

# "The Spirit is Willing": A Study of School Climate, Bullying, Self-Efficacy, and Resilience in High-Ability Low-Income Youth

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# Introduction

According to a report by Wyner, Bridgeland, and DiIulio (2008), the achievement gap between high-achieving low-income children and their middle- or high-income peers begins to widen almost as soon as these students enter school. Forty-four percent of high-achieving lower-income students fell out of the top achievement quartile in reading between first and fifth grades, compared to 31% from higher income families. Likewise, a lower proportion of low-income students become high achieving, with income being highly related to achievement status.

To work to ameliorate this loss of potential, a cohort of middle school students was invited to participate in an enrichment summer camp for high-ability low-income middle schoolers hosted at a medium-sized university in the Southeastern US. Focus group interviews with these students revealed that the students were well-integrated into their academic milieus, with school leaders and peers striving to protect these students' investment in academic pursuits (Author). In that study, the students provided preliminary evidence explaining why some low-income youth might lose academic ground during K-12 schooling, as several students talked extensively of academic environments that were marked by mayhem, indicating that the protective nature of some actors in the academic community might not be strong enough to overcome continued exposure to tumultuous educational environments. Burdick-Will (2013) found that violent school environments, which included bullying, impair trust, with this loss potentially undercutting academic achievement. Burdick-Will's study, amongst others, indicate that an examination of school climate and its impact on psychosocial adjustment would prove a worthy place of examination when exploring the academic experience of high-ability, low-income youth. This study also adds to the limited scholarship exploring school climate as a socio-

ecological variable for students with gifts and talents (SWGT<sup>1</sup>), examining student attitudes and their experience of violence or bullying as an aspect of overall school climate.

## **School Climate and Bullying**

A focus on school climate and its effect on school violence, including bullying, is a relatively recent shift in explaining and then intervening to address school violence (Johnson, 2009, Steffgen, et al, 2013). School climate is defined as the social milieu of a school (Gage, Prykanowski, & Larson, 2014; Low & Ryzin, 2014). Studies have operationalized school climate in a variety of ways, with consensus definitions highlighting interpersonal relationships, perceptions of school and feelings towards school, and school characteristics (Steffgen, et al., 2013). It is considered a multidimensional construct and encompasses feelings of safety; the nature of relationships with peers, teachers and other school personnel; school connectedness (Espalage, Low, & Jimerson, 2014; Gage, Prykanowski, & Larson, 2014) and school disorder (Johnson, 2009).

A person who is bullied or victimized is considered to have been exposed to repeated harmful actions from others over time (Steffgen et al., 2013). There is generally a power differential, and bullying can occur through verbal and physical aggression, social isolation and rejection, and intimidation (Pelchar & Bain, 2014). Peer victimization and other forms of violence occur at all levels of schooling, with middle school being a particularly distressing period for many children (Akiba & Han, 2007; Dawes, Chen, Farmer, & Hamm, 2017; Hong & Espelage, 2012). Current rates of occurrence of bullying/victimization in the general population of 6<sup>th</sup> graders through early high school age (9<sup>th</sup> and 10 graders) range between 7.4% and 19.8%. In a large-scale study with 6<sup>th</sup> to 10<sup>th</sup> graders, 8.5% indicated that they had been bullied on

<sup>&</sup>lt;sup>1</sup> This acronym allows the authors to use preferred people-first language, avoiding the entity framing of the term "gifted student".

occasion and 8.4% reported bullying incidents weekly. A 3-year study looking at bullying in 6<sup>th</sup>-9<sup>th</sup> graders found that 33% of the sample across all 3 waves of data collection experienced bullying periodically, and 48% of the sample across all 3 waves of data collection reported repeated bullying (Peterson & Bain, 2014). Espelage, Hong, Rao, and Low (2013) reported that 38.6% of middle school students, compared to 19.6% of elementary children and 19.8% of high schoolers, were victimized by their peers and close to 50% of middle schoolers had at least one bullying incident in the first year.

The relationship between bullying and student perceptions of school climate is a promising area of inquiry when seeking to ameliorate bullying and other forms of violence in schools (Johnson, Burke, & Gielen, 2011; Steffgen et al., 2013). Researchers examining the impact of school climate on school violence contend that school-wide acceptance of violence can cause schools to be sites of fear (Johnson et al., 2011), with students apt to act out through bullying and other forms of aggression as a means of coping (Gage et al., 2014). Further, relationships with teachers and peers can be the basis for support or harassment. Adult support in ameliorating bullying, with children being willing to tell adults when they see it or experience it, is a key factor in bullying prevention programs (Huang & Mossige, 2012). Thus, the relationships that students have with teachers is an important component of bullying prevention (Johnson et al., 2011). Peers can either be supportive and facilitate effective coping mechanisms (good friendships; Erath, Flanagan, Bierman, & Tu, 2010) when subject to bullying or they can be the source of the distress, influencing the nature of the social environment (Huang & Mossige, 2012). Lastly, students who indicate a sense of connectedness with school are less likely to participate in negative behavior. Students who feel they do not belong are more likely to engage

in poor behavior such as bullying and are less likely to thrive academically (Gage et al., 2014; Hong & Espelage, 2013).

Researchers examining the interrelatedness of school climate and bullying have shown that the relationship between bullying and school climate variables varies by level in school (Gage et al., 2014). Honing in on middle school, Gage et al. found that, even as children in a high-risk (i.e., more victimized) group reported feeling less safe in fifth grade than other students in their study, their feelings of safety increased upon the transition to middle school. Likewise, students exhibiting respect for differences was positively related to a perception of school safety, and peer support mattered more for students who were more likely to be bullied by peers.

## The Impact of School Climate on Academic and Psychosocial Outcomes

Turning to impact on academics, studies consistently show that victimization negatively impacts performance in school. For example, Wang et al (2014) examined school climate as both an individual and school-wide variable (they averaged school climate across students) using 5th grade classrooms in 50 elementary schools. They found that individual estimations of school climate were positively related to GPA, and for every 1 point increase in school-level school climate, there was a 1-point increase in GPA. Milam, Furr-Holden, and Leaf (2010) show that the interrelationship between school climate, or students feeling safe in school, and performance on standardized assessment of reading achievement was significant for 5th graders. A meta-analysis of the literature exploring the impact of peer victimization on academic achievement revealed a persistent negative relationship, even when controlling for methodological differences in reporting victimization and academic achievement (Nakamoto & Schwartz, 2010)

Nakamoto and Schwarz (2010) begin and end their meta-analysis wondering about the pathway between peer victimization and academic functioning, positing that peer victimization

potentially interferes with psychosocial adjustment. It is potentially poor adjustment that eventually leads to difficulties academically. Therefore, resilience in the face of victimization is an important, if nascent, area of inquiry (Moore & Woodcock, 2017). Self-efficacy is a common psychosocial adjustment variable utilized to understand well-being (Caprara, Barbaranelli, Pastorelli, & Cervone, 2004). Researchers have found that beliefs about academic competence (Kokkinos & Kipritsi, 2012; ) as well one's capability to form deep friendships and get along with peers (Fitzpatrick & Bussey, 2014; Kokkinos & Kipritsi, 2012; Raskauskas, Rubiano, Offen, & Wayland, 2015), resist peer pressure, and regulate one's learning (Caprara et al., 2004) have either served as protective mechanisms in the face of bullying, were concomitant with academic struggles, or were inversely related to victimization. Preliminary evidence exploring the relationship between self-efficacy, resilience, bullying and victimization has shown that resilience can mediate the relationship between bullying and self-efficacy for adolescent males (Narayanan & Betts, 2014); however, a later study argued that resilience-based interventions to combat bullying would be equally beneficial for young men and women (Moore & Woodcock, 2017).

Resilience is understood as the propensity of an individual to meet his or her social and emotional needs regardless of systemic and historic environmental stressors and disadvantages (Ford, 1994; Hamill, 2003; Kitano & Lewis, 2005; Neihart, 2002). Self-efficacious beliefs especially serve to produce an increasing sense of control over the environment, strong task commitment, and an internal locus-of control (Bland & Sowa, 1994; Gardynik & McDonald, 2005; Hamill, 2003), which may help to overcome bullying in school. Interventions to build resilience within students may contribute to development of coping skills and demonstration of

strong self-efficacy, because building up resilience requires consistent and positive experiences in overcoming difficult tasks or succeeding in challenging experiences (Kitano & Lewis, 2005).

Students with Gifts and Talents, School Climate and Bullving

Peterson and Ray (2006) noted that there is a limited body of literature that explores the inner lives of high-ability youth. Relatedly then, there appears to be limited scholarship exploring school climate as a socio-ecological variable for SWGT, particularly when examining the impact of violence or bullying as an aspect of overall school climate (Chen, Hamm, Farmer, Lambert, & Mehtaji, 2015; Peterson & Ray; Hong & Espelage, 2012). Studies investigating aspects of school climate for high-ability students have not only explored high-ability students' beliefs about schooling but have also investigated life satisfaction and psychological well-being, ostracism, and exposure to bullying.

Academic environments and peers might facilitate or impede fit in addressing the psychosocial needs of highly able students (Akkanat & Gokdere, 2018; Niehart,1999; Suldo, Riley, & Shaffer). Life satisfaction and emotional well-being for high-ability middle school students might include a greater need for sufficiently challenging academic experiences when compared to children from the general population (Ash & Huebner, 1998; Gallagher, Harradine, & Coleman, 1997). In fact, Jin and Moon (2006) contend that a common source of emotional aggravation is placement within an academic environment that is not challenging. Likewise, nonsupportive peers can also impede a sense of well-being (Jin & Moon, 2006; Author).

Research is inconclusive when considering the role of gifted programming in establishing appropriate fit. For example, Jin and Moon (2006) showed that a sense of well-being might be independent of type of school, as they did not find evidence that well-being differed for highly able students attending a residential school for SWGT compared to SWGT attending traditional

schools. However, in exploring the relationship between self-efficacy and school climate, Shaunessy, Suldo, Hardesty and Shaffer (2006) found that highly able students participating in an International Baccalaureate program were more positive about relationships with other peers and teachers, and they had higher estimations of discipline, order, and use of resources when compared to students from the general population attending the same school. The IB students were also less likely to engage in rule-breaking and had higher GPAs and academic efficacy. Akkanat & Gokdere (2018) explored student motivation, creativity and scientific aptitude of students attending Turkish science and arts centers for SWGT and found that student perceptions of school climate were significantly related to and predictive of motivation, creativity and scientific aptitude.

The evidence is also inconclusive as to whether this population is more vulnerable to bullying from peers. Researchers have shown that SWGT are more likely to be targeted, less likely to be bullied, or just as likely to be bullied as students in the general population (Cross, Bugaj, & Mammadov, 2016; Peters & Bain, 2011; Pelchar & Bain, 2014). Bullying and peer victimization may be influenced by the degree of integration within social ecologies, with socially marginalized students being more exposed to bullying and other forms of peer victimization (Chen, Hamm, Farmer, Lambert, & Mehtaji, 2015; Hong & Espelage, 2012). The literature on SWGT and bullying points to two experiences, one where they are isolated and one where they are integrated.

**Isolation vs. integration**. Literature that explores the lived experience of high-ability youth show that SWGT can feel isolated in schools *because* of their ability or talent in academic domains. Students can feel that their ability makes them prone to being bullied (Peterson & Ray, 2006b). Peterson and Ray (2006a) found amongst a sample of 432 eighth grade SWGT that 67%

had been bullied at some point in school and 11% reporting being bullied repeatedly. Labeling as gifted within school has been reported to cause youth to feel stigmatized (Coleman, Micko, & Cross, 2015) and some might worry about the negative ramifications of outperformance of peers (Exline & Lobel, 1999).

To address these worries, SWGT have turned to social coping behaviors (Coleman, Micko & Cross, 2015; Swiatek, 2001, 2002; Swiatek & Cross, 2007). Using the work of sociologist Erving Goffman (1963), Coleman (1985) created the Stigma of Giftedness Paradigm (SGP) to further contextualize the phenomena. The coping behaviors SWGT engage in related to the SGP are aimed at creating and maintaining desired levels of social latitude (Coleman & Cross, 1988; Cross, Coleman & Terharr-Yonkers, 1991). These behaviors represent at least three different goals: 1) trying to stand out in order to be thought of as a gifted person, 2) trying to blend in with the general student population, and 3) trying to disidentify with giftedness, by being thought of as something other than a gifted person. Each of these three categories includes numerous social coping behaviors. While some of the behaviors are relatively innocuous, others are limiting, and still others have potentially negative effects on psychosocial development.

In a mixed methods study exploring the experience of SWGT subject to bullying, isolation and differentness were key ideas encompassing the findings (Peterson & Ray, 2006). The students reported feelings of isolation, sadness, depression, and confusion about why they were being targeted. Some spoke to feeling violent or hopeless about their situation. Others went on to explain how they were able to overcome bullying, which included the coping mechanisms of making more friends, being more open with others, standing up for one's self in such a way that an authority figure could see that the person was being targeted, adjusting to the bullying, or ignoring the bullying. The students also talked through how they worked to

understand why they were bullied and also how they could overcome bullying. Being successful in getting an intellectual handle on bullying might have led to feelings of more control, which allowed for some easing of pressure.

As this study implies, a sense of alienation is not uniform for SWGT (Neihart, 1999). Likewise, not all SWGT feel they are all that different from their peers not identified as gifted (Coleman, et al., 2015; Cross, Frazier, Kim, & Cross, 2018; Neihart, 1999). So, though examination of social coping paints a compelling picture of the costs of gifted status; preliminary literature exploring the rate of occurrence of bullying and SWGT and non-identified youth have not established that SWGT are more vulnerable to bullying or are more likely to be bullied (e.g., Chen, Hamm, Farmer, Lambert, & Mehtaji, 2015; Cross, Bugaj; & Mammadov, 2016; Estell, Farmer, Irvin, & Crowther, 2009). For example, Chen et al. compared rates of occurrence of bullying for 5<sup>th</sup> and 6<sup>th</sup> grade students from 39 rural schools receiving special education services high-ability youth and youth with special needs. Of the two groups, students with disabilities had a higher rate of being victimized. In fact, the majority of SWGT in the sample (61.4%) were not a part of a peer victimization subgroup. Fifty percent of the children with disabilities were consistently bullied, compared to 40% of students without disabilities and 25% of the SWGT. This could be due to the social network centrality of the SWGT. Of the gifted sample, 25.6 % of the students were socially marginalized or peripheral to the peer social groups within their schools. In the largest group of SWGT, 41.9% were in social groups that were central within their peer social group, and 32.6 % of students were in secondary groups.

**High-ability, low-income students in schools**. The research base does not include data regarding the special population that is a concern of this study: students with high-ability from low-income environments. As a group that is typically underrepresented in gifted and talented

programs or services (Crabtree, Richardson, & Lewis, 2019; Ford & Whiting, 2007), these students tend to be overlooked in research, as well. It is unclear whether school climate and/or bullying may be playing a role in the drop in achievement among low-income students upon entering school (Wyner et al., 2008), so there is an acute need for research on this topic. This study begins that exploration.

## Current Study

Bullying as a relatively new area of study. The newness of this area potentially accounts for the inconclusiveness of the findings. We posit that an important contribution to this line of inquiry would include person-centered approaches to statistical analyses. Variable-centered statistical approaches assume an underlying homogeneity or uniformity in the nature of the relationship amongst variables. So, although multivariate research explores group differences, the unintentional byproduct of many of these approaches is the assumption of low within-group variability (Von Eye, 2010). Likewise, group differences based on overt markers like ethnicity, gender, or gifted status precludes more organic ways members of a sample might group together (Hair & Black, 2000).

Studies that have employed classification or typology techniques in exploring bullying as a component of school climate counter assumptions of homogeneity, further contextualizing how bullying can be experienced. For example, Betts, Gkimitzoudis, Spenser, and Baguley (2017) argued that the use of arbitrary cut-scores with bullying surveys have yielded differing results based on the cut-score used rather than any underlying behavior. Using cluster analysis, they showed that students can engage in (cyber) bullying and victim behavior simultaneously and were identified as "retaliators."

Person-centered statistical techniques also allow for the identification of patterns for latent constructs that encompass a number of elements. Shukla, Konold, and Cornell (2016) operationalized school climate as a latent construct with 9 indicators. They identified four profiles of students, those experiencing a positive climate, a medium climate with low bullying, a medium climate with high bullying, and a negative climate.

The current literature seems to support the idea that not all SWGT experience school climates in similar ways. Our study will contribute a person-centered approach to understanding the impact of school climate, bullying, and psychosocial outcomes in a **similar sample** to not only explore the impact of bullying on academic striving but to also investigate how school climate affects students' continued identification with school. Research questions guiding inquiry were (1) Are there differences in how high-ability, low-income students' perceived school climate, (2) if so, how are these differences associated with personal and peer-related variables, and (3) if there are differences in school climate perceptions, how are these differences associated with bullying and victimization?

#### Method

## **Participants**

Participants were rising 7<sup>th</sup> graders attending a university-based two-week summer residential science, technology, engineering, and mathematics (STEM) camp for low-income, high-ability middle school students. School districts with greater than 50% National School Lunch Program (NSLP) participants within a 75-mile radius of the university were invited to select eligible students. To be eligible, students were required to have family incomes of less than \$45,000 per year and were identified by their school district as having scored in the upper 10<sup>th</sup> percentile on a nationally normed aptitude, creativity, or achievement test. To be more

inclusive of students who might not be eligible using traditional measures, teacher, gifted education coordinator, or caregiver recommendations and evidence of performance were accepted for students who did not meet the 90<sup>th</sup> percentile criteria, or for whom no test scores were available. The majority of participants were African Americans from large, urban schools (see Table 1 for sample demographics). From the original 125 students, 20 were missing more than 10% of data required for this analysis and were removed, leaving a total sample of 105. The 20 removed students did not differ demographically from the remaining sample. Missing data (less than 10%) in other measures was replaced by the series mean.

### Insert Table 1 about here

## **Procedure**

Data was collected over a 4-year span. Each year, students completed a battery of surveys in a large group. This study utilizes six of the instruments included in the battery. In the first two years, paper-and-pencil surveys were collected on the first evening of the residential summer camp. The battery was delivered in two parts, with a dinner break between them. In the third and fourth year, the surveys were administered online, with most surveys completed on the first day, but with some instruments completed during classes in the first week of camp.

#### Instruments

Student School Climate Survey. School climate was measured with Mitchell, Kensler, and Tschannen-Moran's (2010) 61-item survey, which was adapted from a variety of climate-related instruments, including Voelkl's (1996) *Identification with School Questionnaire* and Adams and Forsyth's (2009) *Student Trust Scale*. The full instrument was utilized in a large-scale school climate study within an urban school district. Its subscales have been associated with one another (i.e., safety and trust predict identification with school, Mitchell, Kensler, &

Tschannen-Moran, 2016) and found to be predictive of school achievement (Tschannen-Moran, Bankole, Mitchell, & Moore, 2013). The survey includes 8 subscales: Identification with School (10 items adapted from Voelkl, 1996; e.g., "I feel proud of being part of my school," "I enjoy coming to school"), Cronbach's  $\alpha = .79$ ; Academic Press (12 items; e.g., "Students respect others who get good grades," "The content of my courses is challenging"), Cronbach's  $\alpha = .88$ ; Discipline (3 items; "Teachers control classroom behavior," "The rules in this school are clear"), Cronbach's  $\alpha = .78$ ; Student Safety (9 items; e.g., "I feel safe inside the school," "Gangs are a problem at my school" reverse coded), Cronbach's  $\alpha = .84$ ; Student Trust (19 items adapted from Adams & Forsyth, 2009; e.g., "My teachers care about me," "The school staff members are friendly and helpful"), Cronbach's  $\alpha = .97$ ; Noise (1 item; "The noise in the school disrupts my learning," reverse coded); Cleanliness (1 item, "My school is clean and well maintained, even if it may be old"); and Class Size (1 item, "I have trouble learning because there are too many students in my classroom," reverse coded). An average of all items produced an overall climate score, Cronbach's  $\alpha = .96$ . Response options were from 1 = "Strongly Disagree" to 6 ="Strongly Agree," with high scores indicating a positive perception of school climate.

California Bully Victimization Survey (CBVS). The CBVS (Felix, Sharkey, Green, Furlong, & Tanigawa, 2011) allows respondents to self-report behaviors associated with bullying, never using the term *bullying*. The instrument was validated with multiple samples of students in grades 5-12, with high test–retest reliability, concurrent validity with another bullying assessment and predictive validity with measures of well-being (Felix, Sharkey, Green, Furlong, & Tanigawa, 2011). Utilizing the three-part definition of bullying – repetitive, intentional, and with an imbalance of power favoring the aggressor (American Educational Research Association, 2013) – items allow identification of bullying behavior (self – "How often have

you..." or other – "How often have you seen...") or victimization. Victimization was identified by responses to questions such as "How often have you been teased or called names in a mean or hurtful way?" Because students were attending a summer program and were not in school at the time of the survey, the response options were altered to have them reflect on the previous school year. Choices were 1=Did not happen last year, 2=Once or twice in the last year, 3=Once or twice a month in the last year, 4=About once a week in the last year, and 5=Several times a week in the last year. Participants were also asked about "the MAIN person or leader who did these things to you in the past month" and "how this person compare[s] with you" in popularity, smartness, physical strength, good looks, athleticism, wealth, and age. Responses were 1=Less/younger than me, 2=Same as me, or 3=More/older than me. Bullying scores were averaged when there was a power differential greater than 2. Observed victimization scores were an average of how often respondents had seen others engaging in bullying behaviors, Cronbach's  $\alpha$  = .94. Eight items assessed students' perceptions of the response by teachers and school staff to incidents of bullying (e.g., "When students are doing mean and hurtful things to one another, how often do teachers and staff notice that it is happening?" 1=Never, 2=Sometimes, 3=Often; Cronbach's  $\alpha = .81$ )

Resilience Scale (RS). Wagnild's (2009) 25-item RS was developed in 1993. It has been found reliable and valid, correlating positively with such measures of well-being as optimism, morale, and self-esteem, and inversely with depression, anxiety, hopelessness, and other negative outcomes (Wagnild, 2009). The instrument was developed to identify five characteristics of resilience: belief in self, sense of purpose, equanimity ("tak[ing] what comes" Wagnild, 2009, p. 21), perseverance, and sense of uniqueness/aloneness. Response options were from 1=Strongly Disagree to 7=Strongly Agree, with high scores indicating greater resilience. Reliability was high

in this sample: Cronbach's  $\alpha = .88$ .

**Self-Efficacy.** Bandura's (1989) Multidimensional Scales of Perceived Self-Efficacy is a 57-item instrument that assesses belief in one's capabilities in a variety of areas. Based on Bandura's (1986) theory of self-efficacy, the instrument has been widely used to measure perceptions of one's ability to produce desired outcomes and has been validated as reliable and valid (Williams & Coombs, 1996). The stem of all items was "How well can you..." and response options were from 1=Not Well at All to 7=Very Well. To make it appropriate for this middle-school sample, items in one subscale (Resisting Peer Pressure) were reworded or eliminated. Reliability of the remaining 54 items was high: Cronbach's  $\alpha = .93$ . The subscales had acceptable reliability: Academic Achievement (e.g., "learn reading and writing language skills," Cronbach's  $\alpha = .78$ ), Self-Regulated Learning (e.g., "plan your school work," Cronbach's  $\alpha = .88$ ), Social Self-Efficacy (e.g., "make and keep friends of the opposite sex," Cronbach's  $\alpha = .66$ ), Resisting Peer Pressure (e.g., "resist peer pressure to do things in school that can get you into trouble," Cronbach's  $\alpha = .73$ ), Enlisting Social Resources (e.g., "How well can you get teachers/another student/etc. to help you when you get stuck on schoolwork?", Cronbach's  $\alpha = .55$ ), Assertive (e.g., "How well can you stand up for yourself when you feel you are being treated unfairly?", Cronbach's  $\alpha = .72$ ), Meeting Other's Expectations (e.g., "How well can you live up to what your parents/teachers/peers/yourself expect of you?", Cronbach's  $\alpha =$ .67), and Enlisting Parental and Community Support (e.g., "How well can you get your parent(s)/brothers and sisters/etc. to help you with a problem?", Cronbach's  $\alpha = .72$ ).

**Ostracism**. The 11-item Ostracism Experience Scale for Adolescents (OES-A; Gilman, Carter-Sowell, DeWall, Adams, & Carboni, 2013) identifies experiences of exclusion from the peer group (e.g., "In general, others invite me to join their club, organization, or association")

and being ignored (e.g., "In general, others treat me as if I am invisible"). The OES-A was positively correlated with well-being indicators such as depression, social stress, and victimization and negatively correlated with perceived physical attractiveness and global satisfaction (Gilman et al., 2013). The instrument had high reliability in this sample: Ostracism Cronbach's  $\alpha = .87$ , Ignored Cronbach's  $\alpha = .90$ , Excluded Cronbach's  $\alpha = .82$ . Response options were from 1 = "never" to 5 = "always," with higher scores indicating higher levels of perceived ostracism.

## **Data Analysis**

To answer the research questions, analyses were conducted using IBM SPSS version 24 for Mac. Due to the small sample size, hierarchical cluster analysis using Ward's Method, an agglomerative technique that groups cases based on their proximity (Everitt, Landau, Leese, & Stahl, 2011) was selected for a person-centered analysis of the data. The squared Euclidean distance measure of proximity was selected, as it maximizes the difference between cases (Antonenko, Toy, & Niederhauser, 2012; Everitt et al., 2011). Accuracy of cluster classification was assessed by discriminant function analysis. Once cases were assigned to a cluster, their classification was used as the independent variable in independent samples *t*-tests and multiple analyses of variance (MANOVA) to determine statistically significant differences on other variables of interest. Demographic differences were assessed via chi-square analysis.

### Results

Variables entered into the cluster analysis were the school climate subscales Academic Press, Student Trust, Student Identification with School, Safety, Discipline, Noise, Cleanliness, and Class Size. The number of clusters to retain was determined by visual inspection of the dendrogram and analysis of the agglomeration schedule, assessing the distance between clusters.

Based on the "jumps" in the agglomeration schedule, two clusters were indicated. Before executing a discriminant function analysis (DFA), a test of covariance resulted in a significant Box's M (553.32), p < .001. Because the log determinants of the two clusters were markedly different (-14.22 and -4.05), the DFA was run with separate-groups covariance rather than within-groups pooled variance. This analysis produced one function, with six variables contributing most to the discrimination of subjects, Cleanliness (.65), Safety (.64), Student Trust (.58), Student Identification with School (.49), Discipline (.47), and Academic Press (.42). The cluster analysis was successful in classifying subjects from the school climate variables, with 94.3% of original grouped cases correctly classified, according to the discriminant function analysis with separate-groups.

Two clusters of unequal cell sizes (Cluster 1 n = 63, Cluster 2 n = 42) were identified. Students were evenly distributed across the clusters by gender ( $\chi^2[1, N = 105] = 1.25$ , p = .27), ethnic group ( $\chi^2[8, N = 105] = 7.21$ , p = .51), district type ( $\chi^2[2, N = 105] = 4.17$ , p = .12), and district ( $\chi^2[8, N = 105] = 11.66$ , p = .17; see Table 1). All clusters differed significantly on the school climate variables (see Figure 1). Cluster 1 had the highest school climate scores. Cluster 2 had the lowest school climate scores, with particularly low Safety, Noise, and Cleanliness scores.

### Insert Figure 1 about here

There was a general trend for Cluster 2 to score lower than Cluster 1 on the indicators of self-efficacy. However, MANOVA results indicated no difference in self-efficacy scores between the clusters, F(10, 94) = 1.60, p = .118, Pillai's Trace = .15, partial  $\eta^2 = .15$ , and self-efficacy scores for the two groups was often 5 or higher on the 7-point scale (See Table 2), indicating students felt quite confident in their ability to produce desired outcomes. Equal variances were not assumed in independent samples t-tests. Cluster 1 students had average

resilience scores falling in the "Moderately High" range (Wagnild, 2009). These were higher than Cluster 2 students' resilience scores, which were also positive and in the "Moderate" range, t (105) = 2.41, p < .05. The clusters did not differ in their levels of social exclusion, t (103) = -1.61, p = .11, but did in their reported level of being ignored, t (103) = -2.74, p < .01. These numbers compare favorably with scores obtained by Gilman (personal communication, December 12, 2016) from approximately 6,000 students in grades 6-8: Excluded (M = 3.12, SD = .99); Ignored (M = 1.74, SD = .88). Cluster 2 scores were slightly higher in Ignored, but both were lower in Excluded. That notwithstanding, the mid-point for the scale is 3 = "Sometimes," and both clusters have scores showing they are not excluded or ignored. Cluster 2 students had the highest scores of observed victimization, t (103) = -2.91, p < .01, and the lowest staff response scores, t (103) = 2.69, p < .05, indicating an environment for the Cluster 2 students with higher levels of bullying activity, but less confidence that staff would respond effectively.

### Insert Table 2 about here

The clusters were named based on their significant differences. Students in the first cluster had the lowest school climate scores, which, in combination with their low confidence in staff responses to higher levels of bullying in their schools, was suggestive of the cluster name *Tentative School Lovers*. The second cluster was named *Confident School Lovers*, because of their positive scores on all variables. Highly identified with school, they were confident in their abilities and reported positive school environments.

#### **Discussion**

In our earlier study (Author) exploring the academic lived experiences of a cohort of high-ability low-income youth, findings revealed that some of the students participated in academic environments that were inundated with moments of violence, with students not only

navigating the mayhem created in the schools by their peers but weathering the impacts of neighborhood violence in which the schools were situated. That being said, the students seemed resilient, well-integrated within their schools, and academically ambitious. Resilient students have a natural predisposition to withstand the imposed environmental and sociocultural vulnerability to which others may fall victim. When they have protective factors, such as family and community supports, students' resilience contributes to their thriving and performance (Neihart, 2002). The "spirit was willing", and the youth were also surrounded by well-meaning adults who sought to encourage and protect their scholarly engagement.

Not every child that participated in this prior study experienced academic environments of the same nature nor could it be assumed that academic environments would be interpreted in similar ways. So, this study employed a larger sample of youth from similar schools. We targeted interpretation of academic environments explicitly by honing in on perceptions of school climate, bullying as an aspect of school violence, ostracism, self-efficacy, and resilience and by using a person-centered approach to analysis. This unique sample of high-ability, low-income students offered a valuable opportunity to explore previously unknown perceptions and experiences. The small sample size is a limiting factor, both in the analyses that could be applied and the generalizability of findings.

In keeping with the results from the focus group interviews conducted with the smaller group of low-income, high-ability students (Author), students in both the Tentative and Confident School Lovers clusters were confident in their academic abilities and felt integrated within their school communities. Noteworthy are low endorsement of ostracism and lack of difference in social self-efficacy. Although some studies have found a subset of SWGT struggle socially (Lee, Olszewski-Kubilius, & Thomson, 2012; Peairs, 2010), the findings of this study

are in accord with Chen et al (2015) and Estell et al.'s (2009) studies showing that the majority of the high-ability children in their study were often socially accepted rather than socially marginalized in their school. The Tentative School Lovers had lower scores in resiliency than their Confident School Lover peers, but both groups indicated they had moderately high to moderate resiliency (Wagnild, 2009). Both clusters were confident in their capability to resist peer pressure, regulate their learning, be assertive, enlist social resources, and enlist parent and community support. Not only were these students well integrated amongst the peer groups within their schools, they also indicated that they felt capable of excelling in school and resisting influences that might cause them to flounder academically and/or socially. Overall, then, these students seem to indicate they were well-adjusted.

However, the lower school climate scores for the Tentative School Lovers do point to some warning signs. These students not only witnessed more victimization but also lower engagement by teachers and other school leaders in addressing victimization. Burdick-Will (2013) and others (Musu-Gillette, Zhang, Wang, Zhang, & Oudekerk, 2017; Milam, Furr-Holden, & Leaf, 2010; Wegner, Garcia-Santiago, Nishimura, & Hishinuma, 2010) have found that violent school environments can undermine trust and thereby academic achievement. The significantly lower estimations of personal feelings of safety, trust in school officials, and identification with school provide some support for these outcomes as well as one pathway to understanding how academic promise is sapped amongst low-income high-ability students. In particular, lower trust coupled with significantly lower estimations of academic press could potentially hamper academic striving as well as threaten a sense of connection to schooling.

It should be noted that school-level information was not available for each student.

Likewise, this study is cross-sectional. So, it is less clear if this is occurring for the same students

in the same schools as well as how perceptions of school climate might be developing over time. That being said, students from the nine school districts represented in the sample were equally likely to be found in either cluster. Future studies would benefit from an examination of a larger sample of students with more details about their actual school settings (e.g., services available, school size, etc.). Although this was a small sample, it represents one that is difficult to obtain (Goings & Ford, 2018). Most studies of low-income SWGT emphasize their identification or achievement, whereas this study examines their perceptions of environmental factors.

#### Conclusion

The field of gifted education is potentially undergoing a paradigm shift, moving away from a focus on identification and towards talent development for all students (Lo & Porath, 2017). This seems a critical evolution, as students of color and low-income students are not as likely to be identified for specialized services (Frazier, Cross, and Cross, 2015; McBee, 2006, 2010). It is incumbent upon the field to continue to explore the precipitous drop in outcomes for low-income high-ability students when compared to middle and high-income SWGT and identify how to intercede. Investigations of school climate address the interconnectedness of teachers, school leaders, and peers in shaping academic environments.

Academic environments are organismic and it is difficult to separate out where environments end and academic functioning begins. Our study demonstrated that students can be integrated within academic environments that engender student thriving as well as academic environments that are less conducive to learning and are more threatening. Thus, a turn to talent development would call for a fuller understanding of differential impacts of schooling on children who are high ability as well as deeper exploration of school-level processes influencing the educative experience of low-income, high-ability students. This study hints that a school

environment that engenders a sense of trust, connection, and identification can lift low-income high-ability youth. The opposite is also true.



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Table 1 Cluster Demographics

		Confident	Tentative
	Total	School Lovers	School Lovers
Descriptor	n=105	n=63	n=42
	n (%)	n (%within cluster)	
Gender			
Female	53 (50.5)	29 (46)	24 (57.1)
Male	52 (49.5)	34 (54)	18 (42.9)
District Type			
Rural, Distant	9 (8.6)	6 (9.5)	3 (7.1)
Suburb, Large	13 (12.4)	11 (17.5)	2 (4.8)
City, Middle	83 (79)	46 (73)	37 (88.1)
Ethnic Group			
African American	71 (67.6)	38 (60.3)	33 (78.6)
Biracial/Mixed	11 (10.5)	8 (12.7)	3 (7.2)
Hispanic	1(1)	1 (1.6)	0(0)
White	12 (11.4)	7 (11.1)	5 (11.9)
Other	3 (3)	3 (4.8)	0 (0)
Missing	7 (6.7)	6 (2.4)	1 (2.4)
Note: No significant χ <sup>2</sup> dif	ferences.		

Table 2

Mean Scores by Cluster

	Total	School Lovers	Insecure
	n=105	n=63	n=42
Scale (Response			
Options)	M (SD)	M (SD)	M (SD)
School Climate (1-6)	4.50 (.50)	5.04 (45)	2 0 ( 6 <b>5</b> ) #
(Mitchell et al., 2016)	4.58 (.79)	5.04 (.47)*	3.9 (.67)*
Academic Press		5.11 (.47)*	4.28 (.98)*
Trust	4.68 (1.03)	5.2 (.62)*	3.9 (1.03)*
Identification	) 	- 40 ( - 4) t	1 2 5 ( <b></b> ) 1
w/School	4.78 (.77)	5.12 (.54)*	4.26 (.77) *
Discipline	4.36 (1.18)	4.87 (.70)*	3.59 (1.33)*
Safety		4.66 (.62)*	3.16 (.85)*
Noise	3.39 (1.73)	3.95 (1.02)*	2.55 (1.81)*
Cleanliness	3.97 (1.67)	4.87 (1.02)*	2.62 (1.55)*
Class Size	4.56 (1.45)	4.91 (1.15)*	4.05 (1.7)*
Self-Efficacy (1-7)			
(Bandura, 1989)			
General	5.47 (.69)	5.59 (.65)	5.29 (.72)
Academic			
Achievement	5.67 (.83)	5.73 (.74)	5.59 (.95)
Self-Regulated	5.05 (1.00)	5.25 (.01)	5.05 (1.10)
Learning	` /	5.37 (.91)	5.07 (1.16)
Resist Peer Pressure	6.52 (.75)	6.63 (.61)	6.35 (.91)
Social	5.85 (.89)	5.96 (.86)	5.68 (.91)
Assertive	5.67 (1.08)	5.69 (1.01)	5.65 (1.19)
<b>Enlisting Social</b>			
Resources	4.89 (1.04)	5.14 (.94)	4.52 (1.08)
Meeting Others'	5.0.(0)	5.06 (.96)	5.55 (05)
Expectations	5.8 (.9)	5.96 (.86)	5.55 (.95)
Enlisting Parent or Community Support	1 91 (1 24)	5.06 (1.27)	4.44 (1.38)
Community Support	4.81 (1.34)	3.00 (1.27)	4.44 (1.36)
Resilience (25-175)	143.04		
(Wagnild, 2011)	(17.72)	146.36 (17.41)*	138.07 (17.2)*
(11 ugiiiu, 2011)	(17.72)	1 10.30 (17.71)	130.07 (17.2)
Ostracism (1-5)			
(Gilman et al., 2012)	2.3 (.67)	2.17 (.55)*	2.50 (.77)*
Ignored	` /	1.69 (.62)*	2.11 (.85)*
Excluded	` '	` /	` ,
Excluded	2.67 (.81)	2.56 (.76)	2.83 (.87)

```
.42.35) 21.75 (12.55)*
3.42 (7.9) 20.00 (8.27)*

.ent at p < .05
CBVS (possible
range)
(Felix et al., 2011)
  Victimization (8-40)
Staff Response (9-27) 18.42 (7.9)
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<sup>\*</sup>significantly different at p < .05

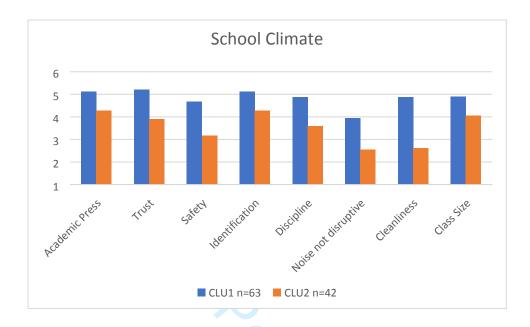


Figure 1. School climate comparisons by cluster.