ORIGINAL ARTICLE

The Moderation of School Climate on the Associations of Bullying Participant Behavior and GPA, Attendance, Office Disciplinary Referrals

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Abstract
Associations between bullying involvement and academic and behavioral indicators among youth have been established in prior research. However, how perceptions of school climate might moderate the association between bullying participant behaviors (bullying perpetration, assisting, victimization, defending, outsider behavior) and academic and behavioral indicators such as grade point average (GPA), tardies, and office disciplinary referrals (ODRs) has yet to be explored. The current study draws from Bronfenbrenner's ecological systems theory as a foundation to examine how bullying participant behaviors are associated with GPA, ODRs, and tardies. Additionally, the study examined the potential moderating effect of perceptions of school climate on these associations. A longitudinal approach was used on a middle school sample ($N = 445$). Results of hierarchical regression analyses indicated significantly positive associations between bullying perpetration and ODRs, as well as victimization and ODRs. Results also suggested significantly positive associations between bullying perpetration and victimization with tardies. Lastly, perceptions of school climate significantly moderated the association between victimization and GPA, victimization and tardies, and bullying perpetration and tardies by strengthening the association. Detailed findings and implications are discussed.

Keywords Bullying · School climate · ODRs · GPA · Tardies

The literature on bullying participant behaviors and school climate is well established. Evidence suggests that a negative school climate perception is associated with more reports of bullying participant behaviors than reports of positive SCPs (Shukla et al., 2016; Wang et al., 2014). Additionally, robust work suggests that perceptions of school climate are associated with various academic and behavioral indicators: that these perceptions are positively associated with GPA and negatively associated with engagement in problem behaviors, such as bullying (Chen et al., 2020; Thapa et al., 2013; Wang et al., 2009). Less is known about how bullying participant behaviors and school climate perceptions together may be associated with academic and behavioral indicators. The current study utilized Bronfenbrenner's

ecological systems theory (1979) to examine the associations that bullying participant behaviors and perception of school climate, separately, have with GPA, tardy frequency, and office discipline referrals (ODRs). These outcomes are referred to as academic and behavioral indicators throughout the paper. Additionally, the study tested a model in which perceptions of school climate moderated the association between bullying involvement and academic and behavioral indicators. Throughout the remainder of the paper, school climate perception will be referred to as SCP.

Bullying Participant Behaviors

Although the definition of bullying has changed over time, the definition applied to the current study states that "bullying is unwanted, aggressive behavior among school-aged children that involves a real or perceived power imbalance. The behavior is repeated or has the potential to be repeated, over time" (U.S. Department of Health and Human Services,

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2021, para. 1). Traditional literature on bullying parsed groups of student bullying participant behaviors into various roles and noted the distinction between behaviors related to victimization and behaviors related to perpetration (Olweus, 1994). However, Salmivalli et al. (1996) described bullying involvement as engagement in various behaviors. They identified behaviors that extended beyond behaviors related to perpetration and victimization to include behaviors related to assisting, defending, and being on the outside of the bullying interaction. Further work confirms a five-factor structure of measurement consisting of bullying perpetration behavior, assisting behavior, victimization, defending behavior, and outsider behavior (Demaray et al., 2016; Goossens et al., 2006). Research has discounted the idea that children only engage in one type of bullying participant behavior. Instead, research suggests that youth engage in various behaviors across different roles. For example, in a longitudinal study, Demaray et al. (2021) found that the majority of students in fourth through twelfth grade engaged in multiple bullying participant behaviors and not just behaviors related to one role. Informed by this literature, the current study examined bullying participant behaviors by assessing students' engagement in the behaviors related to each of the five types of bullying participant behaviors: bullying perpetration, assisting, victimization, defending, and outsider behavior. The study focuses on bullying participant behaviors as co-occurring behaviors, not on categorical roles themselves. The current study proposes that, because students may engage in numerous types of bullying participant behaviors, associations with school-related outcomes will be similar for each type of behavior except for outsider behavior.

Bullying Participant Behaviors and Academic and Behavioral Indicators

Engagement in and exposure to bullying perpetration and victimization are negatively associated with academic achievement and school attendance, but are positively associated with overall disciplinary referrals, detentions, and suspensions (Cornell & Brockenbrough, 2004; Feldman et al., 2014; Gastic, 2008; Glew et al., 2005). Specifically, research by Glew et al. (2005) indicated that those who engage in bullying perpetration and/or who experience victimization were more likely to attain lower academic achievement than those who were not involved in those behaviors but are instead involved in behaviors which are often called bystander or outsider behaviors. Taken together, results suggest that engagement in any bullying participant behaviors, excluding outsider behavior, is associated with low academic achievement (Demaray et al., 2021; Kowalski & Limber, 2013; Lindstrom Johnson et al., 2013). In relation to ODRs, research indicates that students who engage in bullying perpetration receive more ODRs (i.e., disruptive behavior, fighting, etc.) than students who do not

engage in perpetration (Branson & Cornell, 2009; Cole et al., 2006). Further, Gastic (2008) found that students who experienced higher levels of victimization were absent more and got into more trouble than students who did not experience victimization. The similar outcomes for seemingly different roles, such as defending behaviors and bullying perpetration, are perhaps due to the complex involvement across multiple bully roles that students engage in. For example, students who are victimized may also bully others, or those who defend in some bullying situations may assist in other situations. This phenomenon emphasizes the need to look at bullying involvement as a pattern of behaviors (Demaray et al., 2021; Salmivalli et al., 1996). Importantly, while research indicates individuals who engage in bullying participant behaviors typically engage in multiple behaviors and that these behaviors are associated with similar outcomes, research also indicates that these five behaviors are distinct from each other (Demaray et al., 2016; Goossens et al., 2006).

School Climate

The definition of school climate varies throughout the literature. Some definitions propose that school climate is the compilation of social system norms (Brookover & Erickson, 1975); others define it as the physical, social, and academic dimensions of the school (Loukas, 2007); and yet others propose it is a collection of factors both external (e.g., district policies, community characteristics) and internal (e.g., school culture, administrative leadership, teacher characteristics; Homana et al., 2006). Cohen et al. (2009, p. 182) defined school climate as the "patterns of people's experiences of school life [that] reflect norms, goals, values, interpersonal relationships, teaching, and learning practices, and organizational structures," which is based on Bronfenbrenner's ecological systems theory (1979). Bronfenbrenner's theory suggests that an individual lives in a multidimensional environment with various proximal and distal layers that can impact a person over time. The current study examined students' perceptions of school climate within the context of Cohen's definition by looking collectively at perceptions of teacher and peer relationships, school rules, safety, and student engagement, as these are well-researched aspects of school climate and have been found to be related to student outcomes and bullying participant behaviors (Branson & Cornell, 2009; Gage et al., 2016; Nickerson et al., 2014; Roorda et al., 2011). Prior work on SCPs has largely investigated the construct as multifaceted to assess whether particular facets are stronger predictors or are more strongly associated with student outcomes (Wang & Deglo, 2016). Wang and Deglo (2016) summarized existing literature suggesting that many facets of SCP are positively associated with GPA. However, mixed results have been found for perceptions of institutional and safety facets on academic outcomes.

While the results of these associations are mixed, all facets of school climate perception, including institutional and safety factors, are associated with social-emotional and behavioral outcomes (Wang & Deglo, 2016).

School Climate and Academic and Behavioral Indicators

Positive SCPs are associated with fewer ODRs (Gage et al., 2014; Gottfredson et al., 2005) and increased school attendance (Gottfredson & Gottfredson, 1989), presumably because perceptions of a positive school climate help to establish clear rules and expectations for student behavior. Looking at specific aspects of school climate, perceptions of positive peer and teacher relationships (Gallardo et al., 2016; Roorda et al., 2011), perceived safety (Brand et al., 2003), clarity and fairness of rules (Brand et al., 2003; Gottfredson et al., 2005), and engagement (Finn & Zimmer, 2012) are all suggested to promote academic achievement in students. This positive association is also seen in measures of overall SCPs (MacNeil et al., 2009; Voight et al., 2013). Perceived safety, clarity and fairness of rules, and student engagement are also associated with less inappropriate student behavior (Brand et al., 2003; Finn & Zimmer, 2012; Gottfredson et al., 2005). In all, SCPs are associated with academic and behavioral indicators; however, there is a gap in the literature regarding the potential role that bullying participant behaviors may have on the link between SCPs and academic and behavioral indicators.

Bullying Participant Behaviors, School Climate, and Academic and Behavioral Indicators

Negative outcomes associated with poor SCPs include low GPA (Shukla et al., 2016; Wang et al., 2014), office disciplinary referrals (Gage et al., 2016), and absenteeism (Borkar, 2016). These outcomes are also associated with student engagement in bullying participant behaviors (Chen et al., 2020; Dorio et al., 2019; Feldman, et al., 2014; Glew et al., 2005; Nakamoto & Schwartz, 2010; Petrie, 2014). Few studies have investigated a model that includes perceptions of school climate, bullying participant behaviors, and academic and behavioral indicators (Shukla et al., 2016; Wang et al., 2014). Those that have investigated such a model have agreed that reports of bullying and/or victimization behaviors are related to lower GPA, that positive SCPs are associated with higher grades, and that negative SCPs are associated with lower grades (Shukla et al., 2016; Wang et al., 2014; Wentzel et al., 2004).

In a study that included 47,600 students across three hundred high schools, Shukla et al. (2016) explored student perceptions of school climate and the frequency of bullying perpetration using latent class analysis. Four classes emerged: positive climate, negative climate, medium climate with high rates of bullying perpetration, and medium climate with low rates of bullying perpetration (Shukla et al., 2016). Students in the profiles defined by "medium" perceptions of school climate differed in the amount of reported bullying perpetration, but they did not significantly differ in their reports of disciplinary structure, academic expectations, school support, or student engagement (Shukla et al., 2016). The best overall outcomes were associated with the positive school climate class and the worst outcomes were associated with low school climate class (Shukla et al., 2016). That is, students in the positive school climate class had fewer reports of bullying perpetration and higher grades than students in the other classes; however, students in the positive school climate class were more likely to experience victimization than the students in the medium climate class with low rates of bullying perpetration (Shukla et al., 2016). Perhaps this suggests that positive perceptions of school climate buffer against negative outcomes associated with experiencing victimization. Alternatively, the positive school climate class may have reported more victimization than the medium climate class with low rates of bullying perpetration because they also had greater reports of bullying perpetration. In most cases, except for a medium climate with low rates of bullying perpetration, victimization was higher than bullying perpetration.

Shukla et al.' (2016) results suggest that SCP is dependent on many school factors that appear to interact together. For example, students who reported higher levels of disciplinary structure, academic expectations, respect for students, willingness to seek help, academic engagement, and cognitive engagement reported lower levels of teasing and bullying, general victimization, and probability of being bullied and bullying others (Shukla et al., 2016). Although they used an older sample than the current study, their results converge with results found in elementary (Wang et al., 2014) and middle school (Wentzel et al., 2004) samples, which suggests that these associations are perhaps consistent across developmental ages. The current study aims to further the work of Shukla et al. (2016) by investigating the associations between perceptions of school climate, bullying participant behaviors, and academic and behavioral indicators.

Current Study

The associations between SCP, bullying participant behaviors, and academic and behavioral indicators are well established (Eliot et al., 2010; Shukla et al., 2016; Wang, et al., 2014). As mentioned, poor SCP is associated with more involvement in bullying participant behaviors, such as bullying perpetration, assisting, victimization, and defending

(Borkar, 2016; Petrie, 2014; Voight, et al., 2013). Further, both poor SCPs and bullying involvement are associated with negative academic and behavioral indicators such as ODRs and low GPA (McIntosh et al., 2008; Morrissey et al., 2014). The current study aimed to further the literature on SCP and bullying involvement in relation to student academic and behavioral outcomes, particularly over time. The study builds upon prior work by investigating whether SCP and engagement in bullying participant behaviors are associated with academic and behavioral outcomes the following year. The current longitudinal study sought to answer three questions: (1) How are bullying participant behaviors one year related to academic and behavioral indicators including GPA, ODRs, and tardies a year later?; (2) How are the different facets of SCPs one year related to GPA, ODRs, and tardies the following year?; and (3) Does the overall SCP moderate the association of bullying participant behaviors one year and GPA, ODRs, and tardies the following year?

Research suggests that individuals who are involved in any bully participant perpetration are involved in multiple behaviors (Demaray et al., 2016) and that while these five behaviors are distinct, they are associated similarly with GPA, ODRs, and tardies (Cornell & Brockenbrough, 2004; Feldman et al., 2014; Gastic, 2008; Glew et al., 2005). Given this information, it was predicted that, except for behaviors related to being on the outside of bullying interactions, involvement in all bullying participant behaviors (i.e., bullying perpetration, assisting, victimization, and defending) would be negatively associated with GPA and positively associated with both ODRs and the number of tardies in the following academic year. Specifically, it was predicted that behaviors related to bullying perpetration, assisting, and victimization would have a stronger positive association with ODRs than would defending behaviors, and victimization would have a stronger positive association with tardies than would bullying perpetration, assisting, and defending behaviors. Outsider behavior was predicted to be associated with higher GPA and fewer ODRs and tardies the following academic years. Additionally, different facets of SCP were predicted to be significantly associated with the outcomes the following year, such that GPA was predicted to be positively associated with perceptions of Teacher-Student relations and Student Engagement while ODRs and the number of tardies were predicted to be negatively associated with perceptions of Fairness of Rules, Clarity of Rules, Safety, and Student–Student relationships. Finally, the study aimed to investigate whether SCPs moderated the association between bullying participant behaviors and academic and behavioral indicators the next year. It was predicted that perceptions of school climate would moderate the associations between engagement in bullying participant

behaviors and GPA, ODRs, and tardies, such that higher perceptions of school climate would lessen the strength of the associations with the academic and behavioral indicators. These predictions on constructs with distal outcomes are supported by prior work that indicates perceptions of bullying involvement and school climate often decline over the course of middle school (Wang & Dishion, 2012; Way et al., 2007).

Method

Participants

Longitudinal data were collected through a collaborative project with a diverse, rural middle school. The current study followed a cohort of 6th and 7th graders from the fall of 2016 to the spring of 2018. Therefore, at the second time point, the students were 7th and 8th graders. The final sample included 445 students (47.2% female). At the time of the first data collection, there were approximately 572 6th and 7th graders enrolled in the school. Of the enrolled students at the first time point, 84% of the 6th and 7th graders completed surveys. However, at the second time point, some students had moved out of the district, were absent, or were otherwise unavailable. Therefore, the 445 students in the final sample had data from both time points and represented 78% of the total students enrolled in the school at the first time point. A large portion of the population identified as White (50.6%) with 33% identifying as Hispanic/Latino(a), 12.4% as African American, less than 3% as Multi-Racial, and less than 2% as Asian American. Additionally, 12.1% of the sample had active Individual Education Plans (IEPs) and 57% of the students in the school came from low-income backgrounds (Illinois Report Card, 2019). At the first time point, 56.6% of the sample was in 6th grade and 43.4% was in 7th grade. Participant demographics are located in Table 1.

Measures

Bullying Participant Behaviors Questionnaire

The study used the Bullying Participant Behavior Questionnaire (BPBQ; Summers & Demaray, 2008), which is a 50-item self-report rating scale consisting of five 10-item subscales measuring bullying participant behavior. The five subscales indicate the frequency of the reporter's involvement in bullying participant behaviors including their participation in Bullying Perpetration (e.g., "I have made fun of another student"), Assisting (e.g., "When someone else threw something at another student, I joined"), Victimization (e.g., "I have been pushed or shoved"), Defending (e.g.,

Table 1 Participant demographics

Variable	n	%	School demographics at spring 2017
Gender			
Male	235	52.8	NA
Female	210	47.2	NA
Race/ethnicity			
Asian	5	1.1	2%
Black/African American	55	12.4	14%
Hispanic	147	33.0	28%
Multiracial/ethnic	13	2.9	4%
White	225	50.6	52%
Grade at time 1			
6th	252	56.6	31%
7th	193	43.4	35%

$n = 445$. Overall school demographic data was gathered from the Illinois Report Card. NA indicates that the Illinois Report Card did not report data by that group

"I defended someone who was being called mean names"), and Outsider behavior (e.g., "I ignored it when someone else pinched or poked another student"). Participants reported how often they had engaged in this behavior in the last 30 days on a 5-point Likert-type scale. Response options on this measure include the following: *Never*, *1–2 times*, *3–4 times*, *5–6 times*, and *7 or more times*. The BPBQ is scored as the averages of each subscale. A validation study provided evidence for a five-factor structure and found sound psychometrics for each of the subscales ($\alpha = 0.88$ for Bully, 0.92 for Assisting, 0.94 for Victimization, 0.94 for Defending, and 0.94 for Outsider; Demaray et al., 2016). The current study included all five bullying participant behaviors.

Delaware School Climate Measure

SCPs were measured via the Delaware School Climate Survey-Student form (Bear, et al., 2015). The Delaware is a 31-item self-report measure including seven subscales: Teacher-Student Relations, Student–Student Relations, Student Engagement, Expectation Clarity, Fairness of Rules, School Safety, and Bullying. Scoring includes assessing subscales or the overall school climate score. Responses are on a 4-point Likert-type scale that includes the following: *Disagree A LOT, Disagree, Agree, Agree A LOT*. Evidence of sound psychometric properties was found among 24,414 students from 126 public elementary, middle, and high schools (i.e., grades 3–12; Bear et al., 2015), which suggested a bifactor model with five specific factors (the subscales) and one general factor (Total School Climate). The validity and reliability of the measure were stable across grade level, race, ethnicity, and gender (Bear et al., 2015). The current study utilized the overall school climate

score, which is calculated by summing all of the items across subscales together, with a higher score indicating better perceptions of school climate. However, the study did not include the Bullying subscale into the overall school climate score because bullying perpetration was already being assessed with the BPBQ.

School Records Data

Records data were collected for each participant including grade-point averages (GPA), office disciplinary referrals (ODRs), and tardies. GPA was the combination of earned credits for all core and elective classes for a full academic year (i.e., fall and spring semesters), and was measured on a 4.0 scale. The ODR outcome included the total number of ODRs a student received over the course of an academic year. Finally, the Tardy outcome was defined as the total number of tardies a student received in one academic year.

Procedure

The study utilized data from a larger data collection that included multiple years of partnership. Before each wave of data collection, informed, waived active consent was gathered. Eligible students completed the survey online using Qualtrics software. The study obtained Institutional Review Board approval from the authors' institution before running analyses.

The independent variables (Bullying Participant Behaviors and School Climate) were collected in the spring of 2017. The dependent variables were defined as cumulative academic and behavioral indicators across the same, singular academic year (i.e., fall of 2017 and spring of 2018). For example, GPA included the compilation of grades received in all classes taken in that academic year, and ODR and Tardy included the sum of all ODRs and the sum of all tardies received across the fall of 2017 and spring of 2018.

Results

Preliminary Results

The analyses were run using SPSS version 25 (IBM Corp., 2019). If at least 80% of the subscale's items were answered by the participant, a mean score was calculated for that subscale; otherwise, the score was considered missing data. After scoring, the amount of missing data ranged from 0.2 to 0.9% of the sample across all study variables. Before scoring, missing cases per item ranged from 7.0 to 12.6%. Preliminary analyses included means and standard deviations (see Table 2) and intercorrelations (see Table 3). The data were assessed and confirmed to meet

Table 2 Means and standard deviations for all study variables

	n	M	SD
School climate (S17)	442	2.81	0.53
Teacher-student relationships	442	3.09	0.68
Student–student relationships	442	2.60	0.64
Safety	442	2.66	0.63
Clarity	441	2.96	0.67
Fairness	441	2.86	0.64
Diversity	442	2.95	0.69
Engagement	442	2.68	0.60
Bullying behavior (S17)			
Bullying	445	0.33	0.43
Assisting	445	0.11	0.25
Victimization	444	0.72	0.88
Defending	444	0.73	0.82
Outsider	443	0.38	0.60
ODRs (F17S18)	445	2.09	6.12
Tardies (F17S18)	445	0.92	2.39
GPA (F17S18)	444	3.01	0.87

S17 indicates that data were collected in the Spring of 2017. S18 indicates that data were collected in The Spring of 2018. F17S18 indicates data collected cumulatively across the Fall 2017 and Spring 2018 academic year. ODRs are Office disciplinary referrals. GPA is grade point average. Climate data were collected via the Delaware School Climate Measure; minimum value was 1 and maximum value was 4. Bullying behavior data were collected via the Bullying Participant Behaviors Questionnaire (BPBQ); the minimum value was 1 and the maximum value was 5

regression assumptions. Noteworthy are the correlations among the five bullying participant behaviors. They ranged from 0.02 between defending and outsider behavior and 0.63 between bullying and assisting behavior, with the majority of the correlations falling below 0.40 (80%). Thus, these data demonstrate that, although the behaviors have some moderate associations, the bullying participant behaviors are separate and distinct constructs.

Research Question One: How Are Bullying Participant Behaviors Related to GPA, ODRs, and Tardies?

To answer question one, three regressions were run with all bullying participant behaviors entered as the independent variables (i.e., Bully Perpetration, Assistant, Victim, Defender, Outsider) and GPA, ODRs, and Tardies entered separately as the dependent variables (see Table 4). For GPA, the overall model was significant ($p < 0.001$), such that involvement in bullying participant behaviors significantly accounted for 7.2% of the variance in GPA. However, no individual bullying participant behaviors emerged as significant predictors of GPA. For ODRs, the overall model was significant ($p < 0.001$) as involvement in bullying participant behaviors accounted for 12.2% of the variance in

ODRs. Both Bullying Perpetration, $\beta = 4.045$, $p = <0.001$, and Defending, $\beta = 0.782$, $p = <0.05$, were significantly and positively associated with ODRs. Lastly, for Tardies, the overall model was significant ($p < 0.001$) such that involvement in bullying participant behaviors accounted for 12.4% of the variance in Tardies. Bullying Perpetration was significantly and positively associated with Tardies, $\beta = 1.277$, $p = <0.001$.

Research Question Two: How Are the Different Facets of School Climate Perception Related to GPA, ODRs, and Tardies?

To answer question two, three regressions were run with each facet (i.e., subscale) of SCP entered together as the independent variables (i.e., Teacher-Student Relationships, Student–Student Relationships, Safety, Clarity, Fairness of Rules, Diversity, Student Engagement) and GPA, ODRs, and Tardies entered separately as the dependent variables (see Table 5). For GPA, the overall model was significant ($p < 0.001$) such that 11.0% of the variance in GPA was accounted for by school climate variables. The individual predictors that emerged as significant were perceptions of Fairness of Rules, $\beta = 0.232$, $p = <0.05$; Diversity, $\beta = 0.241$, $p = <0.05$; and Student Engagement, $\beta = -0.451$, $p = <0.001$. Next, with ODRs as the outcome, the overall model was significant, as SCP variables accounted for 10.7% of the variance in ODRs. The individual predictors that emerged were perceptions of Fairness of Rules, $\beta = -1.359$, $p = <0.05$, and Diversity, $\beta = -1.951$, $p = <0.01$. Lastly, for Tardies, the overall model emerged as significant, such that SCP variables accounted for 11.4% of the variance in Tardies. Further, results suggested that significant individual predictors were perceptions of Fairness of Rules, $\beta = -0.730$, $p = <0.01$, and Student Engagement, $\beta = 0.999$, $p = <0.01$.

Research Question Three: Does Overall School Climate Perception Moderate the Association of Bullying Participant Behaviors and GPA, ODRs, and Tardies?

To answer question three, three hierarchical regression analyses were conducted with bullying participant behaviors (i.e., Bully Perpetration, Assistant, Victim, Defender, Outsider) entered together as the independent variables, the total School Climate score entered as the moderator, and GPA, ODRs, and Tardies entered as the dependent variables in separate analyses. All independent variables were mean centered before creating the interaction variables. For GPA, step one of the regression was significant, such that SCPs and engagement in Bullying Perpetration, Assisting, Victimization, Defending, and Outsider behavior significantly accounted for 7.8% of the variance in GPA ($p < 0.001$). Furthermore, step two accounted for significantly more variance than step one, $R^2 = 0.108$, $p = <0.05$, with perceptions of

Table 3 Intercorrelations including all key study variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. School climate (S17)	1	.813**	.837**	.825**	.789**	.796**	.752**	.833**	−.310**	−.339**	−.255**	.071	−.218**	−.226**	−.249**	.168**
2. Teacher–student relationships		1	.573**	.575**	.556**	.658**	.803**	.593**	−.281**	−.288**	−.149**	.044	−.154**	−.273**	−.265**	.217**
3. Student–student relationships			1	.695**	.555**	.525**	.638**	.762**	−.327**	−.320**	−.299**	.051	−.227**	−.134**	−.188**	.109*
4. Safety				1	.578**	.562**	.611**	.634**	−.280**	−.303**	−.265**	.035	−.223**	−.142**	−.186**	.100*
5. Clarity					1	.592**	.491**	.563**	−.145**	−.214**	−.149**	.100*	−.085	−.186**	−.196**	.154**
6. Fairness						1	.566**	.549**	−.234**	−.273**	−.198**	.038	−.205**	−.249**	−.277**	.218**
7. Diversity							1	.560**	−.258**	−.275**	−.218**	.010	−.189**	−.280**	−.242**	.234**
8. Engagement								1	−.247**	−.256**	−.195**	.080	−.164**	−.109*	−.098*	.006
9. Bullying (S17)									1	.634**	.368**	.069	.297**	.320**	.319**	−.227**
10. Assisting (S17)										1	.309**	.042	.377**	.268**	.327**	−.213**
11. Victimization (S17)											1	.498***	.252***	.159***	.180***	−.196***
12. Defending (S17)												1	.020	.122*	.091	−.076
13. Outsider (S17)													1	.138***	.131**	−.166**
14. ODRs (F17S18)														1	.654**	−.478**
15. Tardies (F17S18)															1	−.509**
16. GPA (F17S18)																1

S17 indicates that data were collected in the Spring of 2017. S18 indicates that data were collected in the Spring of 2018. ODRs are Office disciplinary referrals. GPA is grade point average. Climate data were collected via the Delaware School Climate Measure. Bullying behavior data were collected via the Bullying Participant Behaviors Questionnaire (BPBQ)

$p < .05*$, $p < .01**$, $p < .001***$

Table 4 Summary of regression analyses for bullying participant behaviors and GPA, ODRs, and tardies

	Beta	SE	p
GPA			
Bullying	− 0.235	0.136	.085
Assistant	− 0.219	0.252	.385
Victimization	− 0.104	0.058	.075
Defending	− 0.010	0.051	.839
Outsider	− 0.119	0.074	.108
ODRs			
Bullying***	4.045	0.934	.000
Assistant	1.469	1.705	.389
Victimization	− 0.236	0.389	.552
Defending*	0.782	0.351	.026
Outsider	0.405	0.504	.421
Tardies			
Bullying***	1.277	0.362	.000
Assistant	1.272	0.661	.055
Victimization	0.042	0.154	.788
Defending	0.167	0.136	.220
Outsider	0.041	0.195	.835

$p < .05^*, p < .01^{**}, p < .001^{***}$

Table 5 Summary of regression results for individual facets of school climate perception

Dependent variable	Beta	SE	p
GPA			
Teacher-student relationships	0.094	0.110	.393
Student–student relationships	0.129	0.109	.237
Safety	− 0.093	0.097	.338
Clarity	0.101	0.082	.217
Fairness of rules*	0.232	0.089	.010
Diversity*	0.241	0.105	.022
Engagement***	− 0.451	0.109	< .001
ODRs			
Teacher-student relationships	− 0.826	0.776	.288
Student–student relationships	0.391	0.773	.614
Safety	0.623	0.680	.360
Clarity	− 0.603	0.578	.297
Fairness of rules*	− 1.359	0.630	.032
Diversity**	− 1.951	0.735	.008
Engagement	1.155	0.774	.136
Tardies			
Teacher-student relationships	− 0.499	0.301	.098
Student–student relationships	− 0.540	0.300	.072
Safety	− 0.042	0.264	.872
Clarity	− 0.127	0.224	.571
Fairness of rules**	− 0.730	0.244	.003
Diversity	− 0.139	0.285	.625
Engagement***	0.999	0.300	.001

$p < .05^*, p < .01^{**}, p < .001^{***}$

School Climate positively associated with GPA, $\beta = 0.175$, $p = < 0.05$, and Victimization behaviors negatively associated with GPA, $\beta = -0.129$, $p = < 0.05$. There was also a SCP by Victimization behavior interaction, $\beta = -0.206$, $p = < 0.05$ (see Fig. 1 and Table 6 for GPA model results). Low Victimization behavior was calculated by subtracting one standard deviation from the mean and High Victimization behavior was calculated by adding one standard deviation to the mean. Low SCPs and High SCPs were calculated similarly. Simple slopes were tested and the slope for Low SCPs was non-significant, $p = 0.980$, and the simple slope for High SCPs was also non-significant, $p = 0.778$. Given neither slope was significantly different from zero, no interpretation was made of the interaction.

For ODRs, results showed that in step one, SCPs and engagement in bullying participant behaviors significantly accounted for 13.7% of the variance ($p < 0.001$). Step two accounted for significantly more variance compared to step one, $R^2 = 0.161$, $p = < 0.05$. Specifically, engagement in Bullying, $\beta = 1.564$, $p = < 0.05$, and Victimization, $\beta = 0.597$, $p = < 0.05$, behaviors were both significantly and positively associated with ODRs. Further, no significant interactions emerged between SCPs and any of the bullying participant behaviors when predicting ODRs (see Table 7).

For Tardies, step one of the regression significantly accounted for 13.8% of the variance ($p < 0.001$). Step two accounted for significantly more of the variance compared to step one ($R^2 = 0.161$, $p < 0.05$). Specifically, SCP, $\beta = -0.791$, $p = < 0.001$, was

significantly and negatively associated with Tardies, and Bullying Perpetration, $\beta = 1.564$, $p = < 0.05$ was significantly and positively associated with Tardies. There were also two significant interactions (see Figs. 2 and 3 for graphs and Table 8 for results of these interactions). There was a significant SCP by Bullying behavior interaction, $\beta = -1.448$, $p = < 0.05$ (see Fig. 2). Simple slopes were tested and the slope for Low SCP was significant,
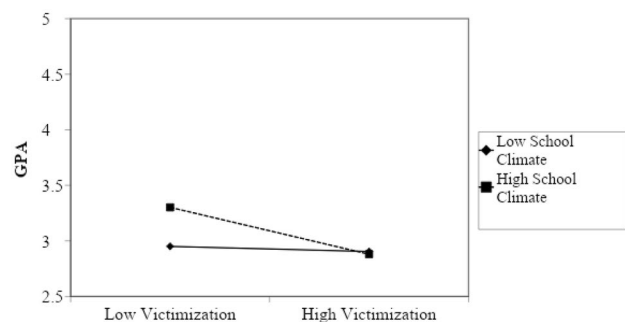

Fig. 1 Victimization interaction in the association of school climate and GPA

Table 6 Summary of regression analyses for GPA

Dependent variable	Beta	SE	p	R^2 change
Step 1	3.034	.041	.000	0.078
School climate	0.125	0.085	.143	
Bullying	−0.212	0.137	.123	
Assisting	−0.199	0.255	.436	
Victimization	−0.084	0.059	−1.413	
Defending	−0.027	0.052	.607	
Outsider	−0.113	0.074	.129	
Step 2	3.018	0.043	.000	0.030*
School climate*	0.175	0.043	.042	
Bullying	−0.140	0.086	.348	
Assisting	−0.394	0.296	.184	
Victimization*	−0.129	0.062	.036	
Defending	−0.003	0.052	.950	
Outsider	−0.121	0.079	.126	
School climate × B	0.304	0.269	.260	
School climate × A	−0.579	0.511	.258	
School climate × V*	−0.206	0.101	.042	
School climate × D	−0.118	0.093	.205	
School climate × O	0.039	0.147	.791	

$p < .05*$, $p < .01**$, $p < .001***$

$p = 0.004$, and the simple slope for High SCP was non-significant, $p = 0.956$. Thus, there was a positive association between bullying participant behaviors and tardies when perceptions of

Table 7 Summary of regression analyses for ODRs

| Dependent variable	Beta	SE	p	R^2 change
Step 1	1.350	0.191	.000	0.137
School climate	−0.476	0.395	.229	
Bullying**	2.208	0.640	.001	
Assisting	1.557	1.174	.185	
Victimization	0.366	0.276	.186	
Defending	0.373	0.243	.125	
Outsider	−0.156	0.344	.650	
Step 2	1.254	0.200	.000	.031*
School climate	−0.668	0.399	.094	
Bullying*	1.564	0.693	.025	
Assisting	−0.042	1.382	.976	
Victimization*	0.597	0.287	.038	
Defending	0.296	0.243	.224	
Outsider	0.008	0.369	.982	
School climate X B	−1.805	1.251	.150	
School climate X A	−2.503	2.290	.275	
School climate X V	0.777	0.470	.099	
School climate X D	−0.016	0.432	.971	
School climate X O	0.424	0.673	.529	

$p < .05*$, $p < .01**$, $p < .001***$
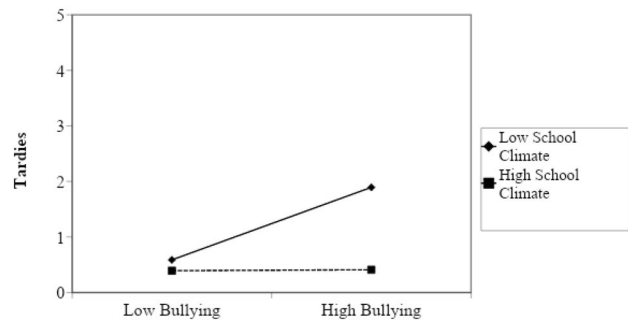
Fig. 2 Bullying interaction in the association of school climate and tardies

school climate were low and no association when perceptions of school climate were high. There was also a significant SCP by Victimization behavior interaction, $\beta = 0.525$, $p = <0.05$ (see Fig. 3). Simple slopes were tested and the slope for Low SCP was non-significant, $p = 0.870$, and the simple slope for High SCP was also non-significant, $p = 0.653$. Given neither slope was significantly different from zero, no interpretation was made of the interaction.

Discussion

The current study found that GPA, ODRs, and tardies were all significantly associated with engagement in bullying participant behaviors. The study explored the different outcomes associated with various bullying participant behaviors. This was informed by research that indicates students often engage in behaviors related to several roles, not just one. Specifically, bullying perpetration and defending were significantly and positively associated with ODRs, and bullying perpetration was significantly and positively associated with tardies. The current study also found that SCP was significantly associated with GPA, ODRs, and tardies. Specific facets of SCP that were significantly associated
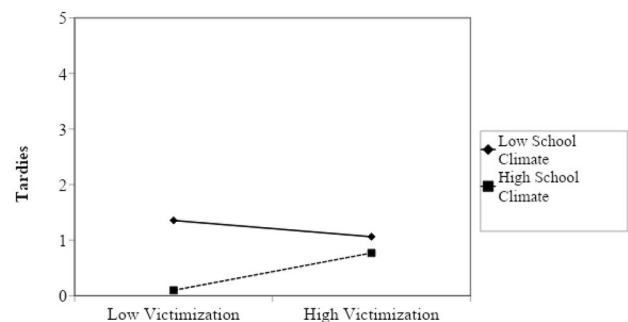

Fig. 3 Victimization interaction in the association of school climate and tardies

Table 8 Summary of regression analyses for tardies

Dependent variable	Beta	SE	p	R^2 change
Step 1	.841	0.108	.000	0.138
School climate**	−0.652	0.223	.004	
Bullying**	1.207	0.362	.001	
Assisting	0.957	0.664	.150	
Victimization	−0.047	0.156	.764	
Defending	0.236	0.137	.086	
Outsider	−0.001	0.194	.997	
Step 2	0.821	0.113	.000	0.025*
School climate***	−0.791	0.225	.000	
Bullying*	−0.790	0.392	.045	
Assisting	0.689	0.781	.378	
Victimization	0.101	0.162	.534	
Defending	0.180	0.137	.191	
Outsider	0.109	0.209	.602	
School climate×B*	−1.448	0.707	.041	
School climate×A	0.250	1.294	847	
School climate×V*	0.525	0.266	.049	
School climate×D	0.126	0.244	.608	
School climate×O	0.269	0.380	.479	

$p < .05$*, $p < .01$**, $p < .001$***

with GPA included perceptions of fairness of rules, diversity, and student engagement, while only perceptions of fairness of rules and diversity were negatively associated with ODRs and only perceptions of fairness of rules and student engagement were negatively associated with tardies. More significantly, these results indicated that student perceptions of school climate strengthened the association between bullying participant behaviors and academic and behavioral outcomes including GPA, ODRs, and tardies separately.

The purpose of the study was to examine how engagement in bullying participant behaviors and perceptions of school climate were related to academic and behavioral indicators (i.e., GPA, ODRs, and tardies) in a middle school sample. Additionally, the study explored the associations between engagement in bullying participant behaviors and academic and behavioral indicators across time and whether perceptions of school climate moderated those associations. The study uniquely adds to the literature by investigating participation in all five bullying participant behaviors and numerous facets of SCPs individually.

GPA

Engagement in the five bullying participant behaviors in spring 2017 accounted for 7.2% of the variance in GPA the following academic year; however, no bullying participant behavior was independently associated with GPA. That is, as a collective group of behaviors, there was some

evidence that involvement in bullying participant behaviors is associated with lower academic achievement, although no evidence for engagement in any one particular behavior was a unique and significant predictor (e.g., Kowalski & Limber, 2013). The current sample was relatively high achieving (i.e., mean of 3.01 GPA) and had low rates of self-reported bullying participation such that, on average, students reported engaging in any of the bullying participant behaviors less than one to two times per month. Therefore, the lack of support for the association between individual bullying participant behaviors and GPA may be due to the lack of variability in bullying participant behavior engagement in this sample.

Significant and positive associations between the individual facets of SCP and GPA were predicted. The study found that overall perceptions of school climate in spring 2017 explained 11% of the variance in GPA. Additionally, students' perceptions of fairness of rules and perceptions of diversity were positively and significantly associated with GPA, such that positive perceptions of fairness and diversity were associated with higher GPA. Contrary to expectations, GPA was negatively associated with student engagement, with reports of higher student engagement associated with lower GPA. In this well-resourced school, perhaps students with lower GPAs were offered and engaged in more school support to improve their performance. Alternatively, perhaps students who were highly involved in school were overextended, leading to lower GPA (although not low or failing GPA). Another possibility accounting for this unexpected finding could be related to methodology. During the first wave of data collection, participants in middle school rated their current teachers, however, during the next wave of data collection (when outcome data were gathered), they had different teachers. Current findings differ from previous research that indicates positive engagement in school and perceptions of school climate are associated with stronger achievement (Finn & Zimmer, 2012). The lack of a positive significant association between student engagement and achievement could perhaps be due to the student engagement items assessing student perceptions of how engaged students in the school are overall and not how engaged that student is particularly. For example, a student may perceive their classmates overall to be not engaged and have strong achievement, or alternatively, a student may perceive their classmates to be very engaged and lack achievement in school. In addition, students who lack achievement may still perceive a positive school climate due to factors outside of school, such as preferring school over home. Also, unexpectedly, there was no association between GPA and perceptions of teacher-student relationships, also unlike previous findings, which is perhaps related to the small variation in teacher-student relationship scores and high overall mean (e.g., Roorda et al., 2011).

Engagement in the five bullying participant behaviors and school climate accounted for 10.8% of the variance in GPA one year later. As expected, and supporting previous research, perceptions of school climate were positively associated with GPA, with higher perceptions of school climate being associated with higher GPA (e.g., MacNeil et al., 2009; Voight et al., 2013). Unexpectedly, there was no longitudinal relationship between engagement in behaviors related to bullying perpetration, assisting, defending, and GPA. As predicted and consistent with previous research, behaviors related to victimization were negatively associated with GPA the following year, suggesting that students who experience more victimization have lower GPAs (Cole et al., 2006; Cornell & Brockenbrough, 2004). The longitudinal association between self-reported victimization and GPA was only present when there were better perceptions of school climate. There was a trend that when students had low perceptions of school climate there was no association between grades and victimization; however, if they had high perceptions of school climate, the more victimization they experienced the lower their GPA. These results may be explained by the healthy context paradox (Salmivalli, 2018).

The healthy context paradox suggests that those who experience victimization in a context with low overall levels of bullying participation may experience poorer outcomes than victimized students in contexts with high levels of bullying engagement (Salmivalli, 2018). Results from the current study support the healthy context paradox such that individuals with higher perceptions of school climate experiencing victimization were likely to have lower GPA than individuals with lower perceptions of school climate who were victimized. Garandeau and Salmivalli (2019) explain various potential reasons why these victimized individuals are at particular risk for poor outcomes. For example, they mention the potential role of cognitive processes such as self-blame. Specifically, they explain that these students may be more likely to engage in self-blame for the bullying perpetration, as opposed to blaming external factors, given that anti-bullying interventions were used and largely effective for others. Furthermore, Garandeau and Salmivalli (2019) also describe how the social comparison theory can help explain the healthy context paradox. This theory suggests that individuals often compare themselves to peers, with better outcomes emerging for those comparing themselves to others who are in less favorable conditions than for those comparing themselves with others who are in more favorable conditions. Related to the healthy context paradox, students who are victimized may compare themselves to peers who are not being victimized (i.e., those in more favorable conditions), which may lead to worse outcomes for these individuals.

ODRs

Engagement in all five bullying participant behaviors in spring 2017 accounted for 12.2% of the variance of ODRs. Our prediction was partially supported with disciplinary referrals being positively associated with bullying and defending behaviors, such that more bullying perpetration and defending behaviors were associated with more ODRs. It seems counterintuitive for defending behavior to be positively associated with ODRs because defending is often regarded as a prosocial behavior. However, the behaviors related to defending are also actively involved behaviors. That is, defending a victim may include engaging in verbal or physical aggression toward a student who is bullying. Therefore, those who defend may receive more disciplinary action due to their engagement in aggressive behavior, despite the cause or their intention. It is also possible that those who defend may also experience victimization and may respond to others being victimized with emotionally escalated, perhaps aggressive, method to defend the victim, exacerbating the situation and consequently getting into trouble (Rubinstein, 2004). Contrary to expectation, behaviors related to assisting and victimization were not associated with ODRs. Those who report engaging in assisting behaviors or being victimized may not be getting into trouble because they engage in more passive behaviors in bullying situations. That is, those being victimized may avoid engaging in direct confrontation with other students, and those engaging in assisting behavior may do so passively (e.g., laughing or being verbally aggressive).

The study also predicted that there would be a negative relationship between SCPs and ODRs. Collectively, SCPs in spring 2017 accounted for 10.7% of the variance of ODRs the following academic year. Expectedly, ODRs were significantly and negatively associated with perceptions of fairness of rules, with students who received more ODRs perceiving the school rules to be less fair compared to students with few to no ODRs. As expected, ODRs were also significantly and negatively associated with perceptions of diversity, with students who received more ODRs perceiving the school to lack diversity. Contrary to expectations, perceptions of safety, student–student relationship, and clarity of rules were not associated with ODRs, which is unlike previous findings (e.g., Brand et al., 2003).

Altogether, perceptions of school climate and participation in the five bullying participant behaviors accounted for 16.1% of the variance of ODRs one year later. Our predictions were partially supported, with participation in bullying perpetration and experiencing victimization both significantly and positively associated with ODRs, which is consistent with previous findings (Gastic, 2008). Contrary

to expectation, perceptions of school climate did not moderate the longitudinal relationship between participation in bullying participant behaviors and the number of ODRs for students.

Tardies

Engagement in the five bullying participant behaviors in spring 2017 accounted for 12.4% of the variance in tardies the following academic year. Tardies were found to be positively associated with engagement in bullying perpetration, which supports previous findings that the more students perpetrate bullying, the more they are late to class (Perdy et al., 2014; Petrie, 2014). Contrary to expectation, participation in assisting, victimization, defending, and outsider behaviors were not associated with tardies. The lack of expected associations between outsider behavior and higher GPA, and fewer ODRs and tardies may indicate that even non-involved students are impacted by school bullying even when they are not directly involved in the bullying situations.

Negative associations between tardiness and perceptions of school climate were expected, and overall, the results showed that school climate accounted for 11.4% of the variance of tardies when these associations were examined at one time point. The results showed that tardies were significantly and negatively associated with perceptions of fairness of rules, with students who received more tardies perceiving the school rules to be less fair. However, unexpectedly, tardies were positively associated with student engagement, with students who received more tardies being more engaged in school. Perhaps, students who are less engaged are absent rather than tardy, lessening the opportunities for them to receive tardies compared to more engaged students. Of note, while the relationship between the number of tardies and student engagement was significant, the average number of tardies in this sample was quite small (i.e., less than 0.05). Surprisingly, perceptions of safety, student–student relationship, and clarity of rules were not associated with tardies, which differs from previous findings (e.g., Gallardo et al., 2016). This may indicate that, for this sample of students, perceptions of safety, student–student relationships, and clarity of rules do not have as much of an impact on whether or not they are getting into trouble (i.e., being late to class and receiving ODRs).

The bullying participant behavior scores and SCPs collectively accounted for 16.1% of the variance of tardies the following year. As expected, SCP was significantly and negatively associated with the number of tardies a student received, which is consistent with past findings that better SCPs are associated with fewer tardies (e.g., Brand et al., 2003). Additionally, participating in behaviors related to bullying perpetration was significantly and positively associated with tardies, with the number of tardies increasing as

self-reported bullying perpetration increased. Unexpectedly, no associations emerged between behaviors related to assisting, defending, and victimization and tardies a year later. Furthermore, SCPs moderated the longitudinal relationship between self-reported bullying perpetration and the number of tardies. Specifically, when perceptions of school climate are high there is a buffering effect between self-reported bullying perpetration and the number of tardies a student receives. However, low perceptions of school climate from students who engaged in bullying perpetration were associated with more tardies. SCPs also affected the relationship between self-reported victimization and the number of tardies a student received, such that better perceptions of school climate related to more tardies when experiencing victimization. These results can also be related to the healthy school paradox, suggesting those who experience victimization when there is a better school climate tend to have poorer outcomes (i.e., more tardies; Salmivalli, 2018).

Limitations and Future Directions

There are limitations in the current study. First, the use of self-report data may impact the validity of the findings, as students may be hesitant to endorse socially undesirable behavior like bullying participant behaviors. In the future, obtaining data on bullying participant behaviors from multiple sources is encouraged (e.g., teachers, peers, or parents). Additionally, the sample was generally homogeneous (i.e., 50.6% White and 33% Hispanic), which may limit the generalizability of the findings to other populations. Future work is encouraged to replicate the study with a more diverse sample. Another limitation is that ODRs may not have been categorized in the same way as previous studies have categorized them. For example, some studies (e.g., McIntosh et al., 2008; Whisman & Hammer, 2014) have categorized ODRs by the type and severity of the referral, instead of using the total number of ODRs as the current study has done. This may limit the ability to compare the current study to other work done in this area. Future work is encouraged to distinguish the various types of ODRs and distinguish them by severity as previous research has done. Further, the bullying participation behavior scores have some moderate corrrelations among them, so caution around the distinctness of these roles is warranted.

Additionally, not all the subscales of the Delaware School Climate measure were used, which may impact the validity and generalizability of the data collected using this measure. This would be particularly important when comparing the results of this study to others that have assessed SCPs using the Delaware measure. Future studies are encouraged to use a measure of SCPs that does not include a bullying subscale, to ensure the validity of the data that is collected. Related, it should be noted that some research has found

that as students get older and progress through school, their perceptions of school climate become more negative (Daily et al., 2020; Niehaus et al., 2012). The current study did not account for this in analyses, however, and this may have impacted the results. Finally, the current study involved several analyses and there may be a danger of inflated Type I error. Results, particularly for just significant findings, should be interpreted with some caution.

The results of this study in combination with previous research also provide an opportunity for several future directions. Collecting data in multiple waves with several time points of GPA, ODRs, tardies/attendance, SCPs, and bullying involvement would allow for a more sophisticated and nuanced analytic approach that could examine causality and the direction of these associations. For example, does perception of school climate lead to bullying involvement which impacts school success, or do students who struggle academically or behaviorally perceive more negative school climate leading to bullying participant behavior involvement? The current study was not able to definitively examine the direction of these associations.

The field has shifted to examining overlapping bullying participant behaviors and the use of latent profile analysis to determine students' levels of involvement in multiple bullying participant behaviors (Demaray et al., 2021) and how those profiles may be associated with academic and other school success outcomes. The associations among the bullying participant behaviors in the current study ranged from no association to moderate association and the current study did include all behaviors in analyses. However, future research could, with a large diverse sample, specifically look at profile membership as related to the school success outcomes and SCPs, potentially with these variables as part of the profile membership. This would allow researchers to determine if, in addition to more predictable profiles of students who are engaging in higher levels of bullying participant behaviors and demonstrating poorer school-related outcomes, there are unique profiles of students who are academically and behaviorally (i.e., ODRS and tardies) successful but engage in higher levels of bullying participant behaviors. In addition, such research could potentially find a profile of students who struggle in school but are not involved in bullying participant behaviors.

Implications

The results suggest that involvement in several bullying participant behaviors (i.e., bullying perpetration, victimization, and defending) is associated with increased ODRs, more tardies, and lower GPA for students. Specifically, engaging in bullying perpetration was found to be associated with both the number of tardies and ODRs a student received. Engagement in defending behavior was associated with higher ODRs.

Additionally, there were longitudinal associations between being victimized and having an increased number of ODRs and tardies. Results of the current study encourage educators to keep in mind that, while behaviors related to bullying, victimization, and defending are more associated with negative academic and behavior outcomes, it is important that any bullying interventions address all aspects of bullying and not just the more common behaviors of perpetration and victimization. Instead of using bullying prevention programs, schools may benefit from incorporating a broad social-emotional learning (SEL) program, which can decrease engagement in bullying participant behaviors and inappropriate behaviors as well as increase academic achievement and school climate (Durlak et al., 2011; Espelage et al., 2015; Yang et al., 2020).

SCP is important and can potentially help address the association between ODRs and tardies with bullying participant behavior. Of particular importance, students' perceptions of diversity and fairness of the school rules appear most impactful. Better perceptions of school climate may buffer the relationship between engagement in bullying participant behaviors and the number of tardies a student receives. To improve SCPs, school staff is encouraged to improve relationships between peers and between teachers and students, clarify and receive input from students about school rules, respect and incorporate diversity within class activities and the school building, increase student engagement in class, and increase perceptions of safety. In addition, it would be important for educators and school psychologists to pay particular attention to students who may still be experiencing victimization. These students may have worse outcomes (i.e., lower GPA and more tardies) when they perceive a positive school climate than if they had a negative perception of school climate.

Conclusion

The current study examined how engagement in five bullying participant behaviors was related to students' school success, as defined by a student's GPA, office disciplinary referrals (ODRs), and tardies. GPA was not associated with any individual bullying participant behavior, ODRs were associated with bullying perpetration as well as defending behavior, and tardies were associated with bullying perpetration only. Unique to this study was the examination of how perceptions of the various facets of SCP individually related to school success. Perceptions of fairness of rules and student engagement were associated with GPA, perceptions of fairness of rules and diversity with ODRs, and perceptions of fairness of rules and student engagement with tardies. Finally, SCPs moderated the association of engagement in bullying participant behaviors for GPA and tardies. These findings support the idea that SCP is important to consider in tackling bullying in schools and improving student success.

Code Availability SPSS software was used for analyses.

Declarations

Ethics Approval The questionnaire and methodology for this study were approved by the Human Research Ethics committee of Northern Illinois University.

Consent to Participate Informed consent was obtained from all individual participants included in the study.

Consent for Publication Consent to publish was actively granted by the school and passively by the participants.

Conflict of Interest The authors declare no competing interests.

References

Bear, G. G., Yang, C., & Pasipanodya, E. (2015). Assessing school climate: Validation of a brief measure of the perceptions of parents. *Journal of Psychoeducational Assessment, 33*(2), 115–129. https://doi.org/10.1037/t40857-000

Borkar, V. (2016). Positive school climate and positive education: Impact on students' well-being. *Indian Journal of Health And Wellbeing, 7*(8), 861–862. Retrieved from http://www.i-scholar.in/index.php/ijhw/article/view/120081

Brand, S., Felner, S., Shim, M., Seitsinger, A., & Dumas, T. (2003). Middle school improvement and reform: Development and validation of a school-level assessment of climate, cultural pluralism, and school safety. *Journal of Educational Psychology, 95*(3), 570–588. https://doi.org/10.1037/0022-0663.95.3.570

Branson, C. E., & Cornell, D. G. (2009). A comparison of self and peer reports in the assessment of middle school bullying. *Journal of Applied School Psychology, 25*(1), 5–27. https://doi.org/10.1080/15377900802484133

Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Harvard University Press.

Brookover, W. B., & Erickson, E. L. (1975). *Sociology of education*. Dorsey Press.

Bullying. (2021). US Department of Health and Human Services. https://www.nichd.nih.gov/health/topics/factsheets/bullying

Chen, C., Yang, C., Chan, M., & Jimerson, S. R. (2020). Association between school climate and bullying victimization: Advancing integrated perspectives from parents and cross-country comparisons. *School Psychology, 35*(5), 311–320. https://doi.org/10.1037/spq0000405

Cohen, J., McCabe, L., Michelli, N. M., & Pickeral, T. (2009). School climate: Research, policy, practice, and teacher education. *Teachers College Record, 111*(1), 180–213. Retrieved from: https://www.researchgate.net/publication/235420504_School_Climate_Research_Policy_Teacher_Education_and_Practice

Cole, J. C. M., Cornell, D. G., & Sheras, P. (2006). Identification of school bullies by survey methods. *Professional School Counseling, 9*(4), 305–313 131.156.156.30.

Cornell, D. G., & Brockenbrough, K. (2004). Identification of bullies and victims. *Journal of School Violence, 3*(2/3), 63–87. https://doi.org/10.1300/J202v03n02_05

Daily, S. M., Mann, M. J., Lilly, C. L., Bias, T. K., Smith, M. L., & Kristjansson, A. L. (2020). School climate as a universal intervention to prevent substance use initiation in early adolescence: A longitudinal study. *Health Education & Behavior, 47*(3), 402–411. https://doi.org/10.1177/1090198120914250

Demaray, M. K., Malecki, C. K., Ryoo, J. H., & Summers, K. H. (2021). Deconstructing bullying roles: A longitudinal latent profile analysis of bullying participant behaviors for students in grades 4 through 12. *Journal of School Psychology, 86*, 32–48. https://doi.org/10.1016/j.jsp.2021.02.006

Demaray, M. K., Summers, K. H., Jenkins, L. N., & Becker, L. D. (2016). Bullying Participant Behaviors Questionnaire (BPBQ): Establishing a reliable and valid measure. *Journal of School Violence, 15*(2), 158–188. https://doi.org/10.1080/15388220.2014.964801

Dorio, N. B., Clark, K. N., Demaray, M. K., & Doll, E. M. (2019). School climate counts: A longitudinal analysis of school climate and middle school bullying behaviors. *International Journal of Bullying Prevention, 2*(4), 1–17. https://doi.org/10.1007/s42380-019-00038-2

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school based universal interventions. *Child Development, 82*(1), 405–432. https://doi.org/10.1111/j.1467-8624.2010.01564.x

Eliot, M., Cornell, D., Gregory, A., & Fan, X. (2010). Supportive school climate and student willingness to seek help for bullying and threats of violence. *Journal of School Psychology, 48*(6), 533–553. https://doi.org/10.1016/j.jsp.2010.07.001

Espelage, D. L., Rose, C. A., & Polanin, J. R. (2015). Social-emotional learning program to reduce bullying, fighting, and victimization among middle school students with disabilities. *Remedial and Special Education, 36*(5), 299–311. https://doi.org/10.1177/0741932514564564

Feldman, M. A., Ojanen, T., Gesten, E. L., Smith-Schrandt, H., Brannick, M., Totura, C. M. W., Alexander, L., Scanga, D., & Brown, K. (2014). The effects of middle school bullying and victimization on adjustment through high school: Growth modeling of achievement, school attendance, and disciplinary trajectories. *Psychology in the Schools, 51*(10), 1046–1062. https://doi.org/10.1002/pits.21799

Finn, J. D., & Zimmer, K. S. (2012). Student engagement: What is it? Why does it matter? In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 97–131). Springer, Boston, MA. https://doi.org/10.1007/978-1-4614-2018-7_5

Gage, N. A., Larson, A., Sugai, G., & Chafouleas, S. M. (2016). Student perceptions of school climate as predictors of office discipline referrals. *American Educational Research Journal, 53*(3), 492–515. https://doi.org/10.3102/0002831216637349

Gage, N. A., Prykanowski, D. A., & Larson, A. (2014). School climate and bullying victimization: a latent class growth model analysis. *School psychology quarterly, 29*(3), 256–271. https://doi.org/10.1037/spq0000064

Gallardo, L. O., Barrasa, A., & Guevara-Viejo, F. (2016). Positive peer relationships and academic achievement across early and mid adolescence. *Social Behavior and Personality: An International Journal, 44*(10), 1637–1648. https://doi.org/10.2224/sbp.2016.44.10.1637

Garandeau, C. F., & Salmivalli, C. (2019). Can healthier contexts be harmful? A new perspective on the plight of victims of bullying. *Child Development Perspectives, 13*(3), 147–152. https://doi.org/10.1111/cdep.12331

Gastic, B. (2008). School truancy and the disciplinary problems of bullying victims. *Educational Review, 60*(4), 391–404. https://doi.org/10.1080/00131910802393423

Glew, G. M., Fan, M., Katon, W., Rivara, F. P., & Kernic, M. A. (2005). Bullying, psychosocial adjustment, and academic performance in elementary school. *Archives of Pediatrics Adolescent Medicine, 159*, 1026–1031. https://doi.org/10.1001/archpedi.159.11.1026

Goossens, F. A., Olthof, T., & Dekker, P. H. (2006). New participant role scales: Comparison between various criteria for assigning roles and indications for their validity. *Aggressive Behavior:*

Official Journal of the International Society for Research on Aggression, 32(4), 343–357. https://doi.org/10.1002/ab.20133

Gottfredson, G. D., & Gottfredson, D. C. (1989). School climate, academic performance, attendance, and dropout. *Educational Resources Information Center.* Retrieved from: https://files.eric.ed.gov/fulltext/ED308225.pdf

Gottfredson, G. D., Gottfredson, D. C., Payne, A. A., & Gottfredson, N. C. (2005). School climate predictors of school disorder: Results from a national study of delinquency prevention in schools. *Journal of Research in Crime and Delinquency, 42*(4), 412–444. https://doi.org/10.1007/978-1-4684-4985-3_8

Homana, G., Barber, C., & Torney-Purta, J. (2006). Assessing school citizenship education climate: Implications for the social studies. CIRCLE Working Paper 48. *Center for Information and Research on Civic Learning and Engagement (CIRCLE), University of Maryland.* Retrieved from: https://files.eric.ed.gov/fulltext/ED494024.pdf

IBM Corp. Released 2019. IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY: IBM Corp

Illinois Report Card. (2019). Illinois State Board of Education. https://www.illinoisreportcard.com

Kowalski, R. M., & Limber, S. P. (2013). Psychological physical and academic correlates of cyberbullying and traditional bullying. *Journal of Adolescent Health 53*(1), S13-S20. https://doi.org/10.1016/j.jadohealth.2012.09.018

Lindstrom Johnson, S., Waasdorp, T. E., Debnam, K., & Bradshaw, C. P. (2013). The role of bystander perceptions and school climate in influencing victims' responses to bullying: To retaliate or seek support? *Journal of Criminology, 2013*(780460). https://doi.org/10.1155/2013/780460

Loukas, A. (2007). What is school climate? *Leadership Compass, 5*(1), 1–3. Retrieved from: https://www.naesp.org/sites/default/files/resources/2/Leadership_Compass/2007/LC2007v5n1a4.pdf

MacNeil, A. J., Prater, D. L., & Busch, S. (2009). The effects of school culture and climate on student achievement. *International Journal of Leadership in Education, 12*(1), 73–84. https://doi.org/10.1080/13603120701576241

McIntosh, K., Flannery, B. K., Sugai, G., Braun, D. H., & Cochrane, K. L. (2008). Relationships between academics and problem behavior in the transition from middle school to high school. *Journal of Positive Behavior Interventions, 10*(4), 243–255. https://doi.org/10.1177/1098300708318961

Morrissey, T. W., Hutchison, L., & Winsler, A. (2014). Family income, school attendance, and academic achievement in elementary school. *Developmental Psychology, 50*(3), 741–753. https://doi.org/10.1037/a0033848

Nakamoto, J., & Schwartz, D. (2010). Is peer victimization associated with academic achievement? A meta-analytic review. *Social development, 19*(2), 221–242.

Nickerson, A., Singleton, D., Schnurr, B., & Collen, M. (2014). Perceptions of school climate as a function of bullying involvement. *Journal of Applied School Psychology, 30*, 157–181. https://doi.org/10.1080/15377903.2014.888530

Niehaus, K., Rudasill, K. M., & Rakes, C. R. (2012). A longitudinal study of school connectedness and academic outcomes across sixth grade. *Journal of School Psychology, 50*(4), 443–460. https://doi.org/10.1016/j.jsp.2012.03.002

Olweus, D. (1994). Bullying at school: Basic facts and effects of a school based intervention program. *Journal of Child Psychology and Psychiatry, 35*(7), 1171–1190. https://doi.org/10.1111/j.1469-7610.1994.tb01229.x

Predy, L., McIntosh, K., & Frank, J (2014). Utility of number and type of office discipline referrals in predicting chronic problem behavior in middle schools. *School Psychology Review, 43*(4), 427–489. https://doi.org/10.17105/SPR-13-0043.1

Petrie, K. (2014). The relationship between school climate and student bullying. *TEACH Journal of Christian Education, 8*(1), 26–35. Available online at: https://research.avondale.edu.au/cgi/viewcontent.cgi

Roorda, D. L., Koomen, H. M. Y., Split, J. L., & Oort, F. J. (2011). The influence of affective teacher-student relationships on students' school engagement and achievement: A meta-analytic approach. *Review of Educational Research, 81*, 493–529. https://doi.org/10.3102/0034654311421793

Rubinstein, S. L. (2004). *Understanding adolescent participation in harassment: A social cognitive approach (Doctoral dissertation.* Queen's University.

Salmivalli, C., Lagerspetz, K., Björkqvist, K., Österman, K., & Kaukiainen, A. (1996). Bullying as a group process: Participant roles and their relations to social status within the group. *Aggressive Behavior, 22*(1), 1–15. https://doi.org/10.1002/(SICI)1098-2337(1996)22:1%3c1::AID-AB1%3e3.0.CO;2-T

Salmivalli, C. (2018). Peer victimization and adjustment in young adulthood: Commentary on the special section. *Journal of Abnormal Child Psychology, 46*(1), 67–72. https://doi.org/10.1007/s10802-017-0372-8

Shukla, K., Konold, T., & Cornell, D. (2016). Profiles of student perceptions of school climate: Relations with risk behaviors and academic outcomes. *American Journal of Community Psychology, 57*, 291–307. https://doi.org/10.1002/ajcp.12044

Summers, K., & Demaray, M. K. (2008). *Bullying participant behaviors questionnaire.* Northern Illinois University. https://doi.org/10.1080/15388220.2014.964801

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. https://doi.org/10.3102/0034654313483907

Voight, A., Austin, G., & Hanson, T. (2013). A climate for academic success: How school climate distinguishes schools that are beating the achievement odds. Full report. *California Comprehensive Center at West Ed.* https://www.wested.org/online_pubs/hd-13-01.pdf

Wang, M. T., & Dishion, T. J. (2012). The trajectories of adolescents' perceptions of school climate, deviant peer affiliation, and behavioral problems during the middle school years. *Journal of Research on Adolescence, 22*(1), 40–53. https://doi.org/10.1111/j.1532-7795.2011.00763.x

Wang, J., Iannotti, R. J., & Nansel, T. R. (2009). School bullying among adolescents in the United States: Physical, verbal, relational, and cyber. *Journal of Adolescent Health, 45*(4), 368–375. https://doi.org/10.1016/j.jadohealth.2009.03.021

Wang, W., Vaillancourt, T., Brittain, H. L., McDougall, P., Krygsman, A., Smith, D., Cunningham, C. E., Haltigan, J. D., & Hymel, S. (2014). School climate, peer victimization, and academic achievement: Results from a multi-informant study. *School Psychology Quarterly, 29*(3), 360–377. https://doi.org/10.1037/spq0000084

Way, N., Reddy, R., & Rhodes, J. (2007). Students' perceptions of school climate during the middle school years: Associations with trajectories of psychological and behavioral adjustment. *American Journal of Community Psychology, 40*(3–4), 194–213. https://doi.org/10.1007/s10464-007-9143-y

Wentzel, K. R., McNamara, C., & Caldwell, K. A. (2004). Friendships in middle school: Influences on motivation and school adjustment. *Journal of Educational Psychology, 96*(2), 195–203. https://doi.org/10.1037/0022-0663.96.2.195

Whisman, A., & Hammer, P. C. (2014). The association between school discipline and mathematics performance: A case for positive discipline approaches. *West Virginia Department of Education.* Retrieved from: https://files.eric.ed.gov/fulltext/ED569903.pdf

Yang, C., Chan, M. K., & Ma, T. L. (2020). School-wide social emotional learning (SEL) and bullying victimization: Moderating role of school climate in elementary, middle, and high schools. *Journal*

of School Psychology, 82, 49–69. https://doi.org/10.1016/j.jsp.2020.08.002

Wang, M. T., & Degol, J. L. (2016). School climate: A review of the construct, measurement, and impact on student outcomes. Educational psychology review, 28(2), 315–352. https://doi.org/10.1007/s10648-015-9319-1