 2013). Students will focus more on learning goals instead of wasting cognitive resources on whether they feel safe and secure in their own environment. An increased sense of safety also leads to more positive peer interactions. Schools can set norms for positive peer interactions through modeling, school policy and programs, and can also model positive relationships between administrators, staff, and teachers. Teachers who model positive relationships with colleagues and support staff encourage students to do the same. Creating structured behavioral standards can help contribute to the development of a school climate characterized by safety and security.

Dropout and truancy. Bullying behaviors and the experience of victimization are associated with higher dropout rates, especially in the high school setting (Cornell, Gregory, Huang, & Fan, 2013). While bullying research has mostly been conducted with elementary and middle school populations, much of the current school climate research looks at how the school

environment impacts graduation and dropout rates in high school students. Cornell et al. (2013) found that approximately 1.3 million adolescents drop out of school every year. Dropout rates are a significant problem in U.S. high schools and negatively impact overall academic performance and graduation rates. Higher dropout rates lead to fewer students graduating, obtaining advanced education degrees, and getting better paying jobs. Students dropping out of school also lead to other negative outcomes, such as an increased engagement in general delinquency and overall risk-taking behaviors (Klein et al., 2012). While there are many factors related to the individual and home environment that play a role in high school dropout rates, school climate has been identified as one of the most important variables that can affect these statistics at the school-wide level. Some research indicates that the school environment more significantly contributes to predicting whether or not a student will dropout than any other life event or problem with a student's family (Cornell et al., 2013).

From a contextual perspective, students are more likely to stop coming to school altogether if they view the environment as unsafe, dangerous, or unsupportive. This results in disengagement from school, decreased involvement in school-related activities, and lower motivation academically and behaviorally. However, there are additional factors that contribute to dropout rates, above and beyond the perception of safety. The climate of a school sets a standard for how individuals are expected to interact with each other. A school climate characterized by negative peer interactions, victimization, and bullying will essentially create a context in which students are afraid to come to school. They will disengage, avoid, and eventually leave before graduation (Cornell et al., 2013).

Higher levels of school dropout are not just related to peer-to-peer relationships. When students do not perceive their teachers and administrators as caring, or have positive

relationships with school staff, they experience lower levels of academic success and greater risk of dropping out. With high school graduation rates at 73% in the United States, more systemic interventions are needed to create positive school environments and build positive relationships throughout school systems (Barile et al., 2012).

Suspension and other behavioral problems. When students do not perceive the school climate to be safe, supportive, and welcoming, they are more likely to drop out of school, or generally avoid school altogether. This phenomenon has been identified through rates of absenteeism and truancy (Yang et al., 2013). Not only are students more likely to drop out of school when they feel unsafe, they also come to school sporadically and are frequently absent leading up to that point. Students attending a school that has a negatively perceived climate also get into more trouble in terms of their behaviors. Whether it is a consequence of bullying, fighting, or defiance towards teachers, students who do not perceive a positive school climate face higher incidents of suspension (Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). This can be a result of not feeling supported, or an outcome of not having stricter limits or standards set in their school.

Substance use. Another risk-taking behavior that can result in negative academic and behavioral outcomes for students is substance use. Recent statistics indicate that an increasing number of students have reported drinking alcohol, smoking cigarettes, and using marijuana within a 30-day period (Sznitman, Dunlop, Nalkur, Khurana, & Romer, 2012). These studies include students in both high school and middle school, with the largest increase occurring predominantly among adolescent males. Using substances in early and late adolescence is a risk-taking behavior because it can lead to a higher frequency of car accidents, arrest, and other

cognitive impairments. The most common substances that adolescents use include alcohol, tobacco, marijuana, and other illegal drugs such as cocaine.

Alcohol is one of the most popular substances among adolescents in today's society (Henry & Slater, 2007). Adolescents are reporting that they are becoming intoxicated more frequently, and that they are also starting to use alcohol at a younger age. Young adults or teenagers who choose to drink alcohol typically make less rational decisions, are more likely to get into a vehicle with a driver who is impaired, or choose to drive a car while impaired, and may face more detrimental long-term effects of alcohol use. Students who use alcohol in high school are at an increased risk of engaging in delinquent behavior, misbehaving in school, and experiencing lower academic achievement (Mogro-Wilson, 2008) These students often begin to use more illicit drugs and are also more likely to interact with the legal system (Mogro-Wilson, 2008). Illicit drug use can lead to arrests, car accidents, and higher dropout rates. Drinking alcohol in early adolescence can also be predictive of later alcohol addiction and an increased level of consumption as an adult.

Another popular substance among adolescents is tobacco. The percentages of adolescents who have smoked cigarettes by the 12th grade have reached a staggering 44% (Schlauch, Levitt, Connell, & Kaufman, 2013). Aside from the typical risk factors associated with smoking cigarettes for adults, such as increased risk of cardiovascular disease, hypertension, and cancer, smoking during adolescence may lead to greater tobacco consumption as adults, further amplifying health risks. The earlier an adolescent is exposed to cigarettes, the more likely it is that a long-term dependence will be formed. In fact, more than 90% of adult smokers were exposed to cigarettes before they turned 18-years-old (Ramo, Liu, & Prochaska, 2012). In particular, African American youth are more likely to smoke menthol cigarettes, which have

even higher rates of carcinogens, nicotine, and carbon monoxide (Muilenburg & Legge, 2008). Understanding the level of risk for these youths is particularly important when studying school climate in the context of urban schools, which typically have higher rates of African American populations.

When students smoke cigarettes they are also at an increased risk to smoke marijuana. Tobacco is known as a gateway substance to marijuana and other illegal drugs (Ramo et al., 2012). While alcohol is the substance of choice among adolescents, marijuana is another drug that is used commonly within this population. More students are using marijuana and, similarly to alcohol, they are starting to use it at earlier ages. In 2014, 36% of high school students in 12th grade reported using marijuana on a regular basis (Pollard, Tucker, de la Haye, Green, & Kennedy, 2014). Using marijuana leads to similar negative outcomes when compared to other substances, such as lower academic achievement and an increased risk of becoming involved in delinquent behaviors (Grigorenko, Edwards, & Chapman, 2015; Finn, 2012). Smoking marijuana can also lead to engaging in other behaviors, such as risky sexual behaviors. In addition, marijuana can impact cognitive functioning, resulting in poor attention, deficits in executive functioning, and can also result in impaired visual-spatial processing and performance (Thoma et al., 2011).

Use of tobacco, alcohol, and marijuana also increases the chance that an adolescent will use other illicit drugs, such as cocaine and other substances. Cocaine is a highly addictive drug and can result in higher rates of dependence if use is initiated in adolescence (Palamar & Ompad, 2014). In recent years, the cost of cocaine has lowered dramatically and it is readily available for high school students. This gives high school students easy access to a dangerous drug for use and abuse. When adolescents become dependent on cocaine, it can increase their risk of sudden and

unexpected death. Cocaine has been linked to greater risk for cardiac disease and sudden heart failure, especially in adolescents and young adults (Morentin, Ballesteros, Callado, & Meana, 2014). Cocaine use has also been identified in the literature as an at-risk behavior that often precedes teen suicidality, particularly in African American adolescents (Garlow, Purselle, & Heninger, 2007). Overall, the use of cocaine and other illicit drugs can lead to behaviors that might increase the likelihood of violence, crime, accidents or injuries, cardiac problems, or sexually transmitted disease (Dube et al., 2003). These at-risk behaviors put students in danger of higher dropout rates, arrest, and other negative and possibly fatal outcomes.

Violence and weapons. Drugs and alcohol are not the problems that can put adolescents at risk. Violence, weapons, and threats are also significant risks in today's society. In 2013, a Youth Risk Behavior Surveillance System was administered to students in high schools across the country. Results indicated that 5.2% of students had carried a weapon on school property within the 30 days prior to survey administration (Kann et al., 2014). Furthermore, minority students in urban communities experienced more threats and injuries from weapons on school property when compared to their white counterparts in the past year (Kann et al., 2014). Students cannot fully focus on academics, learning, and achievement when they are fearful of being bullied, threatened, or injured on school grounds. There have been strong correlations established in the literature between bullying, victimization, substance use, gang membership, and a trajectory of violence and delinquent behaviors. All of these at-risk behaviors are especially prevalent in urban areas.

What can prevent engaging in risk-taking behaviors? Researchers have indicated that the sociological environment within the school can play a major role in preventing such behaviors. Students who do not feel connected to their school may attach with other social support systems.

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These social networks may or may not increase the likelihood of the student becoming involved with using or even selling illicit drugs in high school (Steinman, 2005). School can play an important role in providing psychoeducation on the effects of long-term substance abuse, promoting stronger attachments between students and teachers to foster healthy attachments with positive role models, and also in creating an overall positive environment for students to feel safe.

Studying School Climate in an Urban Context

One particular setting where an effective school climate is especially important is within urban schools. Urban schools are an interesting context in which to study school climate because urban students tend to experience more psychosocial stressors, face more violence, and live in neighborhoods with higher incidents of crime. All of these factors can contribute to a negative school climate. Urban schools in general have higher concentrations of gang involvement, interactions with the legal system, and drug use. With previous research indicating significant associations among bullying, aggression, delinquency, and further victimization, students in these urban areas do not typically perceive their schools to have positive environments (Bradshaw et al., 2013). Without positive supports in school, urban students are at risk of experiencing negative academic and behavioral outcomes, which tend to be amplified by other psychosocial stressors outside of school.

Urban schools are also typically located in neighborhoods with more crime. This factor can impact schools and the students that attend them in many ways. For example, living in a neighborhood with a high crime rate can impact the way a student copes with stressful situations. Living in an area where problems are handled with violence or illegal actions teaches students to use unhealthy coping strategies and inappropriate problem-solving skills. Greater exposure to

incidents of crimes and increased negative interactions with law enforcement may also promote

defiance or disrespect toward authority figures, which may in turn lead to negative relationships

with teachers (Gregory et al., 2012). Students in urban schools are not only faced with these

neighborhood and community stressors, but they are also more likely to be enrolled in a lower

achieving school and struggle academically.

Previous Interventions, Tiered Framework, and Gaps in Research

Given the prior discussion on the varying effects that can result from a positive or

negative school climate, and the perceptions and factors that have been shown to contribute to an

effective school climate, it is important to look at what evidence-based practices have been

established in creating an effective school environment. Previous literature has identified several

system-wide interventions that have been implemented to target school climate. Some have

included individual level social skills interventions, group-level bullying programs, and

classroom-level character education on respect and appropriate boundaries. Currently in

education, there has been a push for response to intervention (RtI) models and, within these

models, the system-level Positive Behavior Interventions and Supports (PBiS) framework. In this

framework, school climate interventions can be modified to meet the needs of the population of

the school through a tiered system (Wang et al., 2013). For example, at Tier III, targeted students

may receive individualized social skills intervention. At Tier II, a cooperative learning

community intervention can be implemented at the classroom or group level, and a Tier I

violence prevention program could be put in place for the whole school. Even though there has

been a push towards using these more positively framed supports, schools continue to use

punitive measures when students break rules related to academics or behaviors (Jones, Fisher,

Greene, Hertz, & Pritzl, 2007). The continued implementation of negative disciplinary strategies

leaves a critical gap in the field, where more positive supports designed to strengthen school climate could benefit staff and students.

Research Questions and Rationale

It has been established that creating a positive school climate can promote resiliency and build protective factors to help students overcome adversity. Therefore, it is important to conduct studies of school climate within schools that are among the most vulnerable. The current study sought to explore school climate variables as they relate to risk and resilience at a selective, urban school. While recent school climate research has been more inclusive of racial minorities, little research has been conducted that explores school climate in a more selective school with the same population. Thus, the research questions in the current study explored several key aspects of perceived school climate in a more selective, higher-achieving urban school. An additional aim of the study was to examine whether differences exist in the relationship between student perceptions of school climate and risk and resilience behaviors for students with varying gender, grade, ethnicity, and different levels of academic performance. Research shows that students entering 9th grade may have a more positive attitude towards school in general, and student perceptions of school climate during their first year can be an indicator of future dropout and other risk-taking behaviors (Kieffer et al., 2014). Thus, it is important to explore varying perceptions of school climate across grades, as well among gender, ethnicity, and GPA. To reiterate, this author's specific research questions were as follows:

1. What is the relationship between perceived school climate (feelings of safety, teacher-student relationships, and attitude toward the school environment) and self-reported risk-taking behaviors for a sample of racially diverse urban high school students?

    1a. Does this relationship differ by gender?

1b. Does this relationship differ by ethnicity?

1c. Does this relationship differ by grade?

1d. Does this relationship differ by self-reported GPA?

2. What is the relationship between perceived school climate (feelings of safety, teacher-student relationships, and attitude toward the school environment) and self-reported beliefs regarding educational attainment for a sample of racially diverse urban high school students?

    2a. Does this relationship differ by gender?

    2b. Does this relationship differ by ethnicity?

    2c. Does this relationship differ by grade?

    2d. Does this relationship differ by self-reported GPA?

3. Is the relationship between perceived school climate (feelings of safety, teacher-student relationships, and attitude toward the school environment) and self-reported risk-taking behaviors mediated by students' reported feelings of connectedness? More specifically, is the relationship between the predictor variables of school climate and the outcome of risk-taking behaviors explained by feelings of connectedness or belonging to the school community?

4. Is the relationship between perceived school climate (feelings of safety, teacher-student relationships, and attitude toward the school environment) and self-reported beliefs regarding educational attainment mediated by feelings of connectedness? More specifically, is the relationship between the predictor variables of school climate and the outcome of self-reported beliefs regarding educational attainment explained by feelings of connectedness or belonging to the school community?

CHAPTER THREE

Methods

This study was conducted using extant data from a high school in a Midwestern, urban school district. The high school that was the focus of this study was considered a selective high school in this district as students were admitted based on prior academic and extracurricular indicators. This more selective school was called a "university" school, as it provided increased opportunities for university preparation and advanced placement courses than is typical in other schools in the same school district. The school received a federal grant for creating Smaller Learning Communities within the urban high school, a program aimed to improve the learning environment. The data collected and used in the current study were part of a larger extant data set for a study conducted by Karen Stoiber (Stoiber, 2007; 2011; Stoiber & Brumm, 2010; Stoiber, Marsh, Brumm, & Huffman, 2009) to examine aspects of school improvement efforts in urban schools.

Participants

The participants were students who ranged from 9th grade to 12th grade, were racially diverse, and were from a low-income population. Table 1 depicts an overview of the demographic information from the high school, including gender, ethnicity, grade, and GPA. The participants in this study included 456 students from the selective high school in a Midwestern urban district. In this sample, 57.2% of the participants were female, and 42.8% of the participants were male. Participant ethnicity consisted of 64.0% Black or African American, 12.3% Hispanic or Latino, 12.9% Asian, 7.7% White, and 3.1% American Indian. The sample was comprised of 43.4% 9th graders, 30.7% 10th graders, 23.9% 11th graders, and 2.0% 12th graders. The sample also varied in terms of self-reported GPA. Of the total population, 13.8%

reported earning a GPA above 3.5, 29.4% reported earning a GPA of between 3.0 and 3.5, 30.3%

reported earning a GPA of between 2.5 and 3.0, 16.0% reported earning a GPA of between 2.0

and 2.5, and 10.5% reported earning a GPA of below 2.0.

Table 1

Demographic characteristics of participants (n=456)

Characteristic	n	%
Gender		
Male	195	42.8
Female	261	57.2
Ethnicity		
Asian	59	12.9
American Indian	14	3.1
Hispanic/Latino	56	12.3
African American	292	64.0
White	35	7.7
Grade		
9th	198	43.4
10th	140	30.7
11th	109	23.9
12th	9	2.0
GPA		
Below 2.0	48	10.5
2.0-2.5	73	16.0
2.5-3.0	138	30.3
3.0-3.5	134	29.4
Above 3.5	63	13.8

Procedures

Surveys were administered to students in their advisory period class (similar to a

homeroom) during the spring semester. IRB and school district approval was received and

student ID numbers were protected in a secure database. Parental consent was obtained and all

teachers were trained by the evaluator (Stoiber) or school administrative personnel in survey

administration. If there were any concerns regarding a student's reading level, teachers had the

option to read the surveys aloud. Students holding a disability classification were excluded in the

survey dataset. Teachers instructed students to fill out the surveys honestly, as their results would

be kept confidential.

Measures

The measures administered to the sample included a teacher perception scale adapted

from the attitude to teachers subscale from the *Behavior Assessment System for Children –*

Second Edition (BASC-2). The BASC-2 includes a student self-report scale that can be used to

assess social-emotional and personality factors, with the attitude to teacher subscale having a

reported internal consistency reliability that ranged from .73 to .84 in prior studies. The BASC-2

was adapted for use in the current study as it is widely used in clinical practice (Reynolds &

Kamphaus, 2007). Students also were administered the *Thoughts About School Survey,* which is

a self-report survey that was developed by Stoiber (Stoiber, 2007, 2011; Stoiber & Good, 1998;

Stoiber, Brumm, DeSmet, & Marsh, 2008; Stoiber, Marsh, Brumm, & Huffman, 2009). This

measure was administered in order to collect information about students' experiences,

observations, and perceptions of their schools through different subscales described below.

Students were also asked to answer general demographic information, such as their gender,

grade, GPA, and ethnicity.

Predictor or independent measures. The current study used three predictor measures.

These measures included: *Your Teachers and Classmates, Feelings of Safety,* and the *School*

Environment. The *Your Teachers and Classmates* subscale was used as a measure of reported

perception of teacher-student relationships. This subscale was adapted by Stoiber using concepts

from the attitude to teachers subscale of the Behavioral Assessment System for Children –

Second Edition (Reynolds & Kamphaus, 1992) and other similar measures. The *Your Teachers*

and Classmates subscale measured students' perceptions of teachers and perceptions of

relationships between students and teachers at the school. This scale consisted of 6 items, which

were rated by students on a 4-point scale ranging from *Strongly Disagree* to *Strongly Agree.* The

measure had a Cronbach Alpha of .73 in this sample. Items such as *"I can talk openly with my*

teachers" aimed to measure student perceptions of student-teacher relationships (Please see

Appendix for sample items).

The *Feelings of Safety* subscale was used as a measure of reported perception of safety in

school and in the neighborhood directly surrounding the school. This scale consisted of 3 items,

and asked students to identify the frequency they feel unsafe. Item responses varied on a five -

point scale from a frequency of *Never* to *All the time.* The measure had a Cronbach Alpha of .79

in this sample. Students answered questions about the frequency they felt unsafe in their classes,

hallways, stairs, and bathrooms, and immediately outside of their school (Please see Appendix

for sample items).

The *School Environment* subscale was developed by Stoiber based on other scales of

school climate and used as a measure of reported perception of school environment. This scale

consisted of 9 items, which were rated by students on a 4-point scale ranging from *Strongly*

Reject to *Strongly Accept.* The measure had a Cronbach Alpha of .75 in this sample. Students

were asked to answer questions about their attitude to school, with items such as *"School is*

boring" (Please see Appendix for sample items).

Mediator Measure

Mediator measure. The current study used one mediator measure: *Your School Experiences.* The *Your School Experiences* subscale was developed by Stoiber and used to measure feelings of connectedness. This scale consisted of 10 items, which were rated by students on a 4-point scale ranging from *Strongly Agree* to *Strongly Disagree.* Students were asked to answer questions regarding how much they feel that they are connected to the school, and that they belong in the community. This measure had a Cronbach Alpha of .72 for the current sample. This measure included items such as *"I feel like I am a real part of this school,"* which aim to measure student perceptions of how connected they feel to the school community (Please see Appendix for sample items).

Outcome measures. The current investigation used two outcome measures designed by Stoiber to examine students' self-ported risk-taking behaviors and beliefs regarding educational attainment. These measures included *My Beliefs and Behaviors* and *How Far Will You Go*. The outcome measure used to assess risk-taking behaviors was the *My Beliefs and Behaviors* subscale. This subscale included students' self-reported risk-taking behaviors, including the frequency of their involvement in negative behaviors such as bullying, illegal drug use, and fighting. This scale consists of 14 items, which were rated by students on a 5-point scale ranging from *Never* to *Almost Every Day.* The measure had a Cronbach Alpha of .92 in this sample. Items such as *"Used marijuana or pot on school property"* aimed to measure the frequency of students' self-reported risk-taking behaviors (Please see Appendix for sample items). Because risk-taking behaviors was treated as a binary variable (risk vs. no risk) due to lack of a normal distribution, no risk was defined as students who endorsed "Never" in response to the frequency they engage in risky behaviors, and risk was defined as students who endorsed "A Few Times

This Year," "Once or Twice a Month," "Once or Twice a Week," or "Almost Every Day" in response to the frequency they engage in risky behaviors.

The outcome measure for self-reported beliefs regarding educational attainment used in the study was the *How Far Will You Go* subscale. This subscale included students' reports of how far they will go in terms of their education. This scale was divided into two parts. The first section included questions that assessed students' perceptions of whether they will leave high school before graduation, graduate from high school, get some college or other training, or complete a job-training program. The second section required students to answer questions if their plan was to attend college. Students were asked to identify whether or not they are planning on graduating from a 2-year community college, 4-year college, graduate school, or whether or not they planned on attending college at all. Students were also asked to answer questions about their intent to obtain formal education after school and get a steady job when they become an adult. This measure had a Cronbach Alpha of .69 in the current sample (Please see Appendix for sample items).

Dummy Coding

Dummy variables were created in order to account for multiple categories for the ethnicity and grade variables. As a result of the small sample sizes, the groups of White, Asian, and American Indian were combined to create a White/Other group. This group was chosen as the reference group. The dummy coding for ethnicity included these variables for the purpose of regression analyses: White/Other, African American, and Hispanic/Latino.

Data Analysis

Due to the nature of the research questions, this author ran the following analyses using the Statistical Package for Social Sciences (SPSS) version 22 for Windows. First, the author

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conducted descriptive analyses and correlational analyses in order to explore the relationships among continuous variables. Correlations were calculated among the student-teacher relationships, safety, school environment, and self-reported beliefs regarding educational attainment variables to examine potential collinearity.

To address the first research question of how the school climate variables of teacher-student relationships, safety, and attitude to the school environment uniquely predict self-reported risk-taking behaviors, this author used multiple regression. This type of analysis is appropriate when determining the unique contribution of predictor variables on an outcome (Field, 2009). All school climate variables were entered into the same block. The author ensured that all assumptions were met for this type of analysis, including that the data were linear, independent, and normally distributed. Differences in gender, ethnicity, grade, and GPA were explored for categorical predictors.

To address the second research question of how the school climate variables of teacher-student relationships, safety, and attitude to school uniquely predict self-reported beliefs regarding educational attainment, this author also used multiple regression. This type of analysis is appropriate when determining the unique contribution of predictor variables on an outcome (Field, 2009). All school climate variables were entered into the same block. The author ensured that all assumptions were met for this type of analysis, including that the data were linear, independent, and normally distributed. Differences in gender, ethnicity, grade, and GPA were explored for categorical predictors.

To address the last two research questions of whether the relationship between school climate variables and self-reported risk-taking behaviors and self-reported beliefs regarding educational attainment was mediated by feelings of connectedness, this author used a macro for

SPSS designed to test mediated regression models (Preacher & Hayes, 2008). A mediated regression model examines one variable predicting another variable, which then in turn predicts an outcome variable. Essentially, a mediated regression model examines the indirect relationship between the first predictor and the outcome. Thus, in this study, the SPSS macro was used to examine whether a feeling of connectedness significantly influenced the relationship between school climate and risk-taking behaviors and self-reported beliefs regarding educational attainment. Based on previous research, this question suggested that the variable of feelings of connectedness to the school community is the key variable to understanding the relationship between school climate and risk-taking and self-reported beliefs regarding educational attainment. The author ensured that all assumptions were met for this type of analysis, including that the data were linear, independent, and normally distributed.

Hypothesized Outcomes

For the first research question, the hypothesized outcomes were that perceived school climate variables would significantly predict student reports of risk-taking behaviors in a selective urban high school. This hypothesis was based on previous research, which indicates that when students perceive the school climate to be positive, they will engage in less risk-taking behaviors, and vice versa (Mirkiani, 2007). The hypothesized outcomes for the second research question were that the school climate variables would significantly predict self-reported beliefs regarding educational attainment in a selective urban high school. This second hypothesis was based on previous research, which indicates that when students perceive the school climate to be positive, they will be more motivated to achieve academically and have a more positive future orientation (Worrell & Hale, 2001, p. 371). For the final research questions, the hypothesized outcomes were that self-reported feelings of connectedness would mediate the relationship

between school climate and risk-taking and self-reported beliefs regarding educational attainment outcomes. This hypothesis was based on previous research, which indicates that this feeling of connectedness to adults and the school in general, can build a youth's protective factors when faced with high-risk situations (Mirkiani, 2007). When students feel connected to their school community, they feel valued, included, and respected. Studies have shown that when students feel they belong to a community or feel cared for by an institution or adult, they have a more positive attitude. This connection can lead to stronger resilience to risk-taking and a more positive future orientation (Aronowitz & Morrison-Beedy, 2004). The current study suggested that a feeling of connectedness mediate the relationship between school climate and self-reported risk-taking behaviors and beliefs regarding educational attainment.

CHAPTER FOUR:

Results

The results obtained from the following study included checking assumptions, preliminary analyses, logistic regression for the first research question, multiple regression for the second research question, and mediated regression analyses for the final research questions utilizing a macro for SPSS (Preacher & Hayes, 2008). This macro is similar to the Sobel test, but allows a test for more than one mediator and also makes adjustments for covariates (Preacher & Hayes, 2008).

Preliminary Analyses

Incomplete cases were deleted from the dataset for a total N of 456. This manner of handling missing data can be preferable in order to obtain more accurate estimates of the true standard errors, and is an "honest method for handling missing data" (Millsap & Maydeu-Olivares, 2009, p. 76). The sub-sample with deleted cases was compared to the full sample in order to assess for differences. Results in Table 2 show that the subsample was similar in terms of demographics when compared to the full sample, thus the subsample was utilized for analyses.

Table 2

Difference in Percentages Comparing Samples

		Full Sample (%) N=823	Subsample (%) N=456
Gender		--	--
	Male	46.1	42.8
	Female	53.9	57.2
Grade		--	--
	9	38.6	43.4
	10	33.1	30.7

11	25.7	23.9
12	2.7	2.0
GPA	--	--
Above 3.5	13.6	13.8
3.0 – 3.5	28.6	29.4
2.5 – 3.0	28.8	30.3
2.0 – 2.5	17.3	16.0
Below 2.0	11.8	10.5
Ethnicity	--	--
American Indian	3.5	3.1
Asian	10.6	12.9
Hispanic/Latino	14.3	12.3
African American	63.7	64.0
White	8.0	7.7

Assumptions. Before regression analyses were conducted, all assumptions were explored to determine whether there were any violations. This author explored assumptions of linearity and homoscedasticity, normality, outliers, and multicollinearity. The assumption of linearity was examined by looking at residual plots. Results indicated that assumptions of linearity and homoscedasticity were met. When looking at kurtosis and skewness, the variable of Risk-Taking Behaviors was not normally distributed. Thus, this variable was re-coded into a binary variable (risk vs. no risk). No risk was defined as students who endorsed "never" in response to the frequency they engage in risky behaviors, and risk was defined as students who endorsed all other frequencies. Mahalanobis distance was used to evaluate multivariate outliers in the sample. Only one outlier (Mahalanobis $p < .001$) was identified and excluded from further analysis. Tolerance levels were also explored to check potential collinearity, but values for all variables

exceeded the recommended value of .1. As collinearity was not an issue, all of the predictor variables were included in the model.

Independent variables. The three predictor variables included in this analysis were perceptions of Teacher-Student Relationships, Safety, and School Environment. The mean endorsement for the measure of Teacher-Student Relationships was 2.64 (SD=1.00), which translated closest to the "disagree" point on the likert scale. This suggested that on average, students were somewhat more likely to disagree with statements indicating that they can talk openly with their teachers, that their teachers care about what they are teaching, and that students and teachers respect each other in their school. The mean endorsement for the measure of Safety was 4.09 (SD =.55). This suggested that on average, students felt safe at their schools once in awhile. The mean endorsement for the measure of School Environment was 3.03 (SD =.48), which translated to "disagree." This suggested that on average, students disagreed with statements indicating that their school is worthless, boring, and that the school rules are stupid. The mean endorsement for the mediator of feelings of connectedness was 2.85 (SD =.50). This translated to "agree." This suggested that on average, students agreed with statements indicating that they feel like a real part of their school, that people at their school are like family, and that they are proud to be a student at their school. Results are depicted below in Table 3.

Table 3

Means and Standard Deviations for Independent Variables

	Mean	Std. Deviation	Minimum	Maximum
Safety	4.09	1.00	1.00	5.00
Relationships	2.64	.55	1.0	4.00
School Environment	3.03	.48	1.67	4.00

Connection   2.85   .50   1.30   4.00

Dependent variables. The two dependent variables in this study were self-reported risk-taking behaviors and self-reported beliefs educational attainment. Means and standard deviations for these two variables are depicted below in Table 4. The variable of risk-taking was recoded to a binary variable (risk vs. no risk) after not meeting the assumption of being distributed normally. The descriptive statistics for the risk-taking variable are depicted in Table 5.

Table 4

Means and Standard Deviations for Dependent Variables

	Mean	Std. Deviation	Minimum	Maximum
Risk-Taking	.63	.48	0.00	1.00
Attainment	2.52	.56	1.00	4.00

Table 5

Descriptive Statistics for Dependent Variable of Risk-Taking Behaviors

	Frequency	Percent
No Risk	169	37.1%
Risk	287	62.9%

Correlations among continuous variables. Correlations were run among the continuous variables in order to assess for potential collinearity. Results are displayed in Table 6. The Safety measure was found to be correlated significantly with School Environment ($r=.15$) and Teacher-

Student Relationships (*r*=.31) at the *p*<.05 level. However, the significant correlations found

with the Safety measure did not exceed .70, which is the value indicated in research to suggest a

potential issue with collinearity (Cohen, Cohen, West, & Aiken, 2003). As collinearity was not

an issue, all of the predictor variables were included in the model. The feelings of connectedness

measure was found to be correlated significantly with Safety (*r*=.19), Teacher-Student

Relationships (*r*=.26), School Environment (*r*=.30), and Self-Reported Beliefs Regarding

Educational Attainment (*r*=.13). Again, the significant correlations found with the

Connectedness measure did not exceed .70, which is the value indicated in research to suggest a

potential issue with collinearity (Cohen, Cohen, West, & Aiken, 2003).

Table 6

Correlation Matrix for Continuous Variables

	Safety	Relationships	School Environment	Connection	Attainment
Safety	1.00	--	--	--	--
Teacher-Relationships	.04	1.00	--	--	--
School Environment	.15*	.31*	1.00	--	--
Connection	.19***	.26***	.30***	1.00	--
Attainment	.03	.02	.06	.13***	1.00

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

Correlations between demographic variable of gender and outcome of risk-taking

behaviors. The Chi-Square test was conducted to explore whether the demographic variable of

gender was significantly related to the outcome variable of risk-taking behaviors. The Chi-

Square test is useful when comparing two categorical variables (Field, 2009). Gender was not

significantly related to risk-taking (as displayed in Table 7).

Table 7

Chi-Square Test for Gender

	No-Risk	Risk
Male	33.3%	66.7%
Female	39.8%	60.2%
Total	37.1%	62.9%

$N=456$; $\chi^2 = 2.030$, $df=1$, $p>.05$

Correlations between demographic variable of grade and outcome of risk-taking behaviors. The Chi-Square test was conducted to explore whether the demographic variable of grade was significantly related to the outcome variable of risk-taking behaviors. Grade was not significantly related to risk-taking (as displayed in Table 8).

Table 8

Chi-Square Test for Grade

	No-Risk	Risk
Grade 9	31.3%	68.7%
Grade 10	40.0%	60.0%
Grade 11	45.0%	55.0%
Grade 12	22.2%	77.8%
Total	37.1%	62.9%

$N=456$; $\chi^2 = 7.084$, $df=3$, $p>.05$

Correlations between demographic variable of ethnicity and outcome of risk-taking behaviors. The Chi-Square test was conducted to explore whether the demographic variable of ethnicity was significantly related to the outcome variable of risk-taking behaviors. The Chi-Square test is useful when comparing two categorical variables (Field, 2009). Ethnicity was not significantly related to risk-taking (as displayed in Table 9).

Table 9

Chi-Square Test for Ethnicity

	No-Risk	Risk
White/Other	40.7%	59.3%
Hispanic/Latino	37.5%	62.5%
African American	35.6%	68.6%
Total	37.1%	62.9%

N=456; χ^2 = .89, *df*=2, *p*>.05

ANOVA for GPA and outcome of risk-taking behaviors. A one-way ANOVA test was conducted to explore the relationship between the demographic variable of GPA and the outcome variable of risk-taking behaviors. GPA was significantly related to self-reported beliefs regarding educational attainment (*F*=2.88, *p*<.05). Post-hoc comparisons indicated that students, who reported a GPA above 3.5, reported engaging in significantly less risk-taking behaviors when compared to students who reported a GPA of below 2.0. In addition, students who reported a GPA between 3.0 and 3.5 also reported engaging in significantly less risk-taking behaviors when compared to students who reported a GPA of below 2.0. Due to the fact that GPA was

significantly related to the outcome of self-reported risk-taking behaviors, GPA was also used as a covariate in regression analyses to address the first research question. Results are depicted below in Table 10.

Table 10

ANOVA for GPA and Risk-Taking Behaviors

	SS	*df*	*MS*	*F*	*Sig.*
Between Groups	2.6	4	.66	2.88	.02*
Within Groups	103.86	452	.23	--	--
Total	106.50	456	--	--	--

Note. *p<.05

Independent sample t-tests for gender and outcome of self-reported beliefs regarding educational attainment. An independent sample t-test was conducted to explore the relationship between the demographic variable of gender and the outcome of self-reported beliefs regarding educational attainment. Gender was significantly related to self-reported beliefs regarding educational attainment (t=-2.003, df=454, $p<.05$). Female students had a higher overall mean of self-reported motivation for education attainment when compared to male students. Due to the fact that gender was significantly related to the outcome of self-reported beliefs regarding educational attainment, gender was used as a covariate in regression analyses to address the second research question. Results are depicted below in Table 11.

Table 11

Means and Standard Deviations for Independent Sample T-Test Exploring Relationship Between Gender and Self-Reported Beliefs Regarding Educational Attainment

	Mean	Std. Deviation
Male	2.46	.60
Female	2.57	.52

ANOVA for grade and outcome of self-reported beliefs regarding educational attainment. A one-way ANOVA test was conducted to explore the relationship between the demographic variable of grade and self-reported beliefs regarding educational attainment. Grade was not significantly related to self-reported beliefs regarding educational attainment. Results are depicted below in Table 12.

Table 12

ANOVA for Grade and Self-Reported Beliefs Regarding Educational Attainment

	SS	*df*	*MS*	*F*	*Sig.*
Between Groups	.98	3	.33	1.05	.37
Within Groups	140.80	452	.312	--	--
Total	141.78	455	--	--	--

ANOVA for ethnicity and outcome of self-reported beliefs regarding educational attainment. A one-way ANOVA test was conducted to explore the relationship between the demographic variable of ethnicity and self-reported beliefs regarding educational attainment. Ethnicity was not significantly related to self-reported beliefs regarding educational attainment. Results are depicted below in Table 13.

Table 13

ANOVA for Ethnicity and Self-Reported Beliefs Regarding Educational Attainment

	SS	*df*	*MS*	*F*	*Sig.*
Between Groups	.04	2	.02	.06	.94
Within Groups	142.70	454	.31	--	--
Total	142.74	456	--	--	--

*Note. *=p<.05*

Correlations between self-reported GPA and outcome of self-reported beliefs regarding educational attainment. Correlations were conducted to explore the relationship between the demographic variable of GPA and self-reported beliefs regarding educational attainment. As depicted in the table below, there was a positive association between GPA and self-reported beliefs regarding educational attainment, though the association was weak. That is,

as GPA increases, there was a small increase in beliefs regarding educational attainment. Due to the fact that GPA was significantly related to the outcome of self-reported beliefs regarding educational attainment, GPA was also used as a covariate in regression analyses to address the second research question. Results are depicted below in Table 14.

Table 14

Correlations Between GPA and Self-Reported Beliefs Regarding Educational Attainment

	r	*Sig.*
GPA	.16	.001***

*Note. ***=p<.001*

First Research Question: Does School Climate (Teacher-Student Relationships, Safety and the Perception of the School Environment) Significantly Predict Risk-Taking Behaviors

The first research question raised in the current study focused on whether the perceived school climate variables of Teacher-Student Relationships, Safety, and the School Environment would significantly predict risk-taking behaviors after controlling for GPA. After discovering that the Risk-Taking Behavior variable was not distributed normally, this variable was transformed to a binary variable (risk vs. no risk). Thus, logistic regression analysis was utilized with SPSS version 22 for Windows, as logistic regression is recommended for use when predicting a binary outcome (Fields, 2009). GPA was entered into the first block and the three school climate variables were entered into the second block.

GPA. Results of the logistic regression analysis indicated that there was a significant relationship predicting risk behavior from self-reported student GPA. Results from the logistic regression suggested that students who reported earning a higher GPA had a lower probability of engaging in risk-taking behaviors. Students with a higher GPA were .79 times as likely to

endorse engaging in risk-taking behaviors, or 21% less likely to endorse engaging in risk-taking

behaviors. In summary, students with a higher GPA are less likely to engage in risk-taking

behaviors than students with a lower GPA.

School climate. Safety and teacher-student relationships were not significant predictors

of risk-taking. However, student perception of the school environment was significantly related

to risk-taking. Students who endorsed more positive perceptions were .59 times as likely to

endorse engaging in risk-taking behaviors, or 41% less likely to endorse engaging in risk-taking

behaviors. The results from the logistic regression analysis are depicted in Table 14. In looking

at the Wald statistic, student perception of the school environment was the only school climate

variable that significantly predicted risk-taking behaviors with a Wald statistic of 5.57, $p < .05$.

This indicates that the regression coefficient was significantly different from 0, and thus the

perception of attitude toward the school environment significantly contributes to the prediction

of risk. The school climate variables of Teacher-Student Relationships and Safety did not

significantly predict risk-taking behaviors, but the Attitude toward the School Environment

variable did. Overall, GPA and the school climate variables accounted for approximately 6% of

the variance in risk-taking behaviors with Cox and Snell's $R^2 = .06$. Results are depicted below in

Table 15.

Table 15

Logistic Regression Analysis Summary for School Climate Predicting Risk-Taking Behaviors

Predictor Variable	*B*	*Error*	*Wald*	*Sig.*	*Exp(B)*
Student Reported GPA	.23	.09	7.22	.007**	.79
Safety	-.09	.10	.80	.37	.91
Teacher-Student Relationships	-2.90	.20	2.23	.14	.75

| School Environment | -.53 | .22 | 5.57 | .02* | .59 |

Note. *=*p*<.05, **=*p*<.01

This research question explored whether school climate variables significantly predicted risk-taking behaviors. The logistic regression model for predicting risk-taking behaviors accurately predicted 65.4% of student endorsements. It correctly predicted 21.3% of students endorsing risk-taking behaviors and 91.3% of students not endorsing risk-taking behaviors. The model was more effective at predicting no-risk behaviors; therefore it was more effective in predicting students who endorsed no engagement in risk-taking behaviors. The model was less effective at predicting risk-taking behaviors; therefore it was less effective in predicting students who endorsed engagement in risk-taking behaviors. Overall, the model correctly classified 65.4% of students. Table 16 depicts the classification table for risk-taking behaviors.

Table 16

Classification Table for Risk-Taking Behaviors

	Predicted		
Observed	Risk	No Risk	Percentage Correct
Risk	36	133	21.3
No Risk	25	262	91.3
Overall Percent			65.4

a. Predictors: (Constant), GPA
b. Predictors: (Constant), GPA, Safety, Relationships, School Environment

Second Research Question: Does School Climate (Teacher-Student Relationships, Safety and the Perception of the School Environment) Significantly Predict Self-Reported Beliefs Regarding Educational Attainment

The second research question examined whether the school climate variables of perceived Teacher-Student Relationships, Safety, and the School Environment would significantly predict self-reported beliefs regarding educational attainment after controlling for gender and GPA. To answer this question, this author chose to use multiple regression using SPSS version 22 for Windows. Gender and GPA were entered into the first block and the three school climate variables were entered into the second block.

These results are depicted in Table 18. The first block with gender and GPA significantly predicted self-reported beliefs regarding student attainment ($F = 6.98$, $df = 2$, $p < .001$). These two variables explained 3.0% of the variance in self-reported beliefs regarding educational attainment ($R^2 = .03$). The model fit with the addition of the school climate variables in the second block was also significant ($F = 3.39$, $df = 5$, $p < .01$). The coefficients portrayed in Table 17 indicate that GPA has a positive, significant relationship with self-reported beliefs regarding educational attainment. The regression coefficient for GPA was .07. This indicates that for every unit increase in GPA, a .07 increase in self-reported beliefs regarding educational attainment is predicted, holding all other variables constant. Gender and the school climate variables of Safety, School Environment, and Teacher-Student Relationships did not significantly predict self-reported beliefs regarding educational attainment.

The addition of the school climate variables to the model did explain some of the variance in self-reported beliefs regarding educational attainment, however, the change in R^2 was not significant ($R^2 = .04$, $F(3, 450) = .99$, $p > .05$). Therefore, while the model that included school climate variables fit, the addition of the school climate variables did not result in a significant increase in variation explained in self-reported beliefs regarding educational attainment. These results suggest that after controlling for gender and GPA, school climate

variables do not significantly predict the outcome of self-reported beliefs regarding educational

attainment. The change from the first model to the second did not contribute significantly more

variance to the prediction of self-reported beliefs regarding educational attainment. Results are

depicted in Table 17.

Table 17

Regression Coefficients Second Research Question

Model		B	SE	β	t	Sig.
1	(Constant)	2.16	.10		21.02	.00***
	Gender	.08	.05	.07	1.49	.14
	Student Reported GPA	.07	.02	.15	3.14	.00***
2	(Constant)	1.92	.22		8.70	.000***
	Gender	.08	.05	.07	1.58	.11
	Student Reported GPA	.07	.02	.14	3.00	.00***
	Safety	.02	.03	.04	.80	.43
	Relationships	-.03	.05	-.03	.58	.56
	School Environment	.08	.06	.07	1.40	.16

a. Dependent Variable: Self-Reported Beliefs Regarding Educational Attainment

Note. *=p<.05, **=p<.01, ***=p<.001

Table 18

Model Summary for Second Research Question

Model	R	R^2	Adjusted R^2	SE of the Estimate	R^2 Change	F Change	df 1	df 2	Sig. F Change
					Change Statistics				
1	.17[a]	.03	.03	.55	.03	6.98	2	453	.00***

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2	.19[b]	.04	.03	.55	.01	.99	3	450	.340

a. Predictors: (Constant), Student Reported GPA, Gender
b. Predictors: (Constant), Student-Reported GPA, Gender, Safety, Relationships, School Environment
Note. ***=p<.001

Third Research Question: Does a Feeling of Connectedness Mediate the Relationship Between School Climate (Teacher-Student Relationships, Safety and the Perception of the School Environment) and Risk-Taking Behaviors

The third research question explored whether the relationship between school climate variables (Teacher-Student Relationships, Safety, and School Environment) and risk-taking behaviors was mediated by a feeling of connection. In order to answer this question, this author used a macro for SPSS (Preacher & Hayes, 2008). A composite variable for school climate was created, which was the average of the three school climate variables (Teacher-Student Relationships, Safety, and Attitude to the School Environment) in the mediation model. While the SPSS macro can handle multiple mediators, the test can only handle a single predictor variable (Preacher & Hayes, 2008). Risk-taking was treated as a binary, categorical variable using logistic regression. This author used SPSS version 22 for Windows in order to conduct mediation analyses to examine whether connectedness mediates the effect of school climate on risk-taking behaviors. Results suggested that school climate significantly predicted a feeling of connectedness ($B = .13$, SE $= .02$, $p <.001$). Results also indicated that a feeling of connectedness did not significantly predict risk-taking behaviors ($B = -.35$, SE $= .21$, $p >.05$). Thus, the hypothesis that a feeling of connectedness mediates the relationship between school climate and self-reported beliefs regarding educational attainment was not supported. School climate was no longer a significant predictor of risk-taking after controlling for a feeling of connectedness ($B = -$

.17, SE = .09, *p* >.05). Approximately 5.8% of the variance in attainment was accounted for by

the predictors (R^2 = .06). The indirect effect was tested using a bootstrap estimation approach

with 1000 samples (Shrout & Bolger, 2002). The indirect effect is a measure of mediation, and in

this case, is the product of the two paths that link school climate and risk-taking via a feeling of

connectedness (Preacher & Hayes, 2008). The results suggested that the indirect coefficient was

not significant (*B* = -.04, SE = .03, 95% CI = -.1103, .0143). These results are depicted in Table

19.

Table 19

Mediation Summary

Pathway		*B*	*SE*	*T and Z*	*Sig.*
1	School Climate to Connectedness	.13	.02	7.06	.00***
	Connectedness to Risk-Taking	-.35	.21	-1.61	.11
	School Climate to Risk-Taking	-.17	.09	-1.89	.06
	GPA to Risk-Taking	-.254	.09	2.95	.00***

a. Dependent Variable: Risk-Taking Behaviors
*Note. *=p<.05, ***=p<.001*

-2LL	*Model LL*	*CoxSnell*
581.50	19.77	.04*

Final Research Question: Does a Feeling of Connectedness Mediate the Relationship

Between School Climate (Teacher-Student Relationships, Safety and the Perception of the

School Environment) and Self-Reported Beliefs Regarding Educational Attainment

The fourth and final research question raised in the current study focused on whether the relationship between school climate (Teacher-Student Relationships, Safety, and School Environment) and self-reported beliefs regarding educational attainment was mediated by a feeling of connection. In order to answer this question, this author used a macro for SPSS (Preacher & Hayes, 2008). A composite variable for school climate was created, which was the average of the three school climate variables (Teacher-Student Relationships, Safety, and Attitude to the School Environment) in the mediation model. This author used SPSS version 22 for Windows in order to conduct mediation analyses to examine whether connectedness mediates the effect of school climate on self-reported beliefs regarding educational attainment. Research indicates that even though school climate variables did not significantly predict self-reported beliefs regarding educational attainment, it is still appropriate to test for mediation in this relationship, as the effect may have been suppressed by controlling for gender and GPA (Shrout & Bolger, 2002). Results suggested that school climate significantly predicted a feeling of connectedness ($B = .13$, SE $= .02$, $p < .001$). Results also indicated that a feeling of connectedness significantly predicted self-reported beliefs regarding educational attainment ($B = .12$, SE $= .06$, $p < .05$). Thus, the hypothesis that a feeling of connectedness mediates the relationship between school climate and self-reported beliefs regarding attainment was supported. School climate was no longer a significant predictor of self-reported beliefs regarding attainment after adding feelings of connectedness as a mediator, ($B = .00$, SE $= .02$, $p > .05$). This also supports the mediation hypothesis. Approximately 4.3% of the variance in attainment was accounted for by the predictors ($R^2 = .04$). The indirect effect was tested using a bootstrap estimation approach with 1000 samples (Shrout and Bolger, 2002). The indirect is a measure of mediation, and in this case, is the product of the two paths that link school climate and self-reported beliefs regarding

educational attainment via a feeling of connectedness (Preacher & Hayes, 2008). The results

suggested that the indirect coefficient was significant ($B = .02$, SE = .01, 95% CI = .0009, .0340).

These results are depicted in Table 20.

Table 20

Mediation Summary

	Pathway	*B*	*SE*	*t*	*Sig.*
1	School Climate to Connectedness	.13	.02	7.13	.00***
	Connectedness to Attainment	.12	.06	2.25	.02*
	School Climate to Attainment	.00	.02	.18	.86
	Gender to Attainment	.07	.05	1.32	.19
	GPA to Attainment	.07	.02	2.93	.00***

a. Dependent Variable: Self-Reported Beliefs Regarding Educational Attainment
Note. *=p<.05, ***=p<.001

CHAPTER FIVE:

Discussion

The purpose of this study was to further explore whether and how school climate predicts student outcomes, including self-reported risk-taking behaviors and beliefs regarding educational attainment. Research has indicated that a positive school climate can result in higher grades and better relationships between students and teachers. However, there is a paucity of evidence in the current literature base for what specific variables constitute the construct of school climate, the relationship between school climate variables and specific outcomes of risk and resilience, and how a sense of belonging contributes to these relationships. The current study investigated three common school climate variables: Teacher-student relationships, safety, and the perception of the school environment. The outcomes explored in this study included self-reported risk-taking behaviors, such as bullying, substance use, and bringing a weapon to school, and self-reported beliefs regarding educational attainment, such as how far a student believes they will go in terms of their education. This author hypothesized that these three school climate variables would significantly predict these outcomes after controlling for relevant demographic variables, and that a sense of belonging or connectedness to the school community would mediate these relationships. While not all of the hypotheses were supported by analyses, the results still suggested some interesting findings that can potentially help drive the school climate research, particularly when it comes to a student's sense of belonging in school.

First Research Question

The first research question asked whether the school climate variables of teacher-student relationships, perceptions of safety, and attitude toward the school environment predicted risk-

taking behaviors. Results from the binary logistic regression concluded that teacher-student relationships and feelings of safety did not significantly predict risk-taking behaviors after controlling for GPA. However, the perception of the school environment did significantly predict risk-taking behaviors after controlling for GPA. Findings from the current study suggest that a student's attitude toward the school environment and the grades they earn in school are significant factors in predicting how likely they are to engage in risk-taking behaviors such as drug use, bullying, and bringing a weapon to school. Students who endorsed having a positive attitude toward the school environment were less likely to report engaging in risk-taking behaviors. These results partially supported the hypothesis that school climate variables predict risk-taking behaviors with this sample. These findings are similar to previous literature that suggest when students perceive the school climate as positive, they are less likely to use substances and engage in aggressive behaviors in the school setting (Klein et al., 2012).

Second Research Question

The second research question asked whether the school climate variables of teacher-student relationships, perceptions of safety, and attitude toward the school environment significantly predicted self-reported beliefs regarding educational attainment. Results did not support this hypothesis. The school climate variables of teacher-student relationships, perceptions of safety, and attitude toward the school environment did not significantly predict beliefs regarding educational attainment after controlling for gender and GPA. Key findings suggest that school climate is not a significant factor in understanding how an urban high school student becomes motivated to believe they will graduate high school and go on to attain higher education.

Third Research Question

The third research question asked whether the relationship between school climate variables (teacher-student relationships, perceptions of safety, and attitude toward the school environment) and risk-taking behaviors was mediated by a feeling of connectedness. Results also did not support this hypothesis. A feeling of connectedness to the school community did not significantly mediate the relationship between school climate and self-reported risk-taking behaviors. Findings from this current study suggest that a sense of belonging or connectedness does not explain the relationship between school climate and risk-taking behaviors. There could be several reasons for this. One reason may be that a positively perceived school climate has a strong link to less frequent engagement in risky behaviors, which is similar to the findings from the first research question (Klein et al., 2012). There may be another school climate variable that explains this relationship, above and beyond a sense of belonging. Perhaps the way a student perceives their relationships with teachers or other students, rather than how connected they feel to the overall community, plays a larger role in determining their level of risk. Research also supports the idea of social connections as a school climate variable that is related to risk-taking behaviors, so perhaps future research should target students feeling socially accepted by peers or teachers, rather than generally accepted in the school community (Howell et al., 2014).

Fourth Research Question

The fourth and final research question asked whether the relationship between school climate variables (teacher-student relationships, perceptions of safety, and attitude toward the school environment) and beliefs regarding educational attainment was mediated by a feeling of connectedness. Results supported this hypothesis, indicating that how connected a student feels to their school community explains the relationship between school climate and self-reported beliefs regarding educational attainment. The results also align well with the literature that

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speaks to a feeling of connectedness predicting positive outcomes for students. Above and beyond the current literature, the results from this current study further explain the relationship between school climate and a specific protective factor in greater detail. While previous research has suggested that a sense of belonging is related to greater academic achievement, the results from this study indicate that this feeling of connectedness also impacts the relationship between school climate and motivation to achieve and a hope for the future (Lam, Chen, Zhang, & Liang, 2015). When students feel motivated to achieve and have a hope for higher educational attainment, this can act as a protective factor. The results from this study contribute uniquely to the school climate literature base because understanding the relationships between school climate, a sense of belonging, and a protective factor such as beliefs regarding educational attainment can help school administration work towards building student protective factors and creating a school environment that fosters resilience, especially in urban populations. The closer and closer the field comes to identifying the specific variables that predict positive outcomes for students, the better the interventions will become. With the current results, future research can identify the specific mechanisms in school climate interventions that target variables such as a sense of belonging. In practice, it will be important for schools to create strong feelings of connection in the school community, in order to further strengthen the relationship between school climate and how motivated students will be to achieve academically.

Covariates

Another important finding relates to the covariates. While school climate variables did not contribute a unique amount of variance to risk-taking behaviors (except for attitude to the school environment) and beliefs regarding educational attainment, the covariate of GPA did. A regression model with GPA alone significantly predicted risk-taking behaviors. In addition, a

regression model with GPA in the first block significantly predicted self-reported beliefs regarding educational attainment. Therefore, perhaps looking closely at GPA would be adequate in predicting some student outcomes. Results from this current study suggested that students who reported having a higher GPA were less likely to report any engagement in risk-taking behaviors. While previous studies have supported this finding as well, it would be interesting to examine more closely the range of GPA that predicts the least amount of risk. This author also found that the student reported GPA significantly predicted beliefs regarding educational attainment. This result may not be surprising given that student's grades or how students believe they are performing in school would seem connected to beliefs about their educational and post-high school attainment. Results suggest that future research should shift to creating changes in the educational environment, as well as providing more resources for students in order to improve grades, encourage students to set higher learning goals, and promote higher educational attainment.

Theoretical Foundations

While the results were not necessarily expected, the findings did align well with previously stated theories. For example, in Bronfenbrenner's model, the school environment interacts with an individual student's beliefs in order to impact behavior. These findings suggest that the way a student feels about their school can influence the behaviors they choose to engage in. These findings also indicate that how connected a student feels to their school as a system can impact the way their school environment plays a role in influencing their plans for the future.

In terms of how the results reflect Stockard and Mayberry's framework, it is possible that this school's administration set positive norms for student behavior, encouraging students to engage in less risk and creating a more positive attitude about the school in general. It could also

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be that teachers provided high levels of support and challenging expectations, so that students with a higher GPA were more inclined to plan to graduate high school and go on to achieve higher levels of education. This theory is especially important when looking at how the attitude toward the school environment significantly predicted risk-taking behaviors. It would be interesting to explore how the school developed group-level expectations about the school, which then interacted with individual values and norms in order to impact student attitudes about the school environment.

The mediation findings in particular align well with theories of social support. Teachers in this school may have impacted student motivation for educational attainment, and students who felt more connected to their school community due to stronger attachments to students and staff might also have been motivated to achieve academically. If a student can identify one way in which they belong in their school, whether it be a connection to another peer, a teacher, or the community in general, they will experience more positive outcomes in terms of how their school climate predicts their motivation for educational attainment. It appears that this feeling of connectedness is an important variable to explore for future research, so as to identify ways to build connectedness with respect to school climate and protective factors.

Finally, the results from this study can also be understood through a framework of risk and resilience. The outcome variables in this study were self-reported risk-taking behaviors and beliefs regarding educational attainment, two variables that are related to the constructs of risk and resilience. A better understanding of how attitude to the school environment can help play a role in reducing risk-taking can lead to the development of interventions that can target the alterable characteristics of school environment. Such interventions could help ensure that students are engaging in positive and pro-social behaviors, as well as staying out of trouble.

Future interventions can also help in creating a feeling of connectedness so as to strengthen the relationship between school climate and student motivation for educational attainment, in order to promote resilience and build protective factors.

Practical Implications

The results of this study have many practical implications, particularly in the area of school climate interventions. For one, it is important to continue to develop interventions to impact the academic climate. Findings from this current study will contribute to the literature on school climate by highlighting the importance of promoting high academic excellence. When schools set high academic standards and learning goals, students will hopefully earn a higher GPA. Earning higher grades will help reduce high-risk behaviors; as well as encourage students to believe they can attain high educational goals. More school-based treatments should be developed to target feelings of connectedness and thus strengthen the relationship between school climate and the prediction of how far a student will believe they can go in their education. Future interventions should also focus on creating more positive attitudes about school in order to decrease risk. One of the ways that future interventions can accomplish this is through a Positive Behavior Interventions and Support (PBIS) framework.

PBIS has been utilized as a framework for addressing disruptive behaviors and risk-taking behaviors through a multi-tiered system. Students are taught school-wide expectations for behavior, and are positively reinforced for exhibiting positive and prosocial behaviors. Those students who do not respond to the school-wide intervention, are placed in smaller social skills groups with greater frequency, intensity, and duration (Bradshaw, Pas, Goldweber, Rosenberg, & Leaf, 2012). In this way, PBIS frameworks can be implemented in schools in order to create a more positive school climate.

While PBIS has been implemented in elementary and middle schools, there has not been as much research on how to modify this framework at the high school level. There are unique challenges to creating a PBIS framework at the secondary level. Some of the challenges include the fact that it is assumed students were taught behavioral expectations in elementary or middle school, the larger size of high schools, and the large amount of faculty that would have to be trained and buy-in to this framework (Flannery, Fenning, Kato, & McIntosh, 2014). The results of this study highlight the importance of exploring how multi-tiered interventions can address creating a school climate that encourages positive attitudes and a strong connection to the community at the secondary level.

One example of a prevention program that could be implemented within a tiered system at the secondary level would be the Lions Quest Skills for Adolescence. This program mainly targets drug and alcohol prevention, however it also has a strong focus on developing strong ties to the school community and engaging students in belonging to the school as a whole. This program could be easily modified and implemented at the high school level, typically in a physical education or health classroom. The program consists of 30 sessions that last 60 minutes each, and the program curriculum targets the development of social skills, resistance to peer pressure, and helps foster a feeling of connectedness to the school as a community (Drolet, Arcand, Ducharme, & Leblanc, 2013). This program has also been studied at the middle school level, which would be even more helpful as an early intervention alternative.

Other programs that could assist in creating a sense of belonging or connectedness to the school community are mentoring programs. In a study by Karcher, Davis, and Powell (2002), a developmental mentoring program was implemented in a school district. Developmental mentoring programs consist of high school students mentoring elementary school students. This

type of mentoring not only helps high school students feel more connected to their school community, but also provides an earlier intervention for a sense of belonging at the elementary school level (Karcher et al., 2002). A program such as this would be another way to build a sense of belonging and foster connections to the school community at multiple levels of education.

There is a greater need for programs like these and stronger PBIS frameworks at the secondary level, as well as in urban high school settings. Urban schools typically have the most negative self-reported ratings of school climate and thus require the most attention and intervention. Findings from the current study provide even more evidence to the importance of providing urban schools with enough resources to hire highly qualified teachers. Teachers who can not only encourage setting higher learning goals, but can also develop positive, warm, and caring relationships with their students. More resources are also needed for urban schools in terms of being able to provide social-emotional interventions through a tiered system in order to reduce risk-taking behaviors and promote protective factors.

Limitations

There were several limitations in the current study. For one, this sample was drawn from a preexisting extant dataset, so no additional data could be collected. Also, the data from this sample was based on one school. Perhaps there was something about the nature of the school used in this sample that led to these results. Administering this survey in multiple urban schools may have provided more variability in responses. While the sample size was relatively large, it is still difficult to generalize results to other urban schools, as well as schools in suburban and rural areas. Also, the school in this sample was rather large. Previous research has indicated that the size of the school can impact student perceptions of school climate. Looking at two different schools of varying sizes would have helped control for the impact of school size on student

perceptions of school climate and the overall community. Results from this study should also not be generalized across ethnicities, grades, gender, and levels of GPA.

It would have also been interesting to collect data on actual student behaviors, not just their perceptions. Did students who endorsed a high motivation for educational attainment actually go on to graduate and attend college? Did students who endorsed never engaging in risk-taking behaviors actually refrain from engaging in risk-taking behaviors? While student perceptions are important when exploring school climate, measuring actual behaviors may have provided a more realistic assessment of the impact of school climate.

In addition, while surveys were administered anonymously, there are still issues with validity when students self-report. When looking at self-reported data in survey methodology, especially surveys containing sensitive subject matter, students often under-report negative thoughts or behaviors (Walsh & Braithwaite, 2008). Surveys that ask sensitive questions typically result in responses that are socially desirable. Even with increased levels of anonymity, students may under-report negative behaviors and over-report positive behaviors due to fear of negative evaluations, responses being available to members of authority, and stigmatization (Walsh & Braithwaite, 2008). Students may have also inflated their GPA and may have been dishonest in their endorsement of self-reported risk-taking behaviors for fear of getting into trouble. It would have been interesting to explore teacher perspectives on school climate, and how these perceptions differ from students.

Also, the outcomes measured in this study were self-reported risk-taking behaviors and beliefs regarding educational attainment. While these outcomes are indirectly related to constructs of risk and resilience, risk and resilience outcomes were not directly measured in this study. Therefore, in order to explore how school climate predicts risk and resilience directly,

measures should be developed with items directly measuring risk and resilience. While this author looked at outcomes related to risk and resilience, it is difficult to make valid generalizations regarding risk and resilience in this sample.

Finally, the construct of school climate is not always defined in a consistent manner. The school climate variables in this study were chosen based on some of the school climate literature, however other studies have included other variables or have defined school climate in different ways. While teacher-student relationships, perceptions of safety, and attitude toward the school environment are all significant variables in the study of school climate, other researchers have varying opinions on what school climate really means. For example, some of the other school climate variables that have been explored in the research include discipline, order, and school facilities (Fan, Williams, & Corkin, 2011). Future research should further examine the construct of school climate, and identify a set group of factors that define it so that the literature base may begin to share a mutual language.

Future Research

Future research needs to more carefully explore the way school climate variables interact with these outcomes. Perhaps future studies could be designed to examine other student outcomes besides risk-taking behaviors and motivation for educational attainment. Future research could also utilize more direct measures of risk and resilience. In addition, it would be interesting to compare models with school climate variables as predictors, and models with demographic variables such as GPA as a predictor, and analyze how these models differ in the prediction of student outcomes. Future research should also continue to explore a feeling of connectedness as an important variable, particularly as a protective factor.

When students feel connected to their school community they experience positive academic and behavioral outcomes. Students experience an increase in enjoyment at school, have higher achievement motivation, and engage in less disruptive behaviors (Battistitch & Hom, 1997). Thus, identifying school-wide interventions that enhance feelings of connection and belonging to the school community, can positively impact other relationships between school climate variables and student outcomes. More intervention-focused research is needed to identify the most effective interventions at multiple tiers to target school climate and a sense of belonging. Research has indicated that a sense of belonging to school develops from positive relationships with peers, close ties with teachers and other mentors, and being involved in school activities (Drolet et al., 2013). While the findings from the current study focused more on feeling connected in terms of relationships with peers and teachers, future research should continue to explore student involvement in school activities, particularly after-school activities. Increasing student engagement in activities helps foster connections to the school community, especially in urban districts where students may not experience as much connectedness to the surrounding community or family due to increased violence in neighborhoods or having parents working two jobs.

Prior research also suggests developing a sense of connection to the school community can be important at an early age, so it would be important to explore this construct in primary schools as well as continue to study feelings of connection at the secondary level (Sayer, Beaven, & Stringer, 2013). It would also be interesting to continue to explore students who are in an advisory period, similar to the students in this sample, as that could be another potential means of creating stronger feelings of connection. While there are several dissertation topics on how

effective advisory programs are on creating a sense of belonging, there is a paucity of published research.

Conclusion

To conclude, this study sought to examine school climate variables and determine the best model for predicting self-reported risk-taking behaviors and beliefs regarding educational attainment. This study was also conducted to understand the role that a feeling of connectedness plays in the relationship between school climate and self-reported risk-taking behaviors and beliefs regarding educational attainment, as there is a paucity of research on how a feeling of belonging can impact these outcomes. The results from this study suggest that a student's reported GPA and attitude toward their school may be more important variables to include in a model for predicting risk-taking behaviors, while a student's reported GPA alone may be sufficient in predicting students' intent for future academic achievement. Finally, while a feeling of connectedness did not mediate the relationship between school climate and risk-taking behaviors, it did significantly explain the relationship between school climate and beliefs regarding educational attainment. Thus, creating strong feelings of connection to the school community may have a positive impact on other relationships, such as the relationship between school climate and self-reported beliefs regarding educational attainment. School climate and a sense of belonging are two interconnected variables, and the literature base needs to move toward continuing to understand the relationship with the two in order to promote protective factors and foster positive relationships for students. It is this author's belief that one of the goals of education is to improve a child's ability to succeed in multiple domains. Thus this study examined how schools can aid in creating a system in which all students can experience success in a vulnerable student population.

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Appendix

Predictor Measures

A. Sample Items for Your Teachers and Classmates (A measure of teacher-student relationships)

Tell us how much you agree with the following statements:
A = STRONGLY AGREE   **B** = AGREE   **C** = DISAGREE   **D** = STRONGLY DISAGREE

1. I can talk openly with my teachers.

2. I can talk openly with my school principal.

3. Students and teachers in my classes respect each other

B. Sample Item for Feelings of Safety (A measure of perceived safety)

During this school year, how often have you felt unsafe in your school or in the surrounding neighborhood?

This school year, how often have you felt unsafe…
A = Never **B** = Once In A While **C** = Half The Time   **D** = Most Of The Time **E** = All The Time

1. In your classes?

C. Sample Items for School Environment (A measure of attitude to school)

We are interested in your opinions about the statements below. Please read each statement and tell us how much you agree or disagree with it. Please use the scale below to express your opinions.

Strongly Reject = A   Disagree = B   Agree = C   Strongly Accept = D

1. I will probably drop out or be forced to quit school before graduating from high school.

2. This school is worthless (junk).

3. School is really boring.

Mediator Measure

    D. Sample Items for Your School Experiences

Tell us how much you agree with the following statements:
A = STRONGLY AGREE **B** = AGREE **C** = DISAGREE **D** = STRONGLY DISAGREE

1. I feel like I am a real part of this school

2. I don't fit in with most of the other students in this school

3. People at this school are like family to me

Outcome Measures

    E. Sample Items for My Beliefs and Behaviors (A measure of self-reported risk-taking)

During this school year, about how often have YOU done the following?
(either during the school day or after school)?

This school year, I have…
A = Never **B** = A Few Times This Year **C** = Once or Twice A Month
D = Once or Twice A Week **E** = Almost Every Day

1. Fighting

2. Destroying property

3. Verbal bullying

F. Sample Items for Post-secondary Intent (A measure of educational attainment)

Right now, what is your best guess how far you will go in school?

I plan to…

1.

    A. Leave high school

    B. Graduate from high school

If you plan to attend college, your plan is to:

2.

    A. Graduate from a 2-year community college

    B. Graduate from a 4-year college

Tell us how much you agree with the following statements:

Strongly Reject = A	Disagree = B	Agree = C	Strongly Accept = D

1. I plan to continue my formal education after high school.

Curriculum Vitae

Caitlin Reynolds

Place of birth: Farmington, CT

Education

09/11-12/15	Ph.D. in Educational Psychology Specialization in School Psychology Minor: Clinical Psychology School of Education University of Wisconsin-Milwaukee
09/10-12/11	M.S. in Educational Psychology School of Education University of Wisconsin-Milwaukee Master's Paper (The Effects of Gender on Teacher Ratings of Social Competence in Preschoolers) Master's Paper Advisor: Karen Stoiber, Ph.D.
08/05-05/09	B.A. in Psychology with Research Concentration University of Connecticut

Dissertation Title: Perceived Climate in Urban Schools: An Examination of Risk-Taking Behavior and Self-Reported Beliefs Regarding Educational Attainment

PROFESSIONAL PRACTICE EXPERIENCE

07/14- 06/15 **Pre-Doctoral Psychology Intern**
Terry Children's Center
Residential program, Day program, and Crisis Stabilization Unit
Supervisor: Diane McGuffin, Psy.D. and Thomas Olson, Ph.D.
Hours: 40-50 hours a week
Responsibilities: Currently completing pre-doctoral psychology internship at the Terry Children Center, with minor rotations at the Ferris School for Boys and the CAS. Conducting individual, group, and family therapy with children experiencing severe behavioral problems in the residential, crisis, and day programs. Training experiences include weekly didactics and individual and group supervision. Currently in the process of certification in Parent-Child Interaction Therapy (PCIT) and Trauma-Focused Cognitive Behavioral Therapy (TF-CBT). Other experiences include writing clinical notes and reports, case management, and school consultation. Involvement of both patient and family in developing treatment goals. Facilitating psycho-educational groups in the crisis unit targeting social skills, healthy coping, anger management, and impulse control. Participating in multidisciplinary treatment team meetings, collaborating with school staff, psychiatrist and residents, youth rehabilitative counselors, and

outside agencies. Minor rotation at Ferris School for Boys includes experiences within the juvenile justice system, conducting individual and trauma-focused group therapy with male residents. Second minor rotation with Child Assessment Services will begin in January 2015. Pre-doctoral internship ends June 30th, 2015.

08/13-04/14   **Clinical Intern**
Rogers Memorial Hospital- Child and Adolescent Day Treatment
Partial Hospitalization Program
Supervisor: Kristine Kim, PsyD.
Hours: 20-25 hours per week, non-paid
Responsibilities: Interned at the partial hospitalization program at Rogers Memorial Hospital Child and Adolescent Day Treatment conducting individual, group, and family therapy with children experiencing severe behavioral problems. Typical caseload of 12 patients. Experiences include charting, case management, and school consultation. Involvement of both patient and family in developing treatment goals. Family therapy includes teaching parenting strategies, such as Love and Logic. Facilitating psycho-educational groups on social skills, healthy coping, anger management, and impulse control. Participating in multidisciplinary team meetings and collaborating with school staff during IEP meetings. This program emphasizes trauma-focused care. Therapeutic approaches include trauma-focused and play cognitive behavioral therapy. Other activities include diagnostic interviewing, consultation with psychiatrist and medication management, and exposure to other units, such as the child and adolescent inpatient program and community-based residential facilities for eating disorders and obsessive-compulsive disorders.

08/13- 06/14   **Psychometrician**
School District of Greenfield
Supervisor: Monica Warnke, Ph.D.
Hours: 10 hours per week, paid
Responsibilities: Worked as a psychometrician for the school district of Greenfield conducting cognitive, academic, and socio-emotional assessments for special education evaluations. Other activities include direct and systematic observations of time on-task and academic engagement. Also completing functional behavioral assessments. This district will begin implementation of a Response to Intervention problem-solving model in December, so future experiences will include monitoring and data evaluation for this initiative.

05/12-08/13   **Clinical Intern**
Family Options Counseling
Supervisor: Kimberly Young, Ph.D.
Hours: 15-20 hours per week, non-paid
Responsibilities: Interned at Family Options Counseling. Experiences included facilitating individual, group, and family therapy with a trauma focus. Providing comprehensive therapeutic services for 8 individual clients, all with a background of trauma (i.e. physical and sexual abuse, exposure to violence, and neglect). Also co-facilitating group therapy utilizing cognitive behavioral and dialectical behavioral techniques. Groups that I completed included Girls Learning Anger Management, Pride (a group with a curriculum targeting healthy relationships,

impulsivity, and boundaries in adolescent girls with developmental delay), and child/adolescent social skills. Also co-facilitated a trauma-focused adolescent girls group, New Directions. In addition, conducted comprehensive psychological evaluations addressing a variety of client referral concerns. Utilized multiple assessment methods and created integrative reports.

09/11 – 05/12 **Practicum School Psychologist**
Walt Whitman Elementary
Pulaski High School
Milwaukee Public Schools
Supervisor: Christina Monfre, Ed.S. and Amanda Haley, Ed.S.
Hours: 16 hours per week, non-paid
Responsibilities: Worked with children, parents, and teachers to promote mental health services in the school system. Conducted psychoeducational evaluations for special education referrals, facilitated individual therapy utilizing cognitive behavioral therapy with both elementary and high school students, conducted two social support groups for fifth and sixth graders, consulted with teachers and support staff to promote competence and academic success in all students, presented TRAILS classroom intervention to promote resiliency skills, participated in a school-wide Restorative Justice circle and Youth Court Program to reduce student suspensions, implemented Skillstreaming with a group of 1st, 2nd, and 3rd grade male students, facilitated experiential therapy groups, and developed academic and social/behavioral interventions for students. Also participated in Positive Behavior Support (PBS) and Response to Intervention (RtI) teams in order to support the successful implementation of these initiatives.

09/10-07/11 **Line Therapist**
Autism Behavioral Network
Pediatric Psychological Associates
Supervisor: Michael Kiel
Hours: 6 hours per week, paid
Responsibilities: Applied Behavior Analysis therapy with a four-year-old male with Autism. Individualized interventions were implemented in the home utilizing discrete trial training, incidental teaching, error-less learning, prompting, shaping, social stories, and other behavior management techniques. Sign language was also used as a primary form of communication.

01/09-05/09 **School Psychology Fieldwork**
Glastonbury High School, Nayaug Elementary School, and Hebron Avenue Elementary School
Glastonbury Public Schools (Glastonbury, CT)
Supervisors: Wendy Paggioli, Ed.S, Donna Wakim, Ph.D., and Elisa Fabiszak, Ed.S.
Responsibilities: Job shadowed three different School Psychologists at the elementary and high school level. Was able to observe testing administration, parent consultations, and individual therapy.

09/07-12/07 **HEART House Intern**
Drug and Alcohol Peer Education and Intervention
University of Connecticut
Supervisor: Program has since been discontinued due to lack of funding.

Responsibilities: Intern for Drug and Alcohol Peer Education and Intervention programs at the University of Connecticut. Assisted in running group programs for students on probation for alcohol use, conducted talk circles, and completed intake evaluations.

TEACHING EXPERIENCE

09/06-10/06   **First Year Experience Mentor**
First Year Programs & Learning Communities
University of Connecticut
Supervisor: Maria Sedotti
Responsibilities: Teacher's assistant for a first year experience course for freshmen at the University of Connecticut.

RESEARCH EXPERIENCE

01/11 – 05/14 **Research Project Assistant**
National Center on Quality Teaching and Learning
Department of Exceptional Education
University of Wisconsin-Milwaukee
Supervisor: Mary McLean, PhD
Responsibilities: Developing training materials for Head Start teachers and support staff across the country to improve standards for ongoing assessment (http://eclkc.ohs.acf.hhs.gov/hslc/tta-system/teaching). Experiences also include program evaluation of the CONNECT project, a grant providing funding for Exceptional Education graduate students. This includes rating the learning targets using the Learning Target Rating Scale, aggregating data from multiple measures including the GOLD and DECA, and report writing. Have previously collaborated with the University of Florida for the purposes of coding teacher focus groups based on participation in a coaching embedded instruction project.

01/13 – 05/13 **Research Assistant**
Self-Regulated Learning and Microanalysis
Department of Educational Psychology
University of Wisconsin, Milwaukee
Supervisor: Gregory Callan, PhD Candidate
Responsibilities: Conducted microanalysis interviews during math problem-solving in order to explore self-regulated learning in middle school students. Also participated in coding and data analysis.

09/10-12/10   **Research Assistant**
Project EMERGE
Department of Educational Psychology
University of Wisconsin, Milwaukee

Supervisor: Karen C. Stoiber, PhD
Responsibilities: Literacy testing at Head Start sites in the city of Milwaukee, WI. Also facilitated a Head Start library to promote access to reading materials for low-income families.

05/09 -06/10   **Research Assistant**
Child Language Lab
Developmental Psychology Department
University of Connecticut
Supervisor: Letitia Naigles, PhD
Responsibilities: Conducted research and performed statistical analysis on the language development of children with Autism utilizing the IPL method. Trained in administering the ADOS (Autism Diagnostic Observation Schedule), Vineland, CDI (Communicative Development Inventory), WASI and the Mullen Scales of Early Learning.

PUBLICATIONS AND PROFESSIONAL PRESENTATIONS

Reynolds, C. E. (in submission). Social competency and teacher perceptions: The role of

the school psychologist. Communique.

Looser, J. A., & **Reynolds, C. E.** (in submission). The effects of response to intervention

on racial/ethnic overrepresentation in special education. School Psychology

Review.

Callan, G.L., Cleary, T.J., **Reynolds, C.E.,** Looser, J.A., Schumaker, C., Rollo, K. (2014,

February). Self-Regulated Learning Microanalysis for Math Problem Solving.

Poster presented at the annual convention of the National Association of School

Psychologists, Washington D.C.

Shapiro, E., Forman, S. G., Kanrich, J., Reddy, L., Stoiber, K. C., Codding, R., Sanetti,

L., Bantum, K.,Gonzalez, J., **Reynolds, C. E.** (2014, February). *A National Study*

on Trainers' Perceptions of Evidence-Based Practices. Poster presented at the

annual convention of the National Association of School Psychologists, Washington, D.C.

Callan, G., Cleary, T., **Reynolds, C**., & Looser, J. (2013, May). *Measuring self-regulated learning(SRL) during mathematical problem solving with SRL microanalysis.* Presented at the annual University of Wisconsin-Milwaukee Doctoral Student Research Session, Milwaukee, WI.

Reynolds, C., Drumm, H, & Stoiber, K. C. (2012, August). *Do Teacher Ratings of Preschoolers' Social Competence Differ Based on Gender?* Poster presented at the annual convention of the American Psychological Association, Orlando, FL.

Naigles, L., **Reynolds, C**., Piotroski, J., & Fein, D. (2011, March). *Categorization Speed and Accuracy in 6-year-old Children with ASD.* Poster presented at the biennial meeting of the Society for Research in Child Development, Montreal, Quebec, Canada.

Naigles, L., **Reynolds, C**., Piotroski, J., & Fein, D. (2011, May). *Categorization Speed and Accuracy in 6-year-old Children with ASD.* Poster presented at the annual meeting of the International Meeting for Autism Research, San Diego, CA.

COMMUNITY LEADERSHIP AND INVOLVEMENT

08/13-Present **Peace Learning Center of Milwaukee**
Board of Directors: curriculum development and grant writing for the Peace Learning Center, a nonprofit organization that implements peaceful conflict resolution workshops for schools in the Milwaukee area.

01/07-05/09   **Service Chair**
Phi Sigma Pi National Honor Fraternity

University of Connecticut

09/06-09/08   **Husky WOW Leader**
Peer Education
University of Connecticut

07/07   **International Student Volunteer**
Dominican Republic

ACADEMIC HONORS AND AWARDS

09/06-05/-09   Psi Chi: Psychology National Honors Society

09/05-05/09   University of Connecticut, Dean's List

05/09   New England Scholar

CURRENT PROFESSIONAL AFFILIATIONS

09/10-Present UWM School Psychology Student Association (SPSA), Secretary
11/11-Present American Psychological Association (APA), Graduate Student Associate
09/11-Present Wisconsin School Psychology Association (WSPA), Graduate Student Affiliate
09/11-Present National Association of School Psychologists (NASP), Graduate Student Affiliate

OTHER SCHOLARLY ACTIVITIES

PC proficient in Microsoft Office programs: Word, Excel, and Power Point.
Proficient in SPSS, SAS, ATLAS, MATLAB, Avid Media Composer and Final Cut Studio for
Mac. Proficient in administering the following psychoeducational assessments: Mullen Scales of
Early Learning, Vineland, CDI, TACL, ADOS, ASRS, WASI, WISC, WIAT, WJ-III COG, WJ
Achievement, BASC-2, BERS-2, CELF, RCMAS, ADIS, PESQ, APS, MACI, P-MACI, TSCC,
STAXI-2, PAI, RISB, CAD, and SB-V. Trained to implement Life Skills curriculum at
Elementary School Level 4/5, and TRAILS curriculum for grades K5-K3. Trained in Non-
violent Physical Crisis Intervention and CPR. Trained in TF-CBT and PCIT.