

STUDENT ASPIRATIONS AS A FUNCTION OF PERCEIVED SCHOOL CLIMATE

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Abstract

Research strongly points to the importance of adolescents' aspirations to their future occupational and educational attainment. As such, factors that influence the development and maintenance of high aspirations become important to identify. This is especially true regarding low income and minority students, who are most at risk for school failure, as reflected in the achievement gap reported in US schools. Given the importance of the ecological context to student development, and the formative role the school setting plays in adolescent life, the relationship of perceived school climate to student aspirations was examined. This study uses a sample comprised of 8,866 students from eight New Jersey public schools which had participated in the Developing Safe and Civil Schools school climate project, and which reflect a range of SES settings and proportion of minority students. The study examined different average levels of aspirations by SES and ethnic group, as well as differential impact of climate on aspirations. Results of a hierarchical linear regression indicate that school climate is important to the aspirations of all students, and that the strength of this relationship varies by the presence or absence of risk factors. School climate is most important to the aspirations of students with one risk factor (either minority or low SES). It is less strongly, though still significantly, related to the aspirations of students with two risk factors (minority and low SES), and then less strongly, though still significantly, related to the aspirations of students with no risk factors to school success. Also, while analysis of average levels of aspirations by group indicates that low SES and minority students tend to have lower aspirations, once other factors, including perception of school climate, were accounted for, these differences largely disappeared. Given the important results of this study, interventions aimed at helping all students, but especially those at risk of school failure, develop and maintain high aspirations through the school climate should become a regular part of educational planning in or-

der to most successfully facilitate long term, meaningful, student success, especially for students at risk for school failure. Additional research examining the relationships between risk factors, school climate, and student aspirations would be vital for furthering knowledge and directing meaningful interventions.

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Table of Contents

ABSTRACT.....	ii
ACKNOWLEDGEMENTS.....	iv
LIST OF TABLES.....	viii
LIST OF FIGURES.....	ix
INTRODUCTION.....	1
LITERATURE REVIEW	3
The Problem: Demographic Variables and Their Effect on Academic Success	3
Risk Factors to Educational Achievement for Low SES and Minority Students.....	5
Academic Aspirations During Adolescence.....	7
The Impact of Demographic Variables on Student Aspirations.....	10
The Impact of the School Climate on Multiple Outcome Variables.....	12
Links Between Aspirations and School Climate.....	16
THE CURRENT STUDY.....	17
METHODS.....	19
Participants and Setting.....	19
Measures.....	21
Data Analysis Plan.....	23
RESULTS.....	24
Differences in Mean Levels of Aspirations Between Groups.....	24
Relevance of School Climate to Student Aspirations.....	26
DISCUSSION.....	31
Comparison to Existing Literature.....	31

Aspirations and Risk Factors- Findings and Conclusions.....	33
Implications for Practice.....	34
Limitations.....	34
Suggestions for Future Research.....	35
REFERENCES.....	37
APPENDIX	46

List of Tables

Table 1 School Demographic Factors by School.....	20
Table 2 School Demographic Factors by School Type.....	21
Table 3 Description of Range of Scores for School Climate.....	22
Table 4 Mean Levels of Aspirations by School SES and Race.....	25
Table 5 Model Comparisons for Hierarchical Linear Regression Models of Student Aspirations	27
Table 6 Coefficients For The Final Model (model 5) Predicting Student Aspirations.....	29
Table 7 Simple Effect of Climate Within Each School-Type by Race.....	30

List of Figures

Figure 1 Mean Levels of Aspirations by School SES and Race.....	26
Figure 2 The relationship between aspirations and climate in diverse settings.....	28

Student Aspirations as a Function of Perceived School Climate

Introduction

One of the basic tenets of ethical practice for a school psychologist is social justice, or the responsibility to ensure fair and equitable education for all students (National Association of School Psychologists, 2010). Multiple articles, conferences, and calls to actions have focused on issues of inequity and the role school psychologists can play in remediating these problems. One serious problem in America's social structure is that not all groups are able to achieve school success equally (Bergeson, 2006; Stewart, 2007). Low-income and minority students too often underachieve, due to various risk factors associated with poverty and with minority status (Horvat, 2003; Rothstein, 2004; Rothstein, 2008), resulting in the often-discussed achievement gap. Yet, attempts to correct this gap, and ensure a fair and equal education for all, have not met with enough success. Thus it is imperative that research focus on understanding factors that contribute to the academic achievement of at-risk groups, in order that successful methods of intervention can be developed and implemented.

Students' aspirations- or their hopes and expectations about what they will achieve in the future- play an important role in determining their future outcomes (Wigfield & Eccles, 2002; Wyman, Cowan, Work, & Kerley, 1993). Adolescents' academic aspirations in particular have been found to be influential to their future educational and occupational success (Abu-Hilal, 2000; Beal & Crockett, 2010; Ensminger & Susarcick, 1992; Ou & Reynolds, 2008). As Cooper (2009), in her article on aspirations among high school age minority groups, states, "Educational aspirations are critical to educational attainment because people cannot achieve what they do not dream" (p. 616). Yet, research consistently indicates that low-income students, and to a less con-

sistent degree, minority students, tend to have lowered aspirations for academic and occupational success, leading to what Akos, Lambie, and Milsom (2007) refer to as the “aspirations gap effect” (p. 61). If this is the case, closing this “aspirations gap” may be a vital step in closing the achievement gap, and understanding factors that affect student aspirations becomes essential.

The school context has been identified as playing a vital role in children’s development (Bronfenbrenner, 1977). School climate, or the “quality and character of school life” (Cohen & Elias, p. 1), is a good measure of the school context. A positive school climate has been linked to multiple student outcomes, including social, emotional, and academic success (Birkett, Espelage, & Koenig, 2009; Cohen, McCabe, & Michelli, 2009; MacNeil, Prater, & Busch, 2009). Recent research on the connections between climate and aspirations indicates the possibility that the school context can play a role in the development and maintenance of high aspirations, and in turn school success (McCollum & Yoder, 2011; Plucker, 1998). For low income and minority students whose lives are associated with many risk factors, the school context may play an especially important role (Kloos et al., 2012). In fact, studies have shown that the school context can play a protective role for at-risk students (Hoy, Hannum, & Tschannen-Moran, 1998; Shindler, Jones, Williams, Taylor, & Cadenas, 2009; Stewart, 2007). Given the protective role that the school context can play for at risk students, understanding how school climate may foster and protect student aspirations is especially significant for students from low SES and minority contexts. Such an understanding may be key to increasing the aspirations, and thus academic success, of traditionally underserved students.

The purpose of this study is to examine the relationships between student aspirations and school climate within different socioeconomic settings, and for minority students across and between settings. The goal is to determine if school climate plays a protective role for the aspira-

tions of students with risk factors in other contexts, and if that relationship holds true across settings and between groups within different settings. Understanding how school climate interacts with aspirations for at-risk students may lead to the development of targeted interventions that, in turn, may help close the achievement gap and ensure a more level playing field for all students.

Literature Review

The Problem: Demographic Variables and Their Effect on Academic Success

Academic success has not been equally attainable for all students. At particular risk for poor school performance are students from low-income households (Lacour & Tissington, 2011) and those who belong to minority groups (Hoy, et al., 1998). In a report examining student achievement in relation to family income, Reardon (2011) found large differences in achievement between low income students and their peers. The National Center for Education Statistics found significant differences between the reading and math scores of different ethnic groups from 2008, with white students achieving significantly higher scores than their black and hispanic peers (U. S. Department of Education, 2011). High school graduation rates for the 2009-2010 school year were similarly disparate, with white students graduating at a rate of 83%, while hispanic students graduated at a rate of 71%, and black students at a rate of 66% (U. S. Department of Education, 2013). Data reported by the state of New Jersey from its 2012 High School Proficiency assessment shows that more than a third of children from low SES backgrounds do not achieve proficiency in mathematics, while only fifteen percent of their higher SES peers do not achieve proficiency. Additionally, while less than fifteen percent of white students did not achieve proficiency in mathematics, almost forty five percent of black students, and about a third of Latino students, did not (N. J. Department of Education, 2012).

The impact of SES and minority status on education has been well documented in research. Hoy, et al. (1998), in investigating the impact of the school setting on achievement, found that while school climate was strongly associated with student achievement, socioeconomic status of the community was still the most predictive of student achievement level. A review of the literature conducted by Lacour and Tissington (2011) found many studies showing significant effects of low SES status on academic achievement. A study investigating the impact of multiple individual and school level factors on student achievement among a large sample of tenth graders found that, among other variables, both family socioeconomic status and ethnicity were significantly related to achievement (Stewart, 2007). Rothstein (2005), in his work explaining factors related to the achievement gap, points to the impact of various risk factors associated with being black and hispanic, such as negative attitudes toward education stemming from historically unequal access to jobs and fair compensation, or being from a low SES setting, such as lack of appropriate health care, resources, or stable housing, on student achievement.

Major federal legislation designed to address this inequitable achievement gap was developed in 2001. The No Child Left Behind Act (2002) sought to close the gap through increased funding, accountability, and oversight. A study commissioned by the Council of Chief State School Officers in 2011 found that while some states did show significant gains in reducing the achievement gap between socioeconomic groups in the past ten years, others made minimal gains, while a large number of states did not make any progress toward this goal at all. The study was forced to conclude that “achievement gaps continue to persist in all states for economically disadvantaged students” (Blank, 2011, p. 18). Another study compared the achievement of US students to that of students in other developed countries, as well as looked at the impact of ethnicity on achievement levels. They found that white and Asian students had significantly higher

scores than black and Hispanic students in the US, and in fact that US black and Hispanic students do less well than black and Hispanic students in almost every other developed country in most subject (Dalton, 2011). A report put out by the Economic Policy Institute stated that comparing the performance of US students to that of other countries often yields invalid or misleading results, due to differing patterns across countries over time, and to different distributions of minority groups and low income students. However, they did state that some of the statistical findings come about because “...social class inequality is greater in the United States than in any of the countries with which we can reasonably be compared” (Carnoy & Rothstein, 2013). Thus, despite efforts to correct the problem, the achievement gap remains a serious problem in the US educational system.

Risk Factors to Educational Achievement for Low SES and Minority Students

In an effort to understand the achievement gap, and thus develop effective strategies to combat it, different theories and explanations have arisen. Rothstein (2004) has pointed to the class system that exists in America. He believes that “social-class characteristics in a stratified society may influence learning in school,” and as such belonging to a low-income community or a minority group is likely to affect student achievement (p. 18). Rothstein (2008) points to physical factors, such as housing and health issues, which impact the ability of students from low socioeconomic households to learn effectively. He also points to historic trends, such as discrimination towards minorities in the job market, which may lead minority students to value education less due to the lower reward they obtain. Horvat (2003) also believes social-class is a major factor in educational experiences and outcomes. He uses French sociologist Pierre Bourdieu’s habitus framework to explain the impact race and class have on academic achievement and attainment due to larger social forces. He states that “In examining race and class in educa-

tion...individual action or choice must be understood in structural context. Individual attitudes or decisions are made in light of the structural context surrounding actor's lives" (p. 3). Horvat further theorizes that these two components, race and class, interact to create a social reality for students that is very difficult to change. On a more basic level, Lacour and Tissington (2011) point to the lack of resources available to students living in poverty, and the impact this has on their ability to succeed. Schoon (2001) also points to the different opportunities and resources available to students in different SES levels, as well as to different socialization processes such as role models and informal support networks.

The school context, as well, has been shown to contribute to the achievement gap. Burchinal, McCartney, and Steinberg (2011) used a longitudinal approach to examine the effects of home, neighborhood, and school context level factors on the black-white achievement gap. Using a sample of 314 black and white low income children from the NICHD Study of Early Child Care and Youth Development database, they found that factors in the home, neighborhood, and school context affected children's achievement, and taken together they accounted for nearly the entire black-white achievement gap. School context level factors that were found to be significantly associated with lower achievement included percentage of kids receiving free or reduced price lunch, child-teacher ratio, and quality of instruction, measured using observations that recorded teacher's emotional detachment, sensitivity to the needs of the students, and overcontrol. Together, these school level factors accounted for about a third of the achievement gap. A similar study used Bronfenbrenner's ecological theory of development and cumulative risk analysis to examine the main and interactive effects of neighborhood and school context risk factors on student's achievement. They found that both neighborhood factors, such as vacant buildings, single parent households, and mothers who did not complete high school, as well as school context fac-

tors, including student mobility, inexperienced teachers, and school building quality, were negatively associated with student achievement. When risk factors were present in both the neighborhood and school context, this effect was strengthened, leading to even lower achievement scores (Whipple, Evans, Barry, & Maxwell, 2010). Evans, Yoo, and Sipple (2010) examined the effect of school context on student achievement as well, by looking at how the physical school environment and student mobility affected student achievement. They found both physical school environment, as measured by , and student mobility to be significantly associated with student achievement. It is important to note that although they controlled for SES and race in order to best capture the relationships they were examining, they found that SES and race often covaried with poor quality school buildings and high student mobility. In explaining this finding, Evans, et al. stated that “..the present results are indicative of a serious issue in American education – inequality...The contributions of the school environment to the income- achievement gap warrant greater attention” (p. 243).

Given the risk factors faced by minority and poor students, the achievement gap is a logical result. Yet it is not one that can be tolerated. As such, ways to successfully intervene to improve the achievement of underserved populations must be developed and implemented, so as to ensure an equitable education and chance for the future.

Academic Aspirations During Adolescence

A student's aspirations are comprised of their hopes and goals for their future (Sirin, Diemer, Jackson, Gonsalves, & Howell, 2004). Aspirations reflect a student's conceptualization of his or her future self, and likely influence choices, direct goal setting, and guide behavior (Bandura, 2001). Aspirations take on particular importance during the period of adolescence, as youths, faced with multiple personal and developmental transitions, begin to plan for their future

and develop long-term life goals. (Seginer, 2008; Sipsma, 2011). In a review of the literature, Nurmi (2004) identifies educational and occupational aspirations and goals as being a main focus during adolescence, and points to evidence that these aspirations are tied to later performance.

For the purposes of this study, the construct of academic aspirations is defined as hopes, goals, and expectations for future academic and occupational achievement. Although some differentiate between academic aspirations (hopes) and academic expectations (goals) (Boxer, Goldstein, DeLorenzo, Savoy, & Mercado, 2011; Messersmith & Schulenberg, 2008), others define them as being aspects of the same construct (Kasen, 2008; McCollum & Yoder, 2011; Rothon, Arephin, Klineberg, Cattell, & Stansfeld, 2009). This study follows the broader model, similarly to Rothon et al. (2009), who define aspirations more broadly as “the desires and aims of young people” (p. 212), thereby including both academic and occupational aspirations and expectations in the construct.

Adolescents’ academic aspirations have been strongly linked to later educational attainment. Using a longitudinal design, Ensminger and Susarcick (1992) looked at a large (1,242) sample of primarily black students from a low income area of Chicago. They found that adolescents with higher academic aspirations had a twofold increase in the likelihood that they would achieve high school graduation. In a similar design, Ou and Reynolds (2008) used a longitudinal analysis to study a large (1286) sample of primarily black, low income youth from Chicago for a study examining the impact of various predictors on academic attainment. They found that student expectations significantly impacted all three outcome measures, high school completion, graduation, and years of education completed. A program aiming to increase the number of low-income black and Hispanic students who attend top-tier colleges focused much of the intervention on raising the aspirations of the youths involved, through mentoring, guidance, and academ-

ic preparation and enrichment, and indeed found both aspirations and rates of enrollment at top-tier colleges significantly higher than the national average for similar youth (Cooper, 2011). Using a sample of primarily white, rural youth from middle to low income areas, Beal and Crockett (2010) found that adolescents' thoughts about their future achievement could predict their educational attainment eight years in the future. Research conducted over a period of ten years at the Center for Higher Education Policy Analysis indicates that fostering aspirations is a vital component of creating the college culture necessary for increased enrollment of urban minority students in college (Corwin & Tierney, 2007).

In studying the effect of attitudes and aspirations on achievement using a sample of 280 high school students, Abu-Hilal (2000) not only found that higher aspirations led to better achievement, but that aspirations mediated the relationship between attitudes and achievement as well, further indicating the importance of academic aspirations to educational success. Rotheron et al. (2009) studied the impact of various variables on academic aspirations as well as the relationship between academic aspirations and achievement among low income adolescents in London. They not only found a strong relationship between aspirations and achievement, but found that this relationship existed regardless of prior achievement. They suggest that "fostering high educational aspirations amongst young people may be an important means of raising achievement amongst low achieving groups, since having high aspirations *in itself* appears to increase the likelihood of high achievement" (p. 228).

The Impact of Demographic Variables on Student Aspirations

Demographic variables, specifically a student's SES and ethnicity, may impact education by impacting student aspirations. Bandura's social cognitive theory points to the impact socioeconomic status has on aspirations, and thus indirectly on behavior (Bandura, 2001). Indeed, research has strongly indicated that family socioeconomic status significantly impacts a student's aspirations for future attainment. Research regarding the impact of ethnicity on aspirations is less clear, with different studies finding conflicting results.

Rothon, et al. (2009) conducted a study which looked at variables that impact educational aspirations and achievement in a diverse group of low income adolescents in London schools. They found a strong relationship between eligibility for free lunch and lower expectations. A study conducted in Finland found that the higher the parents' socioeconomic status, the more likely the students would have high educational expectations that remained stable over time (Tynkkynen, Tolvanen, & Salmela-Aro, 2012). Akos et al. (2007), using a sample of 522 middle school students from North Carolina from varying SES levels and a representative participation by ethnicity, found a strong effect of SES on aspirations, though they did not find any significant differences among different racial groups. Their results led them to point to the cycle of poverty such lowered aspirations can lead to. They stated, "It may not always or only be students' abilities that guide their curricular choices but rather their limited aspirations that have evolved from their life circumstances (p. 61).

In a study investigating the impact of various demographic factors on academic and occupational expectations, Mello (2009) looked at the aspirations of individuals from eighth grade through age thirty, using the National Education Longitudinal Study database to get a large sample of diverse students from varying SES levels. He found that SES was strongly related to level

of aspirations, with low income youth having lower academic and occupational expectations than their higher income peers, and with these lower expectations remaining stable through young adulthood. Like Akos et al., he found that belonging to a minority group does not negatively impact aspirations. In fact, he found that black and hispanic youth tend to have higher academic and occupational aspirations than their white counterparts, after controlling for SES and achievement.

Kao and Tienda (1998), who also used the National Education Longitudinal Study database to examine the impact of ethnicity and family income on student aspirations, found similar results to Mello for SES, but not for ethnicity. In terms of family income, they found that SES exerts a strong influence on student aspirations, as well as on the stability of high expectations. In terms of ethnicity, they found that black and Hispanic youth tend to have high aspirations, yet they also found that these aspirations typically are not stable, and tend to decline as the students progress through high school. Similarly, Cooper (2009), using a large, representative sample from the Educational Longitudinal Study of 2002, found that black and Latino males and Latino females decreased aspirations for a college degree more than other students, resulting in lowered aspirations at the end of high school.

Hudley, Daoud, Polanco, Wright-Castro, and Hershberg (2003) also found that ethnicity impacted student expectations. In a study of school engagement, school climate, and future expectations of Latino and Anglo adolescents, the authors looked at the impact of ethnicity on aspirations using a sample of 190 white and Latino high school students in California. Results indicated that ethnicity interacted with other variables to exert a strong influence on future occupational expectations. They found that enjoying school did not increase expectations for low achieving Latino youth while it did do so for Anglo youth, and that all high achieving Anglo

youth had high expectations, while enjoying school led high achieving Latino students to have higher expectations than otherwise.

The importance of aspirations to academic success is evident, and thus evidence linking risk factors to lowered aspirations may point to a possible cause for the perpetuation of the achievement gap. A low SES background has been consistently identified as being a risk factor for lowered aspirations. The research is less consistent with regards to whether being black or Hispanic is a risk factor for lowered aspirations. The reason for the differing results is not clear and thus it requires further exploration. Further study of these relationships, and ways to intervene to moderate this effect, may be key for planning successful interventions to address the achievement gap and move towards a more equitable education for all students.

The Impact of the School Climate on Multiple Outcome Variables

When looking for mechanisms that support or inhibit aspirations, one must look at the school setting, as the school environment plays a vital role in student development. Bronfenbrenner's Ecological Systems theory states that individuals live within a series of settings, each of which influences and affects the others (Bronfenbrenner, 1994). These settings can be conceptualized as "nested contexts," with each level of context embedded within, and interwoven with, other levels (Bronfenbrenner, 1977; Moos, 2003). Within this series of nested, interactive contexts, the school setting plays an important role, as it is one of the primary systems in which a child engages (Bronfenbrenner, 1977). Additionally, the settings within which a person lives range from proximal, such as family, neighborhood, and school, to distal, such as economic trends and political changes, with different levels exerting differing levels of influence on the individual and other contexts in which he is engaged (Kloos et al., 2012). Of these settings, Kasen (1998) states that "Outside of the family, the school is the most proximal socializing agent

available to convey societal norms and prohibitions” (p. 50). The role of the school context is especially important during adolescence, as students spend more time in school and begin to look outside of the family for models of behavior and standards (Chen & Vazsonyi, 2013; Kasen, 1998).

School climate is a good measure of the school context. School climate can be defined as the atmosphere of the school, or the overall feel and experience (Howard, Howell, & Brainard, 1987). The National School Climate Council (2007), a panel made up of leaders and experts in the field of school climate, stated that school climate is “based on patterns of school life experiences and reflects norms, goals, values, interpersonal relationships, teaching, learning and leadership practices, and organizational structures” (p. 5). Moos’ (2003) research suggests that perceptions of the climate of a setting have a deep structure across settings that consists of how the setting influences personal growth, supports relationships, and displays clarity of structure, boundaries, and openness to systemic change. While Moos never developed a measure of overall school climate, those assessments that do exist generally tap domains that conform to Moos’ three dimensions.

However, in Thapa, Cohen, Guffey, and Higgens-D’Alessandro’s (2013) review of school climate assessments, they find that most instruments focus on dimensions of social-emotional safety, relationships, the learning process, physical environment, and school improvement. Because climate scales are often given to staff, as well as children, it is the case that most student assessments are directed toward the first three dimensions—not unlike those of Moos. Most often, school climate represents an aggregated score across the dimensions or subareas assessed.

Findings on the strong impact school climate can have on a student’s performance, beliefs, and behavior point to the importance of the school context to a student’s development and

growth (Elias, 2010). Additionally, the ecological model of stress and coping, emphasizes the importance of utilizing resources in one ecological level in order to effectively cope with problems in another level (Kloos et al., 2012). Indeed, research indicates that a supportive school climate may play a protective role for students with risk factors in other settings.

A positive school climate has been associated with multiple areas of student success, including social, emotional, and academic (Cohen, et al., 2009). Brookmeyer, Fanti, and Heinrich (2006) looked at the effects of parents and school settings on levels of youth violence, using a diverse sample of over 6000 adolescents from 125 schools from both rural and suburban areas. They found that a positive school climate is associated with reduced violent and aggressive behavior by adolescents. They also found that a positive climate mitigates the effect of having experienced violence. Another study examined the school setting's effect on youth violence by looking at the relationships between bullying and aggressive behavior and a school's social environment. Using a large sample of middle school students of primarily minority backgrounds, with over half the population being of African-American descent and over 15% Hispanic, Meyer-Adams & Conner (2008) found that a positive school climate reduced the likelihood that students would feel afraid because of bullying or would carry a weapon to school.

In looking at the effects of the school setting on the emotional development of youth, one study examined the links between teacher support, school climate, and adolescent drug use and depressive symptoms. Using a sample collected through a telephone survey and comprised of 65% white, 15% black, 15% Hispanic, and 5% other youth, the authors found that a positive school climate is associated with lower reports of drug use and less self reports of depressive symptoms in high school students (La Russo, Romer, & Selman, 2008). This may be particularly meaningful in areas with high rates of drug use and emotional stress, as the school setting may

foster resilience and coping. In fact, Elias, DeFini, and Bergmann (2010), when implementing a comprehensive social-emotional program in a large, diverse New Jersey public middle school in an urban area, found that as school climate improved, student suspensions for problematic behavior decreased, while the achievement level of the school increased, as indicated by improved yearly academic progress.

Stewart (2007) looked at the impact of individual and school level characteristics on student academic achievement using a national sample of over 10,000 tenth graders, although the sample was not well diversified, with 70% of the sample white, and about 20% black and Latino. Even so, she not only found a strong link between climate and achievement, but found results that indicate that a positive climate mitigates the effect of problems associated with large, urban, high minority schools such as poverty, location, and social ills, and leads to higher academic achievement. Another study which highlighted the protective role of the school setting and the impact of school climate was conducted by Hoy, et al. (1998). They examined the relationship between middle school climate and student achievement among a large, diverse sample of schools from different SES levels, and found what they defined as a robust and enduring relationship between climate and achievement, with climate patterns predicting current and future student achievement. The protective effect of a positive school climate was evidenced by results which showed that while socioeconomic status is typically the most predictive of student achievement, school climate was associated with achievement independent of socioeconomic status. The authors believe that “this finding is especially important because it is easier to improve organizational climate than it is to change the socioeconomic status of a community” (p. 356).

Shindler et al. (2009) set out to understand causes and possible solutions to the achievement gap. They looked at the relationships between school climate and academic achievement using a sample of twenty diverse, urban elementary, middle, and high public schools. The authors found a strong relationship between academic achievement and the quality of the school climate. They also found that schools with a large achievement gap between groups tended to have poor climate. Since their results suggest a causal relationship from climate to achievement, the authors concluded that improving a school's climate would likely help reduce the achievement gap at that school. Building on this research, if school climate is important to closing the achievement gap, understanding how school climate affects the aspirations of at risk youth may provide a key to understanding why the relationship between school climate and achievement exists. This in turn may provide direction for developing effective, targeted interventions to improve the academic achievement of under-performing students, thereby closing the achievement gap.

Links Between Aspirations and School Climate

Recently, researchers have begun to wonder about a possible link between school climate and aspirations. Sipsma, Ickovics, Lin, & Kershaw (2011), conducted a study which looked at the relationships between contextual factors, future expectations, and various risk behaviors. Using Bronfenbrenner's ecological theory as rationale, they hypothesized that since multiple levels of settings influence development, so too these different settings may influence a student's future expectations, which in turn would influence their behavior. Indeed, they found that contextual factors, such as SES, ethnicity, health, family structure, and peer level factors were strongly associated with adolescent expectations, and these were then correlated with behavior. Studies looking specifically at the school context and its relationship to adolescent aspirations are few,

but results seem to indicate that a positive climate is related to higher and more stable aspirations.

Plucker (2001) studied the impact of various school climate variables on aspirations in two large public high schools with low to middle income levels, though a predominantly white student body. He found that students who perceived the school climate to be supportive had higher aspirations than those who did not. McCollum and Yoder (2011) analyzed the relationships among student perceptions of school climate, relationships with teachers, and academic aspirations in a large, diverse sample of middle school students. They found that student perception of school culture was significantly related to student academic aspirations, with more positive perceptions of climate being linked to higher expected educational attainment, although this relationship was partially mediated by teacher relationships. McCollum and Yoder point to the need for further research on the relationships among these variables.

The Current Study

The importance of academic aspirations to future educational and occupational attainment points to the need to better understand the mechanisms supporting and encouraging the development of high aspirations. School climate has emerged as possibly playing a role in the development and maintenance of academic aspirations. Plucker (2001) found that students who perceived the school climate as being supportive had higher aspirations than those who did not. McCollum and Yoder (2011) found that more positive perceptions of climate were linked to higher expected educational attainment. Understanding this relationship, and especially how it plays out for students from at-risk contexts, who have historically been underserved by the public school system, is vital to improving the attainment of our youth and potentially closing the achievement gap.

The first step must be to determine the specificity and degree to which at risk contexts negatively impact a student's aspirations. To do so, level of student aspirations in schools from different SES settings, and when possible with different percentages of black and Hispanic students, will be examined.

If being from an at-risk setting indeed impacts a student's aspirations, the next step must then be to determine if student perception of school climate moderates this relationship. Does a student who is from an at-risk context but perceives the school climate as being supportive have higher levels of aspirations than would otherwise be expected in that context or with those risk factors?

The current study seeks to answer the following research questions:

- I. *Is there a difference in the level of aspirations for students from different SES settings, and from different ethnic backgrounds?* Based on the existing literature, it is hypothesized that students from low SES settings will have lower aspirations than students from high SES settings. Research regarding aspirations of minority students is less clear, and is in fact contradictory. Nevertheless, since some important studies indicate that ethnicity does impact aspirations, it is further hypothesized that minority students, specifically black and Hispanic, will have lower aspirations across settings than white students across settings.
- II. *What is the relationship between perception of school climate and academic aspirations in different settings, and for different groups across settings?* To answer this question, the following set of hypotheses have been developed: 1) Student perception of school climate will significantly moderate the relationship between socioeconomic status and aspirations for students in schools with a high percentage of low income households, in that a positive perception of school climate will lessen the impact of low socioeconomic status on aspirations.

2) Student perception of school climate will significantly moderate the relationship between minority status and aspirations for black and Hispanic students in both low and high SES settings, but more so for those in low SES schools.

Methods

Participants and Settings

Data used in this study were obtained from anonymous school climate surveys given to students in NJ public schools as part of the Developing Safe and Civil Schools (DSACS) initiative. The goal of this initiative, which was developed by Rutgers University's Center for Applied Psychology and Social-Emotional Learning Lab in conjunction with the New Jersey Department of Education, was to bring coordinated social emotional learning and character development to New Jersey public schools. The survey was used to assess and report on school climate in New Jersey public schools (Elias, 2008). The survey was then updated in year four of the study, and an assessment of students' aspirations was added at that point.

Of the 172 schools that participated in the DSACS initiative, the pool of potential sample was limited to those in years four and five of the study that had been administered the newer climate survey, which includes an assessment of students' aspirations. The potential sample was further restricted by the decision to use only large high schools, and only high schools containing grades nine through twelve, to avoid potential confounds of size and grade level. Finally, because of the impact socioeconomic status (SES) is expected to have on aspirations and the interaction of climate and aspirations, it was determined that the sample should be stratified, with half the sample being from a low SES setting, as determined by twenty five percent or more of students receiving free or reduced lunch, and half from a high SES setting, in which few to virtually no students received free or reduced lunch. Ethnicity, which is also expected to be an important var-

iable, could not be matched in the low SES schools, as all relevant schools in the sample have a high proportion of minorities, as defined by forty percent or more black/Hispanic students. However, in the high SES schools, the schools are indeed matched for ethnicity, with half of the schools having a high proportion of minority students and half having a vastly predominant white population.

Thus, the resulting sample is comprised of 8,866 students from eight New Jersey public high schools, grades 9-12, who participated in years four or five of the DSACS climate study. Four of the schools are considered low SES status, with a free/reduced lunch rate of at least twenty five percent, while four are considered high SES status. All four low SES schools have a high proportion of minority students, with at least forty percent of students being black/Hispanic, while two of the high SES schools have a high proportion of minority students.

Table 1
School Demographic Factors by School

	Low SES (n=4,061)				High SES (n=4,805)			
	1	2	3	4	5	6	7	8
Total Enrollment	796	1159	1692	2358	1948	1797	1682	1514
% Free or Reduced Lunch	72	41	28	33	0	22	4	9
% Black or Hispanic	63	64	57	63	46	57	13	13
% White	11	21	40	26	50	38	79	82
% Female	49	49	48	47	49	49	50	47

Table 2
School Demographic Factors by School Type

	Low SES (n=4,061)			High SES (n=4,805)		
	M	SD	Range	M	SD	Range
Total Enrollment	1501.3	679.4	796-2358	1735.3	183.3	1514-1948
% Free or Reduced Lunch	43.5	19.7	28-72	8.7	9.5	0-22
% Black or Hispanic	61.7	3.2	57-64	32.2	22.6	13-57
% White	24.5	12	11-40	62.2	21.6	38-82
% Female	48.2	0.95	47-49	48.7	1.2	47-50

Measures

The School Community survey was used to evaluate student perception of school climate. This survey was adapted from the Lickona & Davidson's (2001) School As A Caring Community Profile-II (SCAAP-II) survey, and contains 20 items which are each answered using a five point scale, with choices ranging from *Disagree A LOT* to *Agree A LOT*. Questions assess student perception of different aspects of the school environments, including respect, friendship and belonging, engagement with and ability to shape the school environment, and support from teachers. Psychometric assessment of the School Community survey revealed that it is reliable with high internal consistency ($\alpha = .83$). This closely matches the finding of Kasler, White, and Elias (2013), who assessed the survey for use in a study evaluating the impact of a school based social-emotional program, and found it to be reliable with high internal consistency ($\alpha = .85$). The version of the questionnaire used is listed in Appendix A. A table outlining the qualitative description of School Climate total score ratings is below. Additionally, students self selected gender and ethnicity on the surveys for use in later analysis.

Table 3
Description of Range of Scores for School Climate

Climate Score Range	Description
20.00- 34.80	Strongly Negative
35.00- 54.80	Negative
55.00- 64.80	Neutral
65.00- 85.00	Positive
85.00- 100.00	Strongly Positive

Questions assessing student aspiration were added to the original climate survey. Aspirations were measured using a set of six questions addressing student aspirations for future achievement. This approach was modeled after Ou and Reynolds' (2008) method of evaluating student aspirations for their study of factors that predict educational attainment. In this study, Ou and Reynolds used a single item dichotomous variable, whether students expected to go to college or not, to assess student aspirations in order to examine correlations between aspirations and later educational attainment. In the current study, survey questions address student aspirations for their future, and include the following: In the future, most students in this school will graduate from high school; In the future, most students in this school will go to college; In the future, most students in this school will have a job that pays well; In the future, most students in this school will contribute meaningfully to our communities; In the future, most students in this school will have a happy family life; In the future, most students in this school will stay in good health most of the time. Questions are answered on a five point Likert scale with choices including *Disagree A LOT, Disagree A Little, Neither Agree Or Disagree, Agree A Little, Agree A LOT*.

Psychometric assessment of these items indicated that internal reliability for this 6 item measure was low ($\alpha = .66$) and that the item "In the future, most students in this school will graduate from high school" did not correlate well with the other items (item total $r = -.13$). A fac-

tor analysis confirmed these results and indicated that there were two factors, the first including 5 items (47% of variance) and the second including only the graduation item (17% of variance). It was then determined that there likely was an error in the coding of this item, and it would be impossible to reenter data for the current study. As a result, the graduation item was removed from the aspirations scale. The revised version of the aspirations scale including the remaining 5-items displayed adequate internal consistency ($\alpha = .78$) and loaded on a single factor (55% of variance).

Surveys were administered to students in October or November as part of baseline assessment as schools began their participation in the DSACS project. Hard copies of surveys were given out by homeroom teachers and students placed their answers on Scantron sheets. One student in each class collected and sealed survey responses in envelopes, which were brought to the main office and either collected by DSACS team members or mailed to the Rutgers Social-Emotional Learning Lab for analysis.

Data Analysis Plan

In order to determine overall rates of student aspirations in different settings and for different ethnicities, and to see if the hypotheses that aspirations will be lower in low SES settings and for ethnic minorities in all settings are correct, analysis of variance (ANOVA) was run. These analyses looked for differences in averages in different settings and for different groups across and within settings to see if the hypotheses that aspirations will be lower in low SES settings and for ethnic minorities in all settings are correct.

After average rates of aspirations for different settings and different groups were established, a hierarchical multiple regression was run to see the impact climate has on Aspirations levels in different setting and for different groups. Students from both high and low SES school

were included in this analysis, and results were filtered by type of school. Steps of the analysis were as follows: Step-1 was gender and age as controls, Step-2 school SES, Step-3 student race, Step-4 student perception of climate, and Step-5 was the interaction of climate, race, and school SES steps. Data obtained enabled the comparison of impact of student perception of climate on aspirations in different SES settings, as well as the impact perception of climate has on level of aspirations for minority students in high and low SES settings.

Results

Differences in Mean Levels Of Aspirations Between Groups

The hypotheses were tested through a series of statistical analyses looking at differences in students' aspirations in different settings and with different characteristics. Participants missing data necessary for a specific analysis were excluded from that analysis. To test the hypothesis that aspirations will be lower in low-SES settings, mean levels of aspirations were compared using a 2-tailed t-test. Results indicated that aspirations differed significantly between high-SES ($M = 16.99, SD = 3.78$) and low-SES schools ($M = 14.72, SD = 4.17; t(8676) = 26.68, p < .001$), suggesting that students in low-SES schools tend to have lower aspirations as compared to same age peers in high-SES settings.

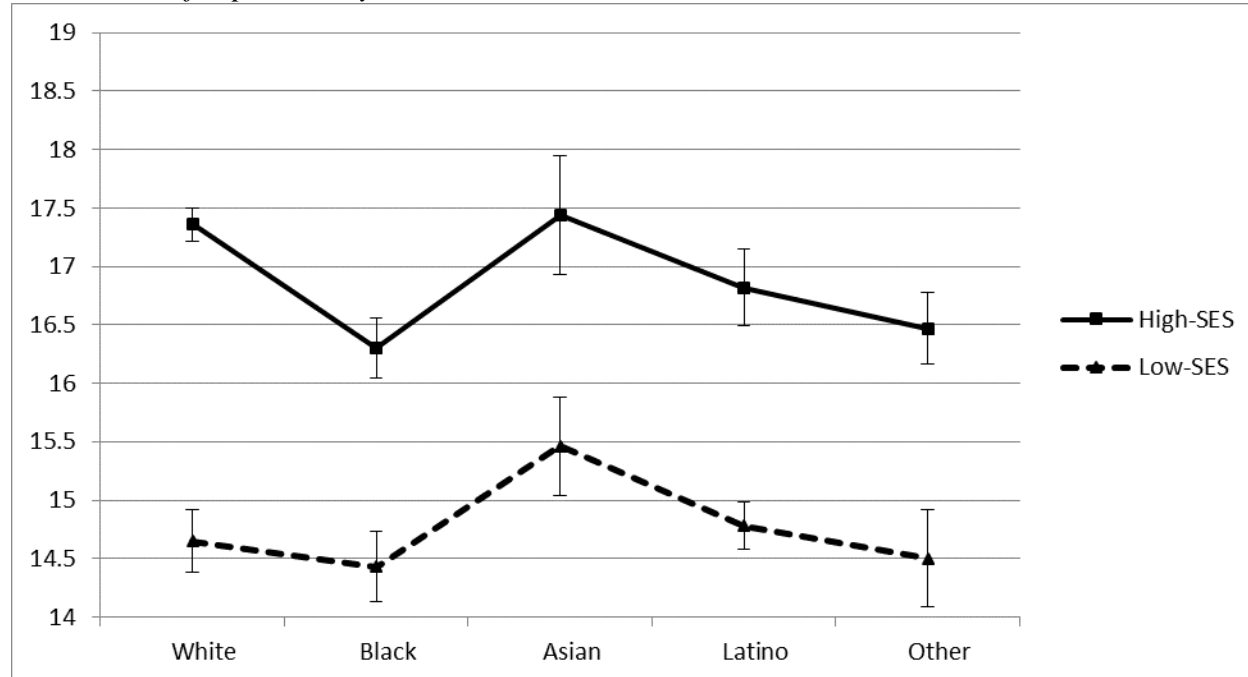
In addition, it was hypothesized that minority students, particularly Black and Hispanic, will have lower average levels of aspirations, as compared to White students. A one way ANOVA testing mean differences among five racial categories indicated that the mean levels of aspirations differed significantly between these groups ($F(4,8673) = 50.49, p < .0001$). Mean aspirations by race are presented in Table 4, and post-hoc tests (Scheffe) indicated that Asian and White students reported significantly higher aspirations than Black, Latino and Other race students.

Consistent with the hypothesis, aspirations differed by SES and by racial category. It was therefore explored whether SES setting and student race interacted to predict different aspirations between groups. Results of a 2-way ANOVA examining difference on mean levels of aspirations by school-type (Low versus High SES) indicated a significant main effect for school type ($F(1, 8666) = 101.22, p < .0001$) and for race ($F(5, 8666) = 10.08, p < .001$), as well as a significant interaction ($F(5, 8666) = 3.25, p = .006$). These results indicate that the differences between racial groups in mean aspirations vary depending on school setting. Specifically, examination of the means tested in the ANOVA above indicated that students in low-SES schools generally reported lower aspirations, but that this difference was significantly larger among White students and less among Black, Latino, and Other race students (Table 4, Figure 1).

Table 4
Mean levels of aspiration by school SES and race

School Type	Race	<i>M</i>	<i>SD</i>	<i>n</i>
Overall	WHITE	16.69	3.92	3321
	BLACK	15.42	4.24	1682
	ASIAN	16.20	4.03	555
	LATINO	15.29	4.18	2122
	OTHER	15.65	4.11	998
	Overall	15.95	4.12	8678
Low-SES	WHITE	14.65	3.98	820
	BLACK	14.43	4.35	791
	ASIAN	15.46	4.02	348
	LATINO	14.78	4.15	1590
	OTHER	14.50	4.31	416
	Overall	14.72	4.17	3965
High-SES	WHITE	17.36	3.66	2501
	BLACK	16.30	3.94	891
	ASIAN	17.44	3.75	207
	LATINO	16.82	3.88	532
	OTHER	16.47	3.75	582
	Overall	16.99	3.78	4713

Figure 1
Mean levels of aspiration by school SES and race



Note: Error bars represent 1.96 times the SE of the mean of each category.

Relevance of School Climate to Student Aspirations

Given that there is a significant difference in average levels of aspirations by SES setting, race, and the interaction of the two factors, the role school climate played in these relationships was then investigated. It was hypothesized that individual students' perception of school climate would correlate with their level of aspirations, and that this relationship would differ depending on SES setting and student race. To test this hypothesis, a series of hierarchical linear regression models predicting individual student aspiration were constructed with each step sequentially adding an additional set of predictors. Step-1 included gender and age as controls, Step-2 added school SES group, Step-3 student race, Step-4 student perception of climate, and Step 5 added the interaction of school SES type, race, and climate.

Results are displayed in Table 5 and indicated that a model including covariates (gender and age), school type (low versus high SES), race, individual students perception of climate, and

interactions between school type, race, and climate best explained the variance in students' aspirations (total $R^2 = 32\%$).

Table 5

Model comparisons for hierarchical linear regression models of student aspirations

Model	<i>df</i>	<i>f</i>	<i>p</i>	ΔR^2
Covariates only	2, 8149	179.37	<.0001	.03
Adding school type	1, 8148	615.51	<.0001	.05
Adding race	4, 8144	20.41	<.0001	.01
Adding climate	1, 8143	2400.43	<.0001	.22
Adding interactions	13, 8130	3.17	<.0001	.01

Examination of the coefficients of the final model (Table 6) indicated that overall, males had lower aspirations than females and that aspirations were higher in older grades. Although in the ANOVA, Black and Hispanic students tended to have lower aspirations than white students, once differences in climate were controlled for, race alone did not significantly influence aspirations. Students in high-SES schools had higher aspirations than those in low-SES schools. However, this difference was significantly smaller for black and other race students.

Climate had a strong positive effect on student aspirations. However, this effect was generally stronger within low-SES schools. Additionally, this positive effect varied in strength depending on the interaction between school type and student race. Specifically, the effect of climate was significantly higher for Black and Asian students in high-SES schools versus Black and Asian students in low-SES schools. A similar but non-significant trend ($p = .08$) was found among Latino students. These results suggest that climate is more relevant to the aspirations of Black and Asian students who are in a high SES setting than it is to Black and Asian students in a low SES setting.

Figure 2

The relationship between aspirations and climate in diverse settings

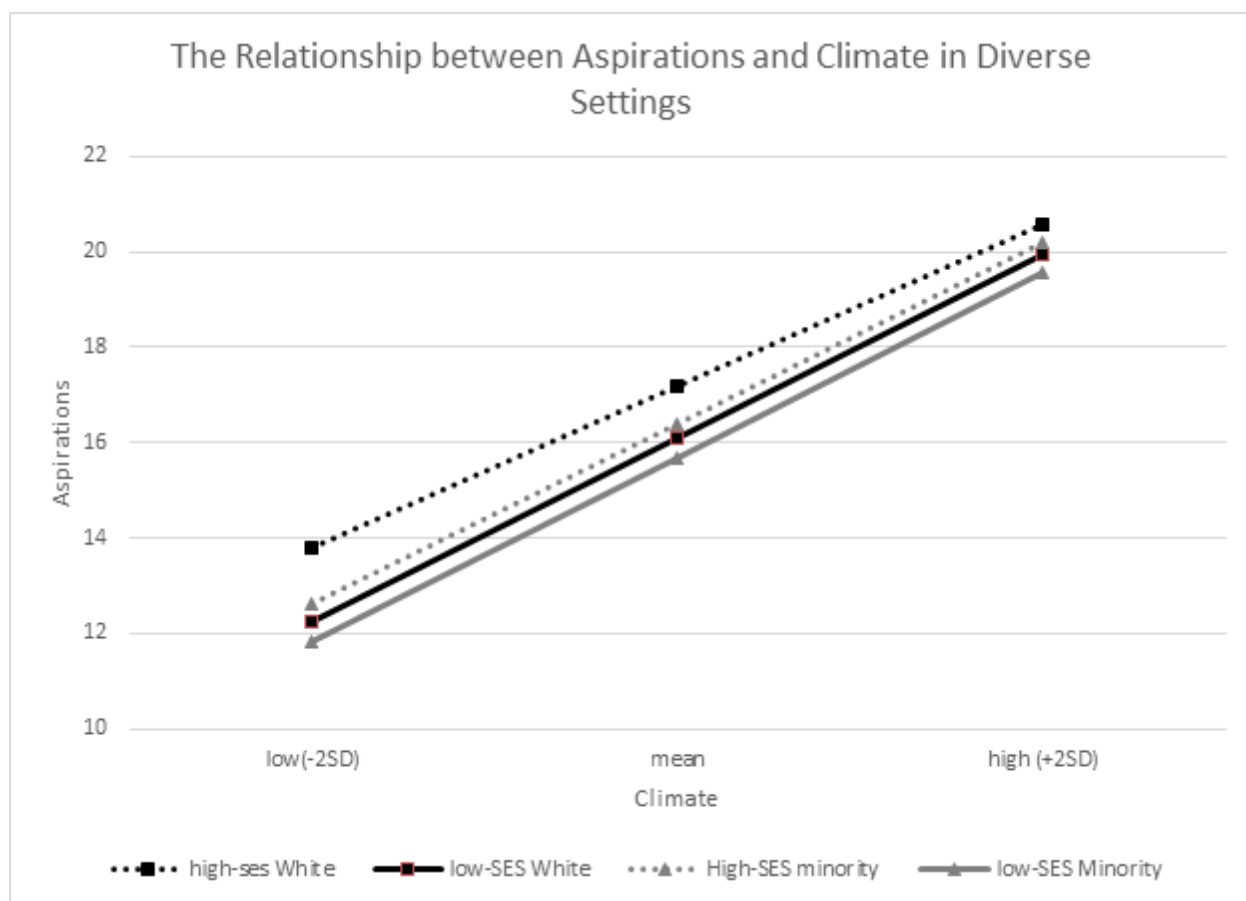


Table 6
Coefficients for the final model (model 5) predicting student aspirations

Coefficients:	B	SE	t	p
(Intercept)	15.02	0.14	106.86	<.0001
Gender	-0.50	0.08	6.55	<.0001
Grade	0.46	0.12	3.74	.0002
School Type	2.41	0.15	15.78	<.0001
Black	-0.19	0.19	1.04	.30
Asian	0.42	0.23	1.80	.07
Latino	0.03	0.16	0.17	.87
Other	-0.26	0.22	1.21	.23
Climate	0.25	0.01	17.76	<.0001
School Type by Black	-0.90	0.23	3.84	.0001
School Type by Asian	-0.59	0.35	1.67	.10
School Type by Latino	-0.38	0.23	1.67	.10
School Type by Other	-0.56	0.28	2.05	.04
School Type by Climate	-0.06	0.02	3.74	.0002
Black by Climate	-0.04	0.02	2.26	.02
Asian by Climate	-0.05	0.03	2.04	.04
Latino by Climate	-0.01	0.02	0.87	.38
Other by Climate	-0.02	0.02	0.69	.49
School Type by Black by Climate	0.07	0.02	2.71	.007
School Type by Asian by Climate	0.08	0.04	2.10	.04
School Type by Latino by Climate	0.05	0.03	1.75	.08
School Type by Other by Climate	0.03	0.03	1.07	.29

Notes: Gender was dummy coded with 1 = Male and 0 = Female. School-type was dummy coded with 0 = Low-SES and 1 = High-SES. Race was dummy coded with the comparison category being White.

While the overall regression found that the effect of climate significantly differed based on contextual factors, it did not directly establish the nature of the relationship between climate and aspirations within each context. Thus, two important questions remain: 1) what is the actual coefficient that describes the relationship between climate and aspiration under each condition (SES by race interaction)? 2) Is this coefficient significant under each condition? Following the recommendations of Fox (2008), a post-hoc test was conducted that utilized results from the previous regression equation to quantify and test these relationships.

Results of this analysis are displayed in Table 7. The coefficients in column B represent the degree to which climate is related to aspirations within each group, controlling for all other variables. So for White students in high SES settings, climate had a significantly smaller effect than for White students in low SES settings ($B = .19$ versus $.25$). In contrast, for Black and Asian students, climate had a slightly, but significantly, stronger effect in high SES schools ($B = .21$ Black, $.22$ Asian) than in low-SES schools ($B = .20$ Black, $.19$ Asian). Results for Latino and Other race students followed this trend, but the difference was not statistically significant. These results indicate that, in high-SES schools, climate had a greater effect on aspirations for minorities, while in low-SES schools the opposite was true, such that the effect of climate was greater among white students than minority students (see Figure 2). These differences between high and low SES settings were very large for white students, and were small for minority students.

Table 7
Simple effect of climate within each School-type by race

Category	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
High-SES				
White	.19	.01	22.51	<.0001
Black	.21	.01	15.62	<.0001
Asian	.22	.03	7.31	<.0001
Latino	.22	.02	12.28	<.0001
Other	.20	.02	11.8742	<.0001
Low-SES				
White	.25	.01	17.75	<.0001
Black	.20	.01	15.12	<.0001
Asian	.19	.02	8.93	<.0001
Latino	.23	.01	23.70	<.0001
Other	.23	.02	12.8234	<.0001

Discussion

Analysis of average levels of aspirations by group and setting showed that aspirations tend to be lower for students from low SES settings than for those from high SES settings, and Black, Latino, and Other students tend to have lower average aspirations than their White and Asian peers. In addition, results indicate that race and SES interact to impact aspirations, in that while overall levels of aspirations in low SES settings tend to be lower than in high SES settings, this difference was more significant for White students than for Black and Latino students. Examination of the role of perceived school climate in these relationships revealed that perceived school climate is important to the aspirations of all students, but is more important to the aspirations of students in low SES settings than to those of students in high SES settings. Additionally, in high SES settings, perceived school climate tends to be more important to the aspirations of minority (Black and Asian, though not quiet Hispanic) students than to those of White students, while in low SES settings, the opposite is true. Finally, the differences in the importance of climate to aspirations between high and low SES setting tend to be very large for white students (with climate significantly more important to the aspirations of White students in low SES settings) and relatively small for minority students (with climate being slightly more important to the aspirations of minority students in high SES settings).

Comparison to Existing Literature

Data revealed by examining average levels of aspirations across settings and groups correspond well to existing literature. In regards to SES, results corroborate previous research in finding that SES correlates with aspirations, and that low SES students tend to have lower aspirations than their high SES peers (Rothon, et al., 2009; Tynkkynen, Tolvanen, & Salmela-Aro, 2012). In regards to ethnicity, the literature was divided, with some studies finding that ethnicity impacts aspirations (Hudley, Daoud, Polanco, Wright-Castro, and Hershberg, 2003; Cooper,

2009) and other studies finding no impact of ethnicity on aspirations (Akos et al., 2007; Mello, 2009). In fact, while the current study did show a difference between aspirations of black and Hispanic students and their white peers, later analysis revealed that when other factors, including SES and school climate, were accounted for, race itself did not impact aspirations. Thus, the results indicate that the literature may be divided because relevant factors were not taken into account. As per one half of the literature, lower aspirations did correlate with minority status. However, as per the other half, when additional and relevant factors were taken into account, this correlation disappears. The impact of climate on student aspirations has been examined a bit in previous studies (McCollum and Yoder, 2011; Plucker, 2001), and does show importance, and this study furthered this research significantly in terms of results and breakdown by groups, as well as contributed to clarifying a divide in previous literature regarding the impact of ethnicity on aspirations.

Results of this study are in line with theories on the importance of setting to student development and achievement (Bronfenbrenner, 1994; Moos, 2003). Risk factors in a student's setting, such as minority status and low SES setting, tend to correlate with lower aspirations, which in itself may be helping to perpetuate the achievement gap. While race itself does not impact aspirations once SES setting and perception of school climate are accounted for, since Black and Hispanic students more frequently tend to be from low SES settings or to perceive school climate less favorably, and since both SES setting and perceived school climate are important to aspirations, the 'aspirations gap' does exist. This is important to note, as the importance of school climate to aspirations indicates an important route to closing this gap, and in that way to help close the achievement gap.

Aspirations and Risk Factors- Findings and Conclusions

Results also show that perceived school climate is most important to the aspirations of students with one risk factor, either being from a low SES setting or being a minority student. Perceived school climate was most important to the aspirations of White students in low SES settings and Black and Asian students in high SES settings. Interestingly, this was not the case for Hispanic students, for whom results were borderline. This result would need to be examined in a further study.

When two risk factors were present, specifically minority students in low SES settings, climate actually had slightly less impact than it did for similar students in high SES settings, who only had one risk factor for lowered aspirations. This small but significant difference is unexpected, and indicates that rather than gain in importance the more risk factors are present, perceived school climate had the most impact on students' aspirations when only one risk factor is present. The reason for this would be interesting to examine, and would likely yield interesting information on the impact of multiple risk factors on a student's life path.

Another unexpected result was that climate was significant for the aspirations of students with no risk factors as well. In fact, of the 32% of variance in aspirations correlated with aspirations, 22% applied to all students, and the addition of risk factors only accounted for an additional 10%. Thus, while there are significant differences in how strongly perception of climate correlates with aspirations between groups, overall, climate is a strong positive correlate of aspirations in all contexts studied. This result points to the power and importance of perceived school climate to all students' aspirations and, given the links found between aspirations and future outcomes, to their long term achievement and life success.

Implications for Practice

These results are extremely important for educators and policy makers, as they try to close the achievement gap and ensure equitable education and life success for all students. First, results point to differences in average levels of aspirations for students from different contexts. Since aspirations are vital to achievement, this indicates a possible reason why students from at-risk contexts continue to perform less well on average than their peers despite multiple efforts and interventions aimed at closing this gap. This study then points to a possible way to intervene to help close this ‘aspirations gap’, by showing the importance of school climate to student aspirations for students with one, or even two, risk factors. This finding can direct schools towards developing targeted interventions that seek to improve student aspirations through school climate. Given the importance of aspirations to achievement and future life attainment and success, such interventions may result in important movement towards closing the achievement gap itself. Finally, the unexpected finding that school climate is strongly correlated with the aspirations of all students, even those with no risk factors, indicates that no school can afford to ignore this connection. Interventions aimed at helping students develop and maintain high aspirations through the school climate should become a regular part of educational planning in order to most successfully facilitate long term, meaningful, student success.

Limitations

Some limitations of this study relate to the measure used. In order to be able to give the survey to as many students as possible without having issues with parental consent, the aspirations survey was written in global terms (Most students in this school will..) rather than in first person (I will...). Thus, the results may not be purely reflective of personal aspirations, and may be capturing some elements of social normative expectations as well. However, since analyses of

responses do show differences by groups within settings, it seems that students did respond to questions in a way that was reflective of their own aspirations, at least to the extent necessary to capture important differences.

Another limitation relating to the measure used is that data for one item on the survey was coded erroneously, necessitating in the removal of one of the aspirations questions from the original survey. Although psychometric properties were strong after removal of the item, and the remaining items enabled the desired analyses to take place, having had the additional item would have been preferable.

A few limitations relate to the sample used for the study. First, the fact that the survey was only administered to public schools in the state of New Jersey may limit the generalizability of the results. Second, although a range of schools reflecting different SES settings and different proportions of minority and majority students was used, all schools in low SES settings had high proportions of minority students, while half of the high SES schools had high proportions of minority students and half had high proportions of White students. It is a sad statement of the inequity of the schools that there was no school in a low SES setting that did not have a high proportion of minority students, but this is the reality, and thus the sample from low SES schools was not as diverse as that of the sample from high SES schools.

Suggestions for Future Research

Given the important results of this study, additional research examining the relationships between risk factors, school climate, and student aspirations would be vital for furthering knowledge and directing meaningful interventions.

Further studies that replicate the current study while addressing limitations may increase clarification and add valuable information. For example, replicating this study while using a

measure that looks at individual perception, rather than global, may be useful. Another possibility would be using a school level indicator of climate, rather than individual student perception of climate, and then looking at individual student aspirations within that setting.

One important finding of this study was that school climate was most important to the aspirations of students with one risk factor, and was slightly less important when students had two risk factors. Understanding why having two risk factors lessens the impact of school climate rather than makes it more important, would be important in terms of looking at the impact of compounded risk factors, and how typical interventions to aid students may need to be adjusted when multiple risk factors are present.

Recently, research has focused on the issue of unrealistic student expectations, particularly of minority students. Developing a study which would address this issue, looking at the development of aspirations, their maintenance, and factors that correlate with the achievement of aspirations, and identifying the roles risk factors and school climate may play in these stages, would add valuable and useful knowledge which may greatly aid, not only in the development and maintenance, but also in the achievement, of high aspirations.

Finally, research studying the specific elements of school climate that impact student aspirations, and identifying why this is so, would be important to helping all schools create an environment that best supports and fosters high student aspirations, as well as further directing interventions aimed at closing the aspirations gap, and through that the achievement gap.

References

- Abu-Hilal, M.M. (2000). A structural model of attitudes toward school subjects, academic aspiration and achievement. *Educational Psychology, 20*(1), 75-84.
- Akos, P., Lambie, G. W., & Milsom, A. (2007). Early adolescents' aspirations and academic tracking: An exploratory investigation. *Professional School Counseling, 11*(1), 57-64.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology, 52*, 1-26.
- Beal, S. J., & Crockett, L. J. (2010). Adolescents' occupational and educational aspirations and expectations: Links to high school activities and adult educational attainment. *Developmental Psychology, 46*(1), 258-265.
- Birkett, M., Espelage, D. L., & Koenig, B. (2009). LGB and Questioning students in schools: The moderating effects of homophobic bullying and school climate on negative outcomes. *Journal of Youth and Adolescence, 38*(7), 989-1000.
- Blank, R. K. (2011). *Closing the achievement gap for economically disadvantaged students? Analyzing change since No Child Left Behind using state assessments and the National Assessment of Educational Progress*. Authoring Institution: Council of Chief State School Officers. Retrieved from <http://files.eric.ed.gov/fulltext/ED518986.pdf>
- Boxer, P, Goldstein, S. E., DeLorenzo, T., Savoy, S., & Mercado, I. (2011). Educational aspiration-expectation discrepancies: Relation to socioeconomic and academic risk-related factors. *Journal of Adolescence, 34*(4), 609-617.

- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, 32(7), 513-531.
- Bronfenbrenner, U. (1994). Ecological models of human development. In *International Encyclopedia of Education, Vol. 3* (2nd ed.). Oxford: Elsevier. Reprinted in M. Gauvain & M. Cole (Eds.), *Readings on the development of children* (2nd ed.) (1993, pp. 37-43). New York: Freeman.
- Brookmeyer, K. A., Fanti, K. A., & Henrich, C. C. (2006). Schools, parents, and youth violence: A multilevel, ecological analysis. *Journal of Clinical Child and Adolescent Psychology*, 35(4), 504-514.
- Burchinal, M., McCartney, K., & Steinberg, L. (2011). Examining the Black-White Achievement Gap among Low-Income Children Using the NICHD Study of Early Child Care and Youth Development. *Child Development*, 82(5), 1404-1420.
- Carnoy, M., & Rothstein, R. (2013). *What do international tests really show about U.S. student performance?* Retrieved from Economic Policy Institute website:
<http://www.epi.org/publication/us-student-performance-testing/>
- Chen, P., & Vazsonyi, A. T. (2013). Future orientation, school contexts, and problem behaviors: A multilevel study. *Journal of Youth and Adolescence*, 42(1), 67-81.
- Cohen, J., McCabe, L., & Michelli, N. M. (2009). School climate: Research, policy, teacher education, and practice. *Teachers College Record*, 111(1), 180-213.
- Cohen, J., & Elias, M. J. (2011). *School Climate: Building Safe, Supportive and Engaging Classrooms & Schools*. Port Chester, NY: National Professional Resources.

- Cooper, K. J. (2011). Poverty not destiny. *Diverse Issues in Higher Education*, 28(18), 18-19.
- Cooper, M. A. (2009). Dreams deferred?: The relationship between early and later postsecondary educational aspirations among racial/ethnic groups. *Educational Policy*, 23(4), 615-650.
- Corwin, Z. B., & Tierney, W. G. (2007). *Getting there- and beyond: Building a culture of college-going in high schools*. Los Angeles, CA: Center for Higher Education Policy Analysis.
Retrieved from
<http://www.usc.edu/dept/chepa/working/Getting%20There%20FINAL.pdf>
- Dalton, B. (2011). *US educational achievement on international assessments: The role of race and ethnicity*. (RTI Press Publication No. OP-0005-1105). Retrieved from
<http://files.eric.ed.gov/fulltext/ED535873.pdf>
- Elias, M. J. (2008). The other side of the report card. *School Leader*, November/December. Retrieved from <http://www.njsba.org/school-leader/novdec08.html>
- Elias, M. J. (2010). School climate that promotes student voice. *Principal Leadership*, 11(1), 22-27.
- Elias, M. J., DeFini, J., & Bergmann, J. (2010). Coordinating social-emotional and character development (SECD) initiatives improves school climate and student learning. *Middle School Journal*, 42(1), 30-37.
- Ensminger, M. E., & Slusarcick, A. L. (1992). Paths to high school graduation or dropout: A longitudinal study of a first-grade cohort. *Sociology of Education*, 65(2), 95-113.

- Evans, G. W., Yoo, M. J., & Sipple, J. (2010). The ecological context of student achievement: School building quality effects are exacerbated by high levels of student mobility. *Journal of Environmental Psychology, 30*(2), 239–244.
- Fox, J. (2008). *Applied regression analysis and generalized linear models*. Sage Publications.
- Horvat, E. M. (2003). The interactive effects of race and class in educational research: Theoretical insights from the work of Pierre Bourdieu. *Penn GSE Perspectives on Urban Education, 2*(1), 1-25.
- Howard, E., Howell, B., & Brainard, E. (1987). *Handbook for conducting school climate improvement projects*. Bloomington, IN: Phi Delta Kappa Educational Foundation.
- Hoy, W. K., Hannum, J., & Tschannen-Moran, M. (1998). Organizational climate and student achievement: A parsimonious and longitudinal view. *Journal of School Leadership, 8*(4), 336-359.
- Hudley, C., Daoud, A., Polanco, T., Wright-Castro, R., & Hershberg, R. (2003, April). *Student engagement, school climate, and future expectations in high school*. Paper presented at the Biennial Meeting of the Society for Research in Child Development, Tampa, FL.
- Kao, G., & Tienda, M. (1998). Educational aspirations of minority youth. *American Journal of Education, 106*(3), 349-384.
- Kasen, S., Cohen, P., & Brook, J. S. (1998). Adolescent school experiences and dropout, adolescent pregnancy, and young adult deviant behavior. *Journal of Adolescent Research, 13*(1), 49-72.

- Kasler, J., White, G. W., & Elias, M. J. (2013). Evaluation of the Meaning of Life Program in Israel. *Peabody Journal of Education*, 88(2), 243-260.
- Kloos, B., Hill, J., Thomas, E., Wandersman, A., Elias, M.J., & Dalton, J. H. (2012). *Community psychology: Linking individuals and communities, 3rd ed.* Belmont, CA: Wadsworth.
- Lacour, M., & Tissington, L. D. (2011). The effects of poverty on academic achievement. *Educational Research and Reviews*, 6(7), 522-527.
- La Russo, M. D., Romer, D., & Selman, R. L. (2008). Teachers as Builders of Respectful School Climates: Implications for Adolescent Drug Use Norms and Depressive Symptoms in High School. *Journal of Youth and Adolescence*, 37(4), 386-398.
- Lickona, T., & Davidson, M. (2001). School as a Caring Community Profile-II (SCCP-II). Cortland, NY: Authors.
- MacNeil, A. J., Prater, D. L., & Busch, S. (2009). The effects of school culture and climate on student achievement. *Journal of Leadership in Education*, 12(1), 73-84.
- McCollum, E. C., & Yoder, N. P. (2011). School culture, teacher regard, and academic aspirations among middle school students. *Middle Grades Research Journal*, 6(2), 65-74.
- Mello, Z. R. (2009). Racial/ethnic group and socioeconomic status variations in educational and occupational expectations from adolescence to adulthood. *Journal of Applied Developmental Psychology*, 30, 494-504.
- Messersmith, E. E., & Schulenberg, J. E. (2008). When can we expect the unexpected? Predicting educational attainment when it differs from previous expectations. *Journal of Social Issues*, 64(1), 195-211.

- Meyer-Adams, N., & Conner, B. T. (2008). School violence: Bullying behaviors and the psychosocial school environment in middle schools. *Children and Schools, 30*(4), 211-221.
- Moos, R. H. (2003). Social contexts: Transcending their power and their fragility. *American Journal of Community Psychology, 31*, 1-13.
- National Association of School Psychologists (2010). *Principles for professional ethics*. Retrieved from http://www.nasponline.org/standards/2010standards/1_%20Ethical%20Principles.pdf
- New Jersey Department of Education, High School Proficiency Assessment. (2012). *Performance by demographic group, statewide, mathematics*. Retrieved from http://www.state.nj.us/education/schools/achievement/2013/hspa/demographic_reports.pdf
- No Child Left Behind Act, 20 U. S. C. § 6301 (2002).
- Nurmi, J. (2004). Development of orientation to the future during early adolescence: A four year longitudinal study and two cross-sectional comparisons. *International Journal of Psychology, 24*, 195-214.
- Ou, S., & Reynolds, A. J. (2008). Predictors of educational attainment in the Chicago Longitudinal Study. *School Psychology Quarterly, 23*(2), 199-229.
- Plucker, J. A. (1998). The relationship between school climate conditions and student aspirations. *The Journal of Educational Research, 91*(4), 240-246.
- Reardon, S. F. (2011). The Widening Academic Achievement Gap Between the Rich and the Poor: New Evidence and Possible Explanations. In G. J. Duncan & R. Murnane (Eds.),

- Whither opportunity? Rising inequality, schools, and children's life chances* (pp. 91-116). New York, NY: Russell Sage Foundation.
- Rothon, C., Arephin, M., Klineberg, E., Cattell, V., & Stansfeld, S. (2009). Structural and socio-psychological influences on adolescents' educational aspirations and subsequent academic achievement. *Social Psychology of Education, 14*, 209-231.
- Rothstein, R. (2004). Wising up on the black-white achievement gap. *Education Digest: Essential Readings Condensed for Quick Review, 70*(4), 27-36.
- Rothstein, R. (2005). The role of schools and society in closing the achievement gap. *Principal Leadership, 5*(7), 16-21.
- Rothstein, R. (2008). Whose problem is poverty? *Educational Leadership, 65*(7), 8-13.
- National School Climate Council (2007). The School Climate Challenge: Narrowing the gap between school climate research and school climate policy, practice guidelines and teacher education policy. Retrieved from <http://www.ecs.org/html/projectsPartners/nclc/docs/school-climate-challenge-web.pdf>
- Schoon, I. (2001). Teenage job aspirations and career attainment in adulthood: A 17-year follow-up study of teenagers who aspired to become scientists, health professionals, or engineers. *International Journal of Behavioral Development, 25*(2), 124-132.
- Seginer, R. (2008). Future orientation in times of threat and challenge: How resilient adolescents construct their future. *International Journal of Behavioral Development, 32*(4), 272-282.
- Shindler, J., Jones, A., Williams, A. D., Taylor, C., & Cadenas, H. (2009, January). *Exploring below the surface: School climate assessment and improvement as the key to bridging the*

achievement gap. Paper presented at at the Annual Meeting of the Washington State Office of the Superintendent of Public Instruction, Seattle, WA.

- Sipsma, H. L., Ickovics, J. R., Lin, H., & Kershaw, T. S. (2012). Future expectations among adolescents: A latent class analysis. *American Journal of Community Psychology, 50*, 169-181.
- Sirin, S. R. Diemer, M. A., Jackson, L. R., Gonsalves, L., & Howell, A. (2004). Future aspirations of urban adolescents: A person-in-context model. *International Journal of Qualitative Studies in Education, 17*(3), 437-459.
- Stewart, E. B. (2007). Individual and school structural effects on African American high school students' academic achievement. *The High School Journal, 91*(2), 16-34.
- Thapa, A., Cohen, J., Guffey, S., & Higgins-D'Alessandro, A. (2013). A review of school climate research. *Review of Educational Research, 83* (3), 357-385. DOI: 10.3102/0034654313483907
- Tynkkynen, L., Tolvanen, A., & Salmela-Aro, K. (2012). Trajectories of educational expectations from adolescence to young adulthood in Finland. *Developmental Psychology, 48*(6), 1674-1685.
- U. S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. (2011). *Digest of Education Statistics: 2011*. Retrieved from http://nces.ed.gov/programs/digest/d11/ch_2.asp

U. S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. (2013). *Public high school graduation rates*. Retrieved from

http://nces.ed.gov/programs/coe/indicator_coi.asp

Whipple, S. S., Evans, G. W., & Barry, R. L. (2010). An Ecological Perspective on Cumulative School and Neighborhood Risk Factors Related to Achievement. *Journal of Applied Developmental Psychology*, 1(6), 422-427.

Wigfield, A. & Eccles, J. S. (2002). *Development of achievement motivation*. San Diego, California: Academic Press.

Wyman, P. A., Cowen, E. L., Work, W. C., & Kerley, J. H. (1993). The role of children's future expectations in self esteem functioning and adjustment to life stress: A prospective study of urban at-risk students. *Development and Psychopathology*, 5(4), 649-661.

Appendix

School As A Caring Community Profile- II (SAACCP-II)

1. Students treat classmates with respect
2. Students exclude those who are different
3. Students help each other even if they are not friends
4. When students do something hurtful they try to make up for it
5. Students try to get other students to follow school rules
6. Students work well together
7. Students are disrespectful towards their teachers
8. Students help new students feel accepted
9. Students pick on other students
10. Students are willing to forgive each other
11. Students resolve conflicts without fighting, insults, or threats
12. Students like being in this school
13. Students are involved in helping to solve school problems
14. Students can talk to their teachers about problems that are bothering them
15. In this school, students don't feel like they learn anything useful
16. Teachers go out of their way to help students who need extra help
17. Teachers in this school like to come here
18. In this school you can count on adults to try to make sure students are safe
19. Teachers are unfair in their treatment of students
20. Students here have a lot of school pride