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ORIGINAL ARTICLE

Use and Impact of the Wisconsin Bullying Prevention Program Assessment Tool in Addressing Middle School Bullying

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Abstract

The Wisconsin School Violence and Bullying Prevention Study, funded by the National Institutes of Justice (NIJ), was a two-year case-control study in 24 Wisconsin middle schools (11 experimental; 13 control) seeking to understand the impact of a comprehensive bullying prevention program on bullying victimization rates. Participating schools' bullying prevention programs were assessed at baseline and project-end using the Wisconsin Bullying Prevention Program Assessment Tool (BPPAT). This self-assessment tool, developed prior to the start of the research project, was developed by the Wisconsin Department of Public Instruction (DPI) and partners throughout Wisconsin. The BPPAT is an open-source 42-item assessment tool across 9 topic areas focused on policies and procedures with minimal financial and logistical burdens towards implementation. By design, it acknowledges wide variance across schools and districts for current practices and provides guidance, going forward, for program improvement. In the accompanying study, experimental schools were instructed to, with technical assistance, enhance their program by filling gaps identified through their completion of the BPPAT over two school years. A significant enhancement resulted among all schools, experimental and control, between 2015 and 2017 with a spill-over effect due to data collection requirements reducing programmatic differences between groups. Experimental schools reported significant declines in verified incidents of bullying with a non-significant decline among control schools. From this project, researchers determined that (1) schools are able to make program improvements in a short time period and (2) this concerted, and largely non-prescriptive, effort can have a positive and measurable impact on bullying victimization at this age group. Broader implications for the BPPAT and its use are preliminary and next steps are discussed and recommendations made.

Keywords Bullying · Adolescent · Program evaluation · Assessment · Middle school

Bullying continues to be widespread in the USA and seemingly resistant to significant decline. In a nationwide survey earlier this century, Nansel et al. (2001) found approximately 10.6% of high school students reported moderate or frequent bully victimization. More recently, using data from the Youth Risk Behavior Surveillance (2015), the Centers for Disease Control and Prevention (CDC 2015) found that 20% of high school students reported being bullied on school property. In a survey of approximately 150,000 US students in grades 3 through 12, Luxenberg, Limber, and Olweus (Luxenberg et al. 2015) found that approximately 15% of eighth grade students and 10% of ninth grade students reported being victims of bullying. This research also found that students in middle school reported being bullied at higher percentages than did students in either elementary or high school, and this finding is consistent across other large epidemiological studies (e.g., Musu-Gillette et al. 2017). These studies show that bullying remains prominent in the lives of youth attending secondary school.

Current research into efforts to understand and prevent bullying has adapted a social-ecological perspective (Espelage et al. 2013; Swearer and Hymel 2015). Within this construction, bullying is viewed as the product of complex interactions among students and their associated social systems of peers, school adults, parents, and community members (Rose et al. 2015). In a social-ecological framework, potentially effective

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prevention programming moves beyond the exclusive focus on the victim and perpetrator and endeavors to understand and address the contributions of each social system.

Unfortunately, bridging the gap between research and practice is moving slowly. Approaches by school personnel designed to impact the problem vary widely (Ttofi and Farrington 2011). More thoughtful efforts may adopt tenets of the social-ecological perspective by involving the use of (a) comprehensive published programs (e.g., Olweus Bullying Prevention Program, Second Step Violence Prevention Program); (b) procedures informed by reputable websites (e.g., https://www.stopbullying.gov/; https://www.prevnet.ca/; http://www.nobullying.com); or (c) any of the numerous "how to" manuals available online (e.g., https://www.teacher.org/resource/bullying/). Less systematic efforts may involve simply creating and striving to enforce "no bullying" policies within the school discipline structure. Despite the extensive array of programs and approaches to prevention, there is little systematic documentation of their effectiveness (Nickerson et al. 2013). Given that extant socio-ecological models (SEM) are focused on addressing the participants' complex social interactions and the application of the SEM has shown potential to be efficacious (Merrin et al. 2018), a need exists to assess the environment that extends from the individual up through overarching systems of cultural expectations and community opportunities.

The setting for this study was the state of Wisconsin, located in the midwestern USA. The structure of public education in the USA is such that the design of most educational policy, including bullying prevention, rests with the states. For its part, the federal government issued advisories that addressed civil rights protection from bullying for individuals who may be victimized because of race, color, national origin, sex, or disability (Cornell and Limber 2015). By 2015, all of the states had passed legislation mandating local school districts to create anti-bullying policies. In Wisconsin, individual districts within the state have a high level of autonomy with regard to implementing state mandates. To support them, the State Education Agency (SEA) provides guidance and, at times, grant funding to address implementation needs to those districts who request it. For this guidance to be implemented, however, it needs a receptive audience.

The purpose of this study is to examine the impact on rates of bullying victimization of a low-cost, publicly available need assessment tool designed to guide the implementation of comprehensive bullying prevention programs that adopt the tenets of SEM. The study design seeks to strike a balance between scientific rigor and practical application. As such, the tool was developed and implemented in a way with the anticipation that schools will be capable of applying the lessons learned with minimal disruption to program implementation that sometimes occurs because of logistical and financial constraints.

Wisconsin Bullying Prevention Program Assessment Tool

The Wisconsin Department of Public Instruction (DPI) as the State Education Agency (SEA) for Wisconsin sought a way that schools could assess and enhance their current bullying prevention program with an eye towards minimizing financial barriers and maximizing flexibility in making improvements. Within the school environment, flexibility and a general level of autonomy is necessary due to the wide range of environments and current policies across Wisconsin's 420+ school districts. A result of these efforts was the collaborative development of a new instrument with which schools could assess their current policies and practices and subsequently utilize recommended benchmarks to make adjustments.

The instrument, the Wisconsin Bullying Prevention Program Assessment Tool (BPPAT) was developed over a period of 18 months starting in 2013 under a collaboration between the Wisconsin Department of Public Instruction (DPI) and academic and community representatives from throughout the state of Wisconsin. The process involved internal discussions of the key points of importance with respect to bullying prevention in the school environment between kindergarten and 12th grade, or roughly between the ages of 5 and 18. These included elements in the school environment that SEM models include pertaining to staff training, data collection, and parent involvement that are sometimes overlooked. The final product was completed in 2014. It is publically available at: (https://dpi.wi.gov/sites/default/files/imce/sspw/pdf/svprpassessmenttool.pdf).

It is important to note that this process resulted in an instrument that taken in its totality, as opposed to individual sections within, is not based on pre-established, agreed upon criteria that are entirely comprehensive or relevant for every school or community context. As a result, another team going through the same process would likely have some differences due to differences in policies, cultures, practices, and/or resources. However, the individual items that make up the BPPAT described here are grounded in research, several of which are referenced in the section below. While this study focuses exclusively on the assessment tool, additional resources were made available to schools through the DPI to complement the instrument, including a guide to bullying prevention resource mapping guide (https://dpi.wi.gov/sspw/safe-schools/bullying-prevention).

The BPPAT is comprised of nine sections (listed below) that each contains prevention goals. The structure of the BPPAT is such that a school is asked to rate the bullying prevention status of their school along a continuum of "not in place," "partially in place" (criteria for this designation are provided), and "fully in place." As it pertains to a quantifiable score associated with the completion of the BPPAT, a "0" is associated with not in place up to a "2" for fully in place.

Schools were urged to have multiple individuals with first-hand knowledge, and those from different school community roles (classroom teacher, pupil services, or administration) complete the assessment in any school (i.e., a community of voices are reflected in the responses of each school). From a research perspective, doing so can help reduce the risk of a reporting bias. Application-wise, if the BPPAT is completed independently prior to a group discussion, it can also open up a discussion when differences in assessment results emerge between different categories of reporters. The nine sections are presented below along with a sample item in quotation that captures a key element of that section. The individual sections of the BPPAT represent areas of focus that have been shown to influence bullying among students.

1. Policy and procedures: 6 items designed to assess whether policies are in place and the specificity of procedures for violation of policies as well-constructed policies can be effective at reducing bullying (Hall 2017). The distinction is to make clear the correct categorization of what is being reported and to identify victims bullied because of membership in a protected class. Example item: "School bullying policy makes a clear distinction between "bullying" and "harassment."
2. Program selection/implementation: 3 items designed to assess whether a bullying-specific program had been selected and implemented within the school. Implementation of a program with a high degree of fidelity may correspond with improved behavior (Hirschstein et al. 2007). Example item: "An externally validated (i.e., evidence based and/or evidence informed) bullying prevention program has been implemented by the school/school district."
3. Staff training: 6 items designed to assess the extent to which all school staff have received training related to bullying. The nature of the staff training, in this instance, is not prescriptive. Rather, it is focused on staff receiving a uniform training to enable all faculty/staff to have a consistent understanding. The use of 90% regarding staff training (in ensures a large majority receive training. Example item: "A minimum of 90% of faculty/staff (including non-teaching staff such as a School Resource Officer) have received inservice training (initial and/or refresher) in the following this academic year: How to respond to bullying incidents."
4. Parent education and communication: 3 items designed to assess the frequency of communication between school and family regarding school practices and data on bullying. Open lines of communication with teachers and parents (Fekkes et al. 2004; Lester et al. 2017) are associated with subsequent efforts to prevent future incidents of bullying behavior. The inclusion of twice-annual communication with parents is seen as a minimum. By requiring at least two formal communications, changes that occurred within the school year are able to be provided to families with an updated status of their child(ren)'s educational environment. Example item: "Twice-yearly updates are sent to parents about the school's bullying prevention program."
5. Classroom instruction/student training: 9 items designed to assess the presence and administration of training on bullying prevention and dealing with incidents. As with staff training, the focus is on a consistent message being provided to all students. The training should be in line with the program(s) being implemented to ensure confidence in its content. And, as for staff training fidelity is expected to be important (Hirschstein et al. 2007). The use of 90% regarding student ensures a large majority receive training. Example item: "A minimum of 90% of students has received classroom instruction (initial and/or refresher) on how to respond to bullying incidents this academic year."
6. Universal (tier 1) components: 2 items designed to assess practices and approaches in place to address bullying and bullying prevention to all students, regardless of their experience as a victim or perpetrator of bullying behavior. Example item: "Bullying policies are communicated with local community agencies, including police, public health, childcare and human services."
7. Selected (tier 2)/intensive (tier 3) components: 3 items designed to assess approaches that are tailored to those at risk for bullying perpetration of victimization (tier 2) or who have presented the behavior (tier 3). With regard to a tiered approach (Sections 6 and 7), organizing the prevention effort along the three-tiered public health model (Hertz et al. 2013) has been associated with promising outcomes in bullying prevention. Example item: "Supports are provided to students not responding to less intense interventions."
8. Reporting systems: 6 items designed to measure the nature and methods used to report incidents of bullying n the school. While minimal specifications are given for the nature of the reporting systems, technical assistance documents created to complement the BPPAT emphasize the importance of reporting systems that minimize, and ideally eliminate, possibility of the victim or witness being too intimidated, directly or indirectly, to report. Example item: "A reporting system is in place for students and staff for documenting bullying incidents that includes electronic collection and maintenance of data."
9. Analysis and continuous quality improvement (CQI): 4 items designed to assess method being used by school personnel to evaluate available data and adjust, as necessary. Example item: "Data are analyzed by the School Safety Team at least quarterly to identify 'hot spots' for incidents, involving time and place, and sub-populations disproportionately affected."

The structure of the BPPAT reflects the public health model that emphasizes tiers 1, 2, and 3 which refer to universal, targeted, and intensive strategies. The majority of the items listed is universal in nature and intended to benefit all students and to provide a solid structure to the school environment. These are largely preventative and put into place to prevent incidents of, in this case, bullying from occurring. Tiers 2 and 3 work with those students or groups of students at risk for bullying perpetration. This same three-tiered system is connected with positive behavioral interventions and supports (PBIS), which also utilizes a three-tiered framework, with a model in which schools are to establish strong universal (tier 1) practices before moving on to tiers 2 and 3.

The BPPAT instrument provides school decision-makers with both a mechanism to assess their current efforts and research-informed directions for additional prevention support. The BPPAT is an attempt to bridge the gap between the intent of school practitioners to reduce bully victimization and the best practices literature demonstrating potentially effective procedures (e.g., Felix et al. 2014). The project required that schools use one of the commercially available research-supported bullying prevention programs. Though not explicitly stated, the desire would be for schools outside of the project to also utilize a program with a strong research basis. However, cost is often a barrier in the purchasing of such programs. The BPPAT can be used to guide decision-makers towards those evidence-based practices with little to no material expenditure; however, meetings and the re-allocation of staff time do have costs associated with them.

School decision-makers, parents, and students are eager to implement programs and procedures that will have a measurable impact on the problem of bullying. The BPPAT was designed to assess current strategies and provide guidance towards evidence-based practices that are individualized to the need and capacity of the school. The individualized nature of this tool is not in the instrument itself, but the breadth of topics covered through which schools will be able to assess their current strengths and weaknesses, which are not uniform across buildings and districts. Incorporating all the items in the tool into school practices is ideal however not always realistic. Therefore, the BPPAT seeks to identify current areas of strengths and weaknesses to inform the decision-making processes going forward (Larson and Busse 2013).

The Wisconsin School Violence and Bullying Prevention Study

In 2014, the Wisconsin DPI began work on the Wisconsin School Violence and Bullying Prevention Study. This project was supported by the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice as a grantee in their *Developing Knowledge about What Works to Make Schools Safe* program (https://www.ncjrs.gov/pdffiles1/nij/sl001122.pdf).

This research represents a novel concept in that the design of the study was focused on real-world effectiveness, application, and replication by individual schools and larger school districts regardless of the initial status of their bullying prevention program. Furthermore, it provided an opportunity to put the Wisconsin BPPAT into use and assess the degree to which it measures programmatic status and changes.

All school districts in Wisconsin are required to adopt a policy that prohibits bullying by pupils and the policy must be distributed to enrolled pupils and their parents/guardians. Beyond this, there are limited prescribed aspects of an actual approach to bullying, and wide variety exists from school to school.

This project was a matched case-control study in which Wisconsin middle schools (grades 6, 7, and 8) were recruited and matched based on size and geographic location to each arm of the study. During the 2015–16 and 2016–17 school years, those in the experimental group were instructed to use the BPPAT to assess and make subsequent changes their school's bullying prevention program in an effort to make it more comprehensive across areas known to be associated with bullying victimization and perpetration. A delayed implementation model was used, meaning that those in the control group were instructed to comply with data collection protocols and to avoid making substantial enhancements to their programs until fall 2017, at which point they would (and did) receive similar technical assistance towards enhancing their programs and fully utilizing the BPPAT. As described, below, this requirement of data collection protocols for all schools inadvertently resulted in a spill-over effect reducing the clear-cut difference between schools in each arm of the study.

The project period began in January 2015, and recruitment of middle schools (grades 6–8) occurred during the spring semester of 2015 for a September 2015 initiation of the two school years active data collection period. For inclusion criteria, each school was required to have an active positive behavioral interventions and supports architecture in place that had achieved tier 1 fidelity. This was to insure that schools involved the project had an existing structure in place to address school climate. Schools were offered $15,000 and free technical assistance to enhance their programs. Funds could be used, among other items, to purchase commercial bully prevention programs such as Second Step and off-set expenses for staff training time. At of the end of the recruitment process, a total of 24 schools in 19 districts agreed to participate, comprising a comprehensive geographic distribution of Wisconsin school districts based on student demographics, geographic location (urban/rural), and district size.

Ongoing technical assistance, including training in Second Step, was provided by the Wisconsin Safe and Healthy Schools (WISH) Center. This took place from the start of the

data collection period for schools in the experimental group (fall 2015) and starting in fall 2017 for those in the control group. The extent of this assistance involved consultation regarding completing the BPPAT and assessing needs arising from the assessment, training for school staff on Second Step along with ad-hoc consultation regarding their bullying prevention program. Schools were not prohibited from selecting other evidence-based programs. If those instances arose, training, and technical assistance accommodations would have been made. However, within the context of this project, such an occurrence did not present itself.

The Wisconsin School Violence and Bullying Prevention Study provided an opportunity for 24 Wisconsin middle schools to address bullying and to utilize the BPAAT as an assessment tool from which schools could evaluate their programs and make positive steps going forward. From a research perspective, it allowed for a formal examination of the quantifiable effects of its use on school climate and student behaviors. In this study, we address the following question: Does a shift in program implementation level, as measured by the utilization of the BPAAT, result in a measurable shift in the bullying victimization reported within the school?

Method

Participants

Recruitment of school districts began in the 2014–15 school year. Using middle schools who satisfied the inclusion criteria of fidelity at tier 1 positive behavior interventions and supports eligible schools were contacted with a planned effort on the part of the principal investigator to recruit participants from a variety of school sizes (range 71–673 students), settings (urban, rural, suburban), and geographic location.

Recruitment ceased at the end of the 2015 school year with the final roster of schools covering those that agreed to participate during the recruitment process. Schools from 21 districts elected to participate. However, shortly after the recruitment concluded, one district was self-removed due to a conflict between the desires of those in the school buildings versus district administration. The following school year, and after the start of the project, one school district elected to remove themselves form the project. This was due to changes in administration. Ultimately 24 schools from 19 districts were recruited and were included in the analysis.

Matching/Randomization Process

Districts were matched based on those characteristics that were involved in selection of potential participants (district size and geographic location). After matching the participating districts, a coin-flip was used to assign a district to either the experimental or control group. Districts were then notified of the results and their placement. Using 2015–16 school year data, characteristics of the participating school buildings indicate that control schools were larger in enrollment. The aforementioned district that removed themselves from the project after randomization contributed to this disparity in school size. Those in the experimental group had higher rates of exclusionary discipline (Table 1).

Study Design

The Wisconsin School Violence and Bullying Prevention Project involved two school years of active data collection. Experimental group schools were instructed to begin implementation of the efforts to enhance their bullying prevention program starting in fall 2015. During this time, schools were able to expend their funds towards this end and received technical assistance and consultation from the Wisconsin Healthy Schools (WISH) Center. Although each school received a level of assistance and consultation from the WISH Center, variability did exist based upon school plans and efforts underway at baseline (i.e., already having a universal program implemented). Those in the control group were instructed to delay enhancement of their program unless circumstances required a break from this protocol. These schools began to receive initial technical assistance in spring 2017 and were able to begin implementation fall 2017 after data collection from all schools in the project had concluded.

Measures

Several measures were collected for the project, including student and school-level measures. Anonymous data were collected and analyzed exclusively by the state education agency (SEA) of Wisconsin and contained questions included in commonly administered school climate surveys. As such, it was determined by the SEA and the National Institutes of Justice (NIJ), which serves as the research, evaluation, and development agency of the US Department of Justice, that a formal IRB process was not needed as the procedure did not involve measures beyond those already assessed in the schools. Students were not required to complete the questionnaire and their voluntary completion was explicitly stated on the form. In addition, schools were free to institute their own protocol of consent (opt-in vs opt-out/consent from students and/or parents), which is line with the local control structure of the public school system in Wisconsin.

BPPAT The strength of the bullying prevention program was quantified through completion of the BPPAT. This self-assessment was completed by school personnel in spring 2015 (baseline), spring 2016, and spring 2017. The purpose of the instrument was to allow schools to self-assess the

Table 1 Sample characteristics

	Experimental schools ($n = 11$)	Control schools ($n = 13$)
Enrollment	321	439
Percent minority	30.2%	33.2%
Percent economically disadvantaged	49.1%	49.3%
Exclusionary discipline rate	6.7%	5.9%

strength of their program across a comprehensive list of areas. Each of the nine sections addresses generally discrete elements in the prevention of the initiation and/or continuation of bullying behavior between students. Some sections represent largely preventive elements of the issue (e.g., classroom instruction/student training), while others focus on addressing current or past incidents (e.g., data collection and reporting), and others focus on prevention of new and continued bullying behaviors (e.g., continuous quality improvement).

Given that this required a deep look into the policies, practices, and procedures within the school, personnel were instructed to bring together a team from a variety of school roles (classroom, student services, and administration) to ensure that responses were complete and accurate. The survey provided spaces for names of contributors, and the majority of surveys indicated multiple staff members contributed to the completion of the BPPAT.

The potential range of scores is from 0 to 84 based on the 42 question format. For those assessments completed for this study, mean scores for all schools in the project increased across the three periods from 40.1 (SD = 14.4), to 53.2 (SD = 14.5), to 57.9 (SD = 12.4). By section, the highest scoring sections, based on percent of possible points by section, (relying on baseline data), were section 1—policy and procedures (mean score of 8.8 out of possible 12), section 6—universal components (2.7 out of possible 4), and section 7—selected/intensive components (3.7 out of possible 6). Lowest scoring sections were section 4 (1.8 out of possible 6), section 3—staff training (3.7 out of possible 12), and section 9—analysis and continuous quality improvement (2.8 out of possible 8).

Bullying Rates (School Level)

Rates of bullying victimization were measured as bullying incidents reported by the schools during a four-week/20 school day period in both the fall and spring semesters of 2015–2016 and 2016–2017. Schools were instructed to track and report data related to bullying incidents that met the criteria described below. A suggested specific 20-day period was identified; however, variability in the specific dates used was required to account for differences in spring breaks, off days, etc. between districts. Adjustments were required primarily in the spring semester due to spring breaks; however, collections in the spring semester occurred in the months of March and April.

For an incident to be included, it needed to match the public health definition of bullying (repeated, imbalance of power) (Gladden et al. 2014), involve a conversation between the victim and school staff and documentation of name(s) involved (victim and perpetrator) and the type of bullying involved. While determining an imbalance of power is somewhat ambiguous and subjective, it is a key component of the current definition and was included for this reason. The number of incidents, number of student victims and perpetrators, and the demographic characteristics of victims and perpetrators were submitted in fall 2015, spring 2016, fall 2016, and spring 2017. Submissions were retained in aggregate form for each school. Rates of bullying victimization were determined from the aggregate numbers of students involved as a victim. The denominator was based on the school's figure of the total school population as collected in proximity to the data collection period. Specifically, fall figures used 3rd Friday of September enrollment data; spring figures used 2nd Friday of January enrollment data. The numerator, as it is reported for the subsequent analysis, reflects the number of students victimized in the reporting period.

Analysis

The Wisconsin Bullying and Violence Prevention Project employed an experimental/control structure. Schools in the control condition were asked to delay implementation of new bullying prevention programming until the start of the 2017–18 school year. However, it was also made clear to these schools that they were not expected to avoid directly addressing new issues of bullying and violence prevention in their schools. Changes in the BPPAT may provide some evidence of such instances; however, there was no direct requirement to communicate instances that might cause schools to break their treatment assignment. This decision was made out of ethical considerations but also to retain the general structure of this study that relied on real-world and applicable contexts to schools regardless of their current bullying prevention program status. To assess program implementation, schools submitted their BPATT on an annual basis in April or May. We evaluated whether change occurred in the BPATT scores across time.

The satisfaction of the previously referenced delayed implementation model is based on changes in BPPAT scores when comparing experimental to control group schools. As will be described below, a certain amount of improvement among control schools possibly occurred due to compliance with data collection requirements.

Statistical Analyses

Ordinary Least Squares (OLS) regression methods were employed to compare experimental and control schools with a sample size of 24 schools and quantify the effect of study placement, and corresponding activities, on rates of bullying. Analyses were completed utilizing Statistical Package for Social Sciences (SPSS): Version 22.

Results

Bullying Rates (School-Level)

Rates of students (per 100) who were victims of bullying during the respective reporting periods were collected and reported with rates trending downward in both experimental and control groups (Fig. 1). With respect to our main research question of interest, analytically, a we used linear regression with variables comparing baseline bullying rates to bullying rates in the semester of interest to assess significance in this decline.

Relying on rates rather than incidents allowed for controlling for school enrollment size. Statistically, we found a significant decline in the rate of students being bullied among the overall population ($n = 24$ schools) comparing the reference period (fall 2015) to each of the subsequent three semesters. For the experimental schools only ($n = 11$), we also found a significant decline in bullying rates for each of the three subsequent semesters relative to baseline bullying rates (Table 2). Bullying rates, per hundred, in the four time periods were: 2.34 (fall 2015), 0.97 (spring 2016), 1.22 (fall 2016), and 0.61 (spring 2017). Among those in the control group, while rates declined over the four-semester time period (2.27 (fall 2015), 1.35 (spring 2016), 1.65 (fall 2016), 1.36 (spring 2017)), the extent of the decline did not reach statistical significance.

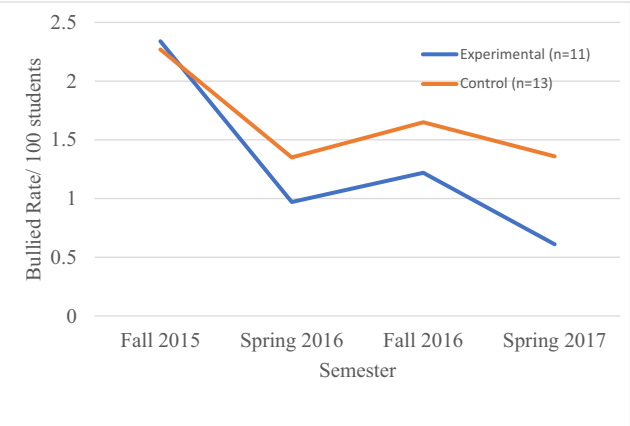

Fig. 1 School-reported bullying victimization rate (per 100): by study group and semester

It is important to note that this analysis focused on differences in each group, separately, relative to their baseline. A separate difference in difference analysis was conducted, utilizing a regression model with an interaction term utilizing dummy variables for time and treatment group, and a non-significant differential impact was detected. This is likely due, in part, to a small sample size and a potential violation of the stable unit treatment value assumption (Rubin 1980), in particular the absence of spill-over effects.

When looking at the effect size of this difference in school-level bullying, a one-way ANOVA was calculated at baseline (fall 2015) and end of project (spring 2017) to determine if an effect size could indicate the strength of the impact of treatment arm assignment. Using the equation ($SS_{between}/SS_{within}$), effect size at spring 2017 was .11. At baseline, this same equation indicated minimal difference (.002) between experimental and control schools, as would be expected. When calculating eta^2, to measure the degree of variance attributable to group assignment, the resulting variance was stronger in spring 2017 (9.8%) relative to baseline (0.4%).

Bullying Prevention Program Change

We conducted a supplemental set of analyses utilizing OLS regression with indicator variables of semester to understand the degree to which schools in both the experimental and control groups reported changes in their approach to bullying within each of the nine sections measured by the BPPAT. The BPPAT has a potential score range of 0–84. Twenty-four schools completed the instrument at all three points in time during the study. Comparing spring 2015

Table 2 OLS - School Reported Bullying Rates: by group and time period

Semester	*B* Total	*B* Experimental	*B* Control
Reference (Fall 2015)	3.064	2.740	3.793
T1 (Spring 2016)	-1.130*	-1.379*	-.921
T2 (Fall 2016)	-.819	-1.132*	-.492
T3 (Spring 2017)	-1.255*	-1.747**	-.776
School Enrollment	*-.002**	-.001	*-.004**

Notes: Verified Bullying Incidents are in reference to school reporting of incidents that meet public health definition of bullying. This is in contrast to a student survey

*p <.05

** p<.01

(baseline) to spring 2016, a significant increase in score occurred among the experimental group, only. When comparing spring 2015 (baseline) to spring 2017 (Table 3), a significant increase in score occurred among both the experimental (44.1 to 65.9) and control (36.9 to 51.2) groups, independently. This indicates that compliance on the part of experimental groups occurred early into the project, while a gradual spill-over effect seemed to have occurred among control schools.

Using the same methods, we also compared BPPAT scores by individual section (Table 3). Among the experimental group, significant increases from 2015 to 2017 were found for section 2 (program selection and implementation), section 3 (staff training), section 4 (parent education and communication), section 5 (classroom instruction and student training), section 7 (selected tier 2 and intensive tier 3 components), and section 8 (reporting systems). For schools assigned to the control group, increases occurred in section 1 (policy and procedures), section 3 (staff training), and section 9 (analysis and continuous quality improvement).

Discussion

The purpose of this study was to understand if the use of the Bullying Prevention Program Assessment Tool (BPPAT), to provide program guidance and make subsequent changes in school practices, can have a measurable effect on the school's official disciplinary record with regard to incidents of bullying. Results of this study provide preliminary support that such an effect can result as official reports of bullying, collected and determined by the school, showed significant declines relative to baseline levels of bullying among schools. This was the case for the overall sample, and for the schools in the experimental group only. Importantly, this decline was for all potential forms of bullying (e.g., physical, verbal, and relational), collectively.

This study in which the BPPAT was utilized focused on two years of active implementation and data collection. Results indicated that the schools in this study were capable of enhancing their programs in a relatively short amount of time with a resulting decline in bullying victimization. The BPPAT was designed to identify 9 areas of high relevance to reducing bullying but that do not require a monetary cost to implement.

Given the overall emphasis that was placed on real-world effectiveness, application, and replication by schools and school districts, the study was structured in a way that can be useful to schools and how they truly operate. In addition to ad hoc efforts to improve bullying prevention programs, these results are applicable in situations of mandated changes to school policy, whether they originate from district, state, or federal entities. The assessment provides a way to know if change in programmatic structure and student outcomes results from such mandates and subsequent school efforts. With the pliability of the BPPAT, analysis indicates that regardless of a school's level of prevention sophistication, a concerted effort can be made can have a measurable impact resulting from it. With a larger sample size than provided in these results, the BPPAT has to potential to provide a more specified analysis of which sections are more predictive of changes in bullying. Future research may allow for such a type of analysis. We do not advise schools to dismiss entire sections. But

Table 3 Bullying prevention program assessment tool scores: by section and project treatment arm

	All			Experimental			Control		
	2015	2016	2017	2015	2016	2017	2015	2016	2017
Total score (%)	47.8%	63.0%	68.9%	52.5%	72.4%	78.5%	43.9%	55.0%	60.8%
Score (numeric)	40.1	52.9	57.9	44.1	60.8	65.9	36.9	46.2	51.2
Standard deviation	14.4	14.5	12.4	17.0	8.7	7.9	12.3	15.8	11.6
Section 1: policy and procedures	**73.7%**	**87.5%**	**89.9%**	75.8%	88.6%	89.4%	**72.4%**	**86.5%**	**90.4%**
Section 2: program selection and implementation	**39.6%**	50.7%	**65.3%**	**48.5%**	**80.3%**	**92.4%**	32.1%	25.6%	42.3%
Section 3: staff training	**31.3%**	**53.8%**	**62.9%**	**38.6%**	65.2%	**72.0%**	**25.0%**	44.2%	**55.1%**
Section 4: parent education and communication	**30.6%**	36.1%	**48.6%**	**34.9%**	43.9%	**59.1%**	26.9%	29.5%	39.7%
Section 5: classroom instruction and student training	**51.9%**	66.0%	**75.9%**	**52.0%**	**76.8%**	**89.9%**	51.7%	56.8%	64.1%
Section 6: universal components	**68.8%**	69.8%	**79.2%**	68.2%	72.7%	81.8%	69.2%	67.3%	76.9%
Section 7: selected/intensive components	**61.8%**	72.2%	**75.7%**	**65.1%**	77.3%	**86.4%**	59.0%	68.0%	66.7%
Section 8: reporting systems	**49.7%**	**71.5%**	**68.4%**	**57.6%**	**80.3%**	**77.3%**	43.0%	64.1%	61.0%
Section 9: analysis and CQI	**37.0%**	**59.4%**	**63.5%**	46.6%	69.3%	69.3%	**28.9%**	51.0%	**58.7%**

Bold font indicates significant change ($p < .05$) relative to 2015. Percentages, rather than raw values, are reported to account for differences in number of items between sections

because certain sections may be more important to certain schools than others, we note that the BPPAT can make these designations.

Limitations

Some of the limitations of this study were inherent in its design. A first limitation is that there was no formal protocol for what to address with respect to each school's bullying prevention program. This fact in combination with different baseline program structures across schools makes it impossible to isolate specific elements within the BPPAT and their effectiveness. Rather, the outcomes are limited to the idea of a concerted efforts by schools to evaluate their current prevention status and build upon it.

A second limitation relates to the impact of the $15,000 in stipend money provided to schools. Schools reported to us that a majority of this allocation was dedicated to the purchasing of materials and providing staff time to training along with data collection and submission duties. As a result, it is not possible to entirely disentangle whether such funds are necessary to replicate the trends reported here.

Another limitation is the previously referenced spill-over effect. It is possible that due to data collection requirements, control schools had an inherent increase in their BPPAT score. From this, all schools likely had a clearer picture of their environment pursuant to bullying prevention. Schools were informed that, due to ethical and real-world consideration, if action to enhance their bullying program were required for the safety or their students and school community, they were permitted to address these circumstances. The implications of this spill-over effect mean that the expected or potential difference in improvement between experimental and control schools is smaller than the design of the study intended.

Also of potential concern is the lack of a strict requirement regarding which people (or how many) should take part when completing the tool. It is strongly advised that multiple individuals from multiple sectors of the school community (teacher, administrator, pupil services, etc.) participate. Given the lack of confidence in identifying who at each school participated in this study, the potential for a reporting bias cannot be dismissed. This also may become an issue when comparing results between the two school years of the project. The person(s) completing the tool may have differed, increasing the variance.

A final limitation is the relatively small sample size (as the unit of analysis was the school not the student). When the small sample size is taken into account along with the design of the study that did not prescribe specific changes to be implemented in schools aside from conducting assessments, we interpret these results as exploratory. But given their promising yield, we look to further research to confirm the impact and strengthen the specifics with which any possible causal association can be determined.

Next Steps

Within the context of this study, the evaluation of the BPPAT and its use was limited to the effect that using the tool and making subsequent changes in individual schools' programs had on bullying prevalence. An important next step will be to investigate if individual topics and/or questions on the tool have a greater degree of impact than do others. In addition, investigation in the feasibility of implementation and if there are certain sections within the BPPAT that prove to be more difficult than others in terms of improvement, these efforts can better inform schools on appropriate next steps after initial and follow-up assessments and collectively inform future amendments to the tool itself.

Implications

Issues of mental health treatment and violence prevention among youth have become increasingly visible in the spectrum of public health (Patel et al. 2007) and, with it, in school systems (Weare and Nind 2011). Schools are seeing increasing promotion of programs, many proprietary in nature, by which these issues can be addressed. Without discounting their potential benefit, the Wisconsin School Violence and Bullying Prevention Project illustrates that a need exists, and a benefit can be culled, from taking an inventory of policies and practices that have little to no financial burden and then working to address gaps that exist.

Schools, when addressing violence prevention, could benefit from an approach that illustrates gaps in common and able to be implemented improvements. Knowing that perfection is not feasible in all potential areas of improvement, making a concerted effort towards areas such as (a) ensuring everybody knows the procedures needed when bullying is seen or suspected, (b) keeping track of the who, what, and where of bullying, and (c) giving students and parents a voice can only serve to benefit the school's violence prevention program.

Within educational circles, debate exists on the validity of the statement "assessment is intervention." This study indicated that the assessment, standing alone, is not the entirety of a complete intervention. However, when the assessment is used to make informed decisions, it is a vital start of an important process. In this case, the BPPAT does provide enhanced clarity on how limited resources (time, money, and others) within the school can be used to enhance the school climate and issues of addressing student safety.

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Wisconsin Bullying Prevention Program Assessment Tool Questions

Note: All questions are scored on a scale of: fully in place (2 points); partially in place (1 point) and not in place (0 points).

Section 1: Policy and procedures

1. A school district policy is in place related to the prevention of, and response to, bullying behaviors, including reporting.

Partially in Place (PIP) if either prevention or response is not included in policy

2. School district policy is reviewed and updated (if necessary) on an annual basis by the school board

PIP if policy is reviewed/updated, but not formal approval is given by school board

3. School bullying policy makes a clear distinction between "bullying" and "harassment"

PIP if clear distinctions, by way of each definition explicitly declared, is not included in the policy

4. The school district policy is included in the student handbook (both in print and online)

PIP if policy and definition are not available across all mediums (print and online)

5. A universal definition of bullying is included the student handbook (both in print and online)

PIP if policy and definition are not available across all mediums (print and online)

6. School has a dedicated team consisting of faculty, administration, students and parents that focuses on issues including, but not limited to, bullying prevention. ***Note: this can include existing teams, including PBIS and others.***

PIP if team does not include members of all groups listed (faculty, administration, students, parents)

Section 2: Program selection/implementation

1. An externally validated (i.e. evidence based and/or evidence informed) bullying prevention program has been selected and/or purchased by the school/school district, which includes addressing bullying of vulnerable populations (protected populations – race, color, national origin, sex or disability)

Partially in Place (PIP) is program applies to select grades and not all within the school building

2. An externally validated (i.e. evidence based and/or evidence informed) bullying prevention program has been implemented by the school/school district

PIP is program applies to select grades and not all within the school building

3. An externally validated (i.e. evidence based and/or evidence informed) bullying prevention program has been implemented fully, as assessed by program-specific fidelity measures

PIP is program applies to select grades and not all within the school building

Section 3: Staff training

A minimum of 90% of faculty/staff (including non-teaching staff such as SRO) have received inservice training (initial and/or refresher) on the following this academic year:

Partially in Place (PIP) if a minimum of 50% (but fewer than 90%) have received inservice education during current school year

1. How to respond to bullying incidents
2. The definition of bullying (as used by the school)
3. Procedures of reporting bullying incidents

A minimum of 90% of volunteer and after-school staff (including athletics coaches and before/after school program facilitators/employees) have received training (initial and/or refresher) on the following this academic year:

PIP if a minimum of 50% (but fewer than 90%) have received training during current school year

4. How to respond to bullying incidents
5. The definition of bullying (as used by the school)
6. Procedures of reporting bullying incidents

Section 4: Parent education and communication

1. Parents are actively engaged and involved in School Safety workgroups/meetings, as measured by a workgroup list, meeting participation logs, etc.

Partially in Place (PIP) if parents are included in the workgroup in name only and determined to not be actively engaged

2. Twice-yearly updates are sent to parents about the school's bullying prevention program (BPP)

PIP if updates are sent to parents once, but not twice, per year.

3. Bullying definition used by school is included in student handbook and other materials available to parents (i.e. Parent Handbook)

PIP if the bullying definition is not included in at least one material sent to parents through each medium (electronic and print).

Section 5: Classroom instruction/student training

*Note: "Students" refers to all students in the building, including those in alternative or non-inclusions programs (*i.e. *special education)*

1. A schedule is developed and documented for the student-focused component of the bullying prevention program and shared with faculty/staff

Partially in Place (PIP) if a schedule is developed, but not shared across the school.

2. A start-of-year bullying prevention program orientation that included school-wide expectations towards bullying and response to bullying was attended by at least 90% of students at the start of this school year.

PIP requires at least 50% (but fewer than 90%) of students attending program orientation

3. A minimum of 90% of students has received classroom instruction (initial and/or refresher) on how to respond to bullying incidents this academic year

PIP requires at least 50% (but fewer than 90%) of students receiving classroom instruction

4. A minimum of 90% of students has received classroom instruction (initial and/or refresher) that includes the definition of bullying this academic year

PIP requires at least 50% (but fewer than 90%) of students receiving classroom instruction

5. A minimum of 90% of students has received classroom instruction (initial and/or refresher) on the procedures for reporting bullying incidents this academic year

PIP requires at least 50% (but fewer than 90%) of students receiving classroom instruction

6. A minimum of 90% of students has received classroom instruction (initial and/or refresher) in appropriate and effective bystander behavior this academic year

PIP requires at least 50% (but fewer than 90%) of students receiving classroom instruction

7. Follow-up lessons are delivered at least monthly following initial curriculum to 90% of all students

PIP if follow-up lessons occur at least 3 times per year (but not monthly) and/or a minimum of 50% (but fewer than 90%) receive the lessons.

8. Students are recruited and trained as peer leaders/advocates at each grade level 5th and older

PIP if students are recruited and trained in some, but not all, grades above 4th grade.

9. Students are actively included and involved in bullying prevention workgroups/meetings by way of inclusion and involvement in the School Safety Team.

PIP if students are included in name only and determined to not have active engagement.

Section 6: Universal (tier 1) components

1. A positive atmosphere is present in the school by being at Positive Behavioral Interventions and Supports (PBIS) at Tier 1 fidelity as assessed by the Benchmarks of Quality or other assessment tools approved by the Wisconsin PBIS Network

2. Bullying policies are communicated with local community agencies, including police, public health, childcare and human services

Partially in Place (PIP) if policy communication exists with some, but not all, of the listed agencies

Section 7: Selected (tier 2)/intensive (tier 3) components

1. Procedures are in place to provide small group counseling and/or other services to students who evidence problematic school adjustment, including that which may be related to bullying perpetration or victimization

Partially in Place (PIP) if procedures are not applied to all students in the school.

2. Supports are provided to students not responding to less intense interventions

PIP if supports are provided to person who bullied or victim (but not both)

3. Protocols for referral to appropriate services (for both victim and perpetrator) are documented at the school district level

Partially in Place (PIP) if protocols are documented, but not on the district level (i.e. individual schools) and/or protocol is limited to victim or perpetrator

Section 8: Reporting systems

1. A reporting system is in place for students and staff for documenting bullying incidents, that includes electronic collection and maintenance of data

Partially in Place (PIP) if information is collected, but not housed electronically

2. Incident data collection includes all of the following: (1) information on youth who was bullied (2) information of youth who bullied (3) name of school personnel formally reporting (4) type of bullying (physical, verbal, etc.) (5) section for narrative description of event(s) (6) actions taken following event(s), including resolution and contact of involved families.

PIP if no more than 2 of the 6 items are missing, but not all are satisfied

3. A minimum of 90% of faculty/staff have been trained on incident collection procedures (initial and/or follow-up) this academic year

PIP if a minimum of 50% (but under 90%) have received training this academic year.

4. A minimum of 90% of volunteer and after-school staff (including athletics coaches and before/after school program facilitators/employees) have been trained on incident collection procedures (initial and/or follow-up) this academic year.

PIP if a minimum of 50% (but under 90%) have received training this academic year.

5. Procedures are documented for the ongoing collection of bullying incidents in an electronic form (i.e., Excel spreadsheet, Database tool) and communicated with faculty/staff.

PIP if procedures are in place, but not communicated to all faculty/staff

6. A quarterly review of submissions is conducted by personnel other than the individual(s) responsible for the documentation of submissions to evaluate and report on the degree to which the reporting systems are being utilized

PIP if a review occurs less frequently than quarterly, but at least once per school year.

Section 9: Analysis and continuous quality improvement (CQI)

1. Data on incidents are analyzed by the School Safety Team at least quarterly to determine quantitative rates of bullying incidents from the perspective of victims and perpetrators

Partially in Place (PIP) if analysis occurs less often that quarterly but at least once during the year.

2. Data are analyzed by the School Safety Team at least quarterly to identify "hot spots" for incidents, involving time and place, and sub-populations disproportionately affected

PIP if analysis occurs less often that quarterly but at least once during the year.

3. Results of analysis is shared with staff at least twice per school year

PIP if results are shared with staff only once

4. Data informed decisions are made on CQI procedures

PIP if CQI procedures do not consult data in all instances, but in some of them.

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