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Clinical trial of Second Step© middle-school program: Impact on aggression & victimization ☆

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ABSTRACT

School-based social-emotional (SEL) programs that address interpersonal conflict and teach emotion management have succeeded in reducing youth aggression among elementary school youth, with few studies in middle schools. Results of a two-year cluster-randomized (36 schools) clinical trial of Second Step Middle School Program (Committee for Children, 2008) on reducing aggression and victimization are presented. Teachers implemented 28 lessons (6th & 7th-grade) that focused on social emotional learning skills (e.g., empathy, problem-solving). All 6th graders (n = 3658) completed self-report measures assessing bullying, aggression, homophobic name-calling and sexual harassment at three waves. Multilevel analyses revealed significant intervention effects for two of the seven outcomes. Students in intervention schools were 56% less likely to self-report homophobic name-calling victimization and 39% less likely to report sexual violence perpetration than students in control schools in one state. SS-SSTP holds promise as an efficacious program to reduce homophobic name-calling and sexual violence in adolescent youth.

School crime and violence have emerged as significant public health crises that include behaviors ranging from bullying, hate-based language, sexual harassment, physical assaults, to other crimes (Robers, Kemp, & Truman, 2013). A recent study found that about a third of students in grades 9–12 reported they had been in a physical fight at least one time during the previous 12 months anywhere, and 12% said they had been in a fight on school property during the previous 12 months (Robers et al., 2013). Rates of victimization were similarly high. Approximately 28% of 12- to 18-year-old students reported they had been bullied at school during the school year, and victimization was the highest among 6th graders (37%), compared to 7th or 8th graders (30% and 31% respectively). Furthermore, approximately 9 to 11% of youth report being called hate-related words having to do with their race, religion, ethnic background, and/or sexual orientation (Robers et al., 2013).

These prevalence rates, taken together suggest that youth in US middle and high schools regularly experience a wide range of aggression and school violence, including name-calling, physical fights, hate-based victimization, and sexual harassment. For decades, scholars have tended to study each type of aggression or violence in isolation of one another and only recently recognized the need to examine multiple forms of violence simultaneously given the high incidence of poly-victimization and overlap during a person's lifespan (Hamby & Grych, 2013). Bullying victimization, verbal and physical aggression during early adolescence, for example, has been shown to be strong predictors of involvement in homophobic name-calling and sexual harassment among middle school students (Birkett & Espelage, Online First; Espelage, Basile, & Hamburger, 2012; Espelage, Low, & De La Rue, 2012; Poteat & Espelage, 2007). Further, many of these forms of aggression and victimization share common risk and protective factors, (e.g., lack of empathy; Endresen & Olweus, 2001; attitudes supportive of aggression; Boulton, Trueman, & Flemington, 2002) and often are maintained and reinforced in similar peer contexts (Dishion & Owen, 2002; Espelage, Holt, & Henkel, 2003; Low, Espelage, & Polanin, 2013). As such, there exists a need for school-based violence prevention programs that target multiple risk and protective factors in order to decrease multiple forms of violence (Hamby & Grych, 2013; Nation et al., 2003). Thus, the current study presents results of a two-year randomized controlled trial of a social–emotional middle school program that targeted shared risk and protective factors for physical aggression, bullying, homophobic name-calling, and sexual harassment/violence.

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School-based social–emotional violence prevention approaches

Recent heightened media attention given to bullying in our schools, and subsequent changes in policies and legislation has increased the number of school-based bullying prevention programs; however, their efficacy has varied tremendously across contexts and program effects often have been modest (Ttofi & Farrington, 2011) or have produced mixed results (Pearce, Cross, Monks, Waters, & Falconer, 2011). Two meta-analyses found that effects were non-existent or too small to be practically significant (Merrell, Gueldner, Ross, & Isava, 2008; Smith, Schneider, Smith, & Ananiadou, 2004). The most comprehensive meta-analysis that applied the Campbell Collaboration Systematic Review procedures (Campbell Collaboration, 2014) included a review of 44 rigorous program evaluations and randomized clinical trials (RCT; Ttofi & Farrington, 2011). Ttofi and Farrington (2011) found that the programs, on average, were associated with a 20%–23% decrease in bullying perpetration, and a 17%–20% decrease in victimization (Ttofi & Farrington, 2011).

It is important to understand the elements of programs that are driving these reductions. Decreases in rates of *victimization* were associated with the following special program elements: disciplinary (non-punitive) methods, parent training/meetings, use of videos, and cooperative group work. In addition, the duration and intensity of the program for children and teachers were significantly associated with a decrease in victimization. Interestingly, more elements were needed to bring about changes in bully perpetration. Specific program elements that were associated with decreases in rates of *bully perpetration* included (Ttofi & Farrington, 2011): parent training/meetings, improved playground supervision, disciplinary (non-punitive) methods, classroom management, teacher training, classroom rules, whole-school anti-bullying policy, school conferences, information for parents (ranging from information in newsletter to suggestions for helping children with bullying situations), and cooperative group work. Further, the number of elements and the duration and intensity of the program for teachers and children were significantly associated with a decrease in bullying in studies in Norway and Europe.

Successful elements of the programs that are consistent with the social–emotional learning approach evaluated in this study include the use of multimedia, classroom rules, teacher training, psycho-educational information for parents, and cooperative group work. Cooperative group work was defined in the Ttofi and Farrington meta-analysis as teachers being trained to implement cooperative learning and role-playing activities to their students around bullying issues. Of note, use of curriculum across the 44 studies was the second most frequent program element ($n = 34$), but this element was not significantly associated with decreases in bully perpetration or victimization (Ttofi & Farrington, 2011). However, the majority of these programs are narrowly focused on the topic of bullying, whereas the social–emotional learning program evaluated in this study draws from the risk and protective framework literature and purposively teaches a wide range of skills to prevent conflicts and skills to prevent escalation of conflicts (e.g., communication, problem-solving, emotion regulation). The risk and protective factors targeted in Second Step have been consistently found to increase or mitigate the likelihood of problem behaviors such as aggression and alcohol and drug use (e.g., Fraser, 1997; Sameroff & Gutman, 2004).

Although bullying programs, more generally, have yielded mixed results, school-based social–emotional (SEL) programs that address interpersonal conflict and teach emotion management have succeeded in reducing youth violence, including bullying (see Brown, Low, Smith, and Haggerty (2011)) as well as disruptive behaviors in classrooms (Wilson & Lipsey, 2007). Many of these social–emotional learning (RULER, Brackett, Rivers, Reyes, & Salovey, 2012) and social-cognitive intervention programs (e.g., Fourth R, Wolfe et al., 2003; Life Skills, Botvin, Griffin, & Nichols, 2006) target common risk and protective factors that have been associated with aggression, bullying, and violence in cross-sectional and longitudinal studies (Basile, Espelage, Rivers, McMahon, & Simon, 2009; Cook, Williams, Guerra, Kim, & Sadek, 2010; Espelage, Low, Anderson, & De La Rue, 2013; Espelage et al., 2003), including anger, empathy, perspective-taking, respect for diversity, attitudes supportive of aggression, coping, willingness to intervene to help others, and communication and problem-solving skills. It is important to note that not all social–emotional learning programs address bullying, and the majority of bully prevention programs do not include comprehensive instruction in the aforementioned skills.

Second Step: Student Success Through Prevention (SS-SSTP) middle school program

A theoretical logic model of this evaluation of SS-SSTP is presented in Fig. 1. The SS-SSTP program (Committee for Children, 2008) includes direct instruction in risk and protective factors linked to aggression and violence, including empathy training, emotion regulation, communication skills, and problem-solving strategies. The curriculum indirectly targets school violence by targeting the peer context for bullying, which will be elaborated on later. Next, research support for those risk and protective factors targeted through the social–emotional framework is highlighted, followed by research focused on the importance of addressing peer involvement in bullying and victimization.

Program inputs: classroom curriculum content domains

Empathy

Empathy has been defined as a multidimensional construct that contains aspects of emotions and cognitions (Davis, 1983; Endresen & Olweus, 2001). Empathy is an integral part of social competence (Halberstadt, Denham, & Dunsmore, 2001) and has an inhibitory effect on aggression (Jolliffe & Farrington, 2004). Feshbach (1978) describes empathy as encompassing three components: 1) cognitive ability to discriminate affective cues in others, 2) mature cognitive skills involved in assuming the perspective of another person, and 3) emotional responsiveness to the experience of emotions. Research has found that empathy and perspective-taking skills in youth are associated with less bullying perpetration (Espelage, Green, & Polanin, 2012) and greater defender behaviors (Barchia & Bussey, 2011; Nickerson & Mele-Taylor, 2014; Pöyhönen, Juvonen & Salmivalli, 2010; Pozzoli & Gini, 2010; Rigby & Johnson, 2006). Thus, it was hypothesized that students who receive the Second Step condition would report less bullying perpetration and physical aggression.

Communication

Understanding the feelings and perspectives of others requires the ability to communicate effectively and assertively (Izard, 2002; Nilsen & Fecica;, 2011). However, communication skills include a host of skills that need to be introduced and practiced in order to maximize the sustainability of such skills. Communication involves being able to engage in active listening, which involves the meta-skills of maintaining eye contact, allowing others to talk without interruption, some indication that you are listening (e.g., nodding), and finally it is helpful to use reflective statements to confirm that the correct message is being received. In the SS-SSTP program, youth learn and practice these skills through dyadic and group activities, a practice that is supported by research in the area of communication (Izard, 2002). Activities focus on the difference between aggressive, passive, and assertive communication. Research demonstrates that youth can learn how to effectively communicate and use assertive communication through modeling, feedback, and role playing with adults and peers (Reddy, 2012).

Emotion regulation

Emotion regulation is a developmental challenge for many youth, especially those youth who come from communities and homes were emotion management is not modeled (Silk et al., 2007). Youth who

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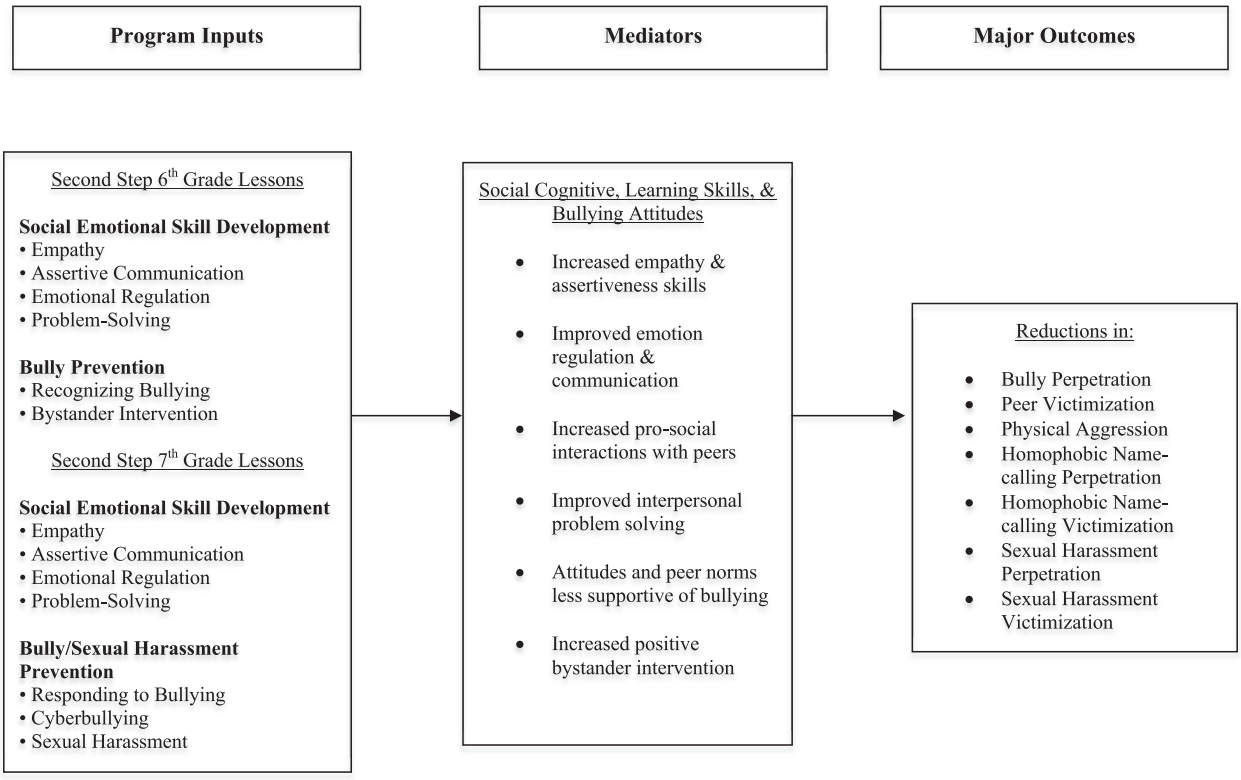

Fig. 1. Logic model of Second Step middle school program.

have difficulty managing their emotions are more likely to be targeted as bully victims and are overrepresented in aggression groups (Schwartz, 2000; Spence, De Young, Toon, & Bond, 2009). Emotional dysregulation among early adolescence often includes youth acting impulsively, which is then associated with an increase in aggression and victimization (Low & Espelage, 2014; McMahon et al., 2013). Dysregulation of emotions prevents youth from using effective communication and/or problem-solving strategies (Whitney et al., 2013). Research shows that adolescents can learn how to identify and manage their emotions when they are faced with stressful situations (Brackett et al., 2012). When youth are taught specific cognitive–behavioral strategies to cope with stress and to regulate their emotions, they are less likely to behave aggressively (Botvin et al., 2006; Wolfe et al., 2003).

Problem-solving

Problem-solving has been a critical component of violence prevention for many decades. Some of the most pioneering work in this area was conducted by Dodge, Pettit, McClaskey, and Brown (1986) in their Social Information Processing (SIP) model, where five steps are involved in expressing competent behavior: (a) encoding of situational cues; (b) representation and interpretation of situational cues; (c) a mental search for possible responses to the situation; (d) selection of the response; and (e) enactment of the response. The SS-SSTP has two lessons related to problem-solving which map on nicely to the SIP framework. Students learn how to analyze a problem by stating what the problem is and analyzing the various perspectives of those involved, they generate options for solving the problem, and evaluate the viability of each option, and develop a plan of action.

Peer context

Peers play a critical role in the initiation and stability of bullying perpetration (Espelage et al., 2003; Salmivalli, 2010), homophobic name-calling (Birkett & Espelage, Online First), and sexual harassment perpetration (Doshi & Espelage, revise & resubmit). The SS-SSTP curriculum targets the peer context for bullying through expanding students' awareness of the full range of bullying behaviors, increasing perspective taking skills and empathy for students who are bullied, educating students on their influence and responsibility as bystanders, and education and practice on the appropriate, positive responses that students can use as bystanders to remove peer support for bullying. Students are taught and practice a range of positive bystander behaviors from refusing to provide an audience to directly intervening to stop bullying, which has been shown to increase positive bystander intervention (see meta-analysis by Polanin, Espelage, and Pigott (2012)). By decreasing both active and tacit peer support for bullying, the program is designed to change the peer context, removing the bystander support that is such a critical driver of bullying and other violent behaviors.

Bullying & sexual harassment prevention

The SS-SSTP 6th grade curriculum includes only two lessons focused specifically on bullying and these lessons are not introduced until youth are exposed to empathy and communication training. This allows youth to learn how to work with each other in dyads and groups to maximize the impact of the lessons that focus on recognizing and responding to bullying and creating class rules. Recall that classroom rules around bullying were a component of those programs in the Ttofi and Farrington (2011) meta-analysis that produced significant effect sizes. In the 7th grade curriculum, youth review the components of bullying and how to respond, but are also encouraged to learn ways on how to intervene to help others as "allies." Again, a recent meta-analysis supports this practice of using a direct approach to address barriers to helping others and then teaching and role-playing strategies of effective bystander intervention (Polanin et al., 2012). Also, in the 7th grade curriculum, youth learn how sexual harassment differs from flirting, their school's sexual harassment policy, and learn assertive skills to refuse sexual harassment. This is a critical component of the SS-SSTP given research documenting that bully perpetration is a precursor to the development of sexual harassment among middle school youth (Espelage, Basile, & Hamburger, 2012; Miller et al., 2013). Further, this sexual harassment takes the form of directing homophobic epithets toward other peers,

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which provides support for assessing the use of homophobic epithets in this study (Espelage, Basile, De La Rue, & Hamburger, in press). Given the SS-SSTP's focus on bullying and sexual harassment, the major outcome variables for this study included bully perpetration, peer victimization, as well as homophobic name-calling and sexual harassment victimization and perpetration.

Evidence-based instructional practices

Successful prevention curricula include a wide range of instructional practices, from direct instruction, group discussions, reflection opportunities and role-plays (Evans & Bosworth, 1997; Tobler & Stratton, 1997). Thus, the SS-SSTP lessons are scripted and highly interactive, incorporating small group discussions and activities, class discussions, dyadic exercises, whole class instruction and individual work. Lessons are supported through an accompanying DVD, which contains media rich content including topic-focused interviews with students and video demonstrations of skills. Indeed, video has been found to be one element of efficacious programs (Ttofi & Farrington, 2011). Drawing on Bandura's (1977) social learning theory, lessons are skills-based and students receive cueing, coaching, and suggestions for improvement on their performance. Lessons are supplemented by homework that reinforces the instruction, extension activities, academic integration lessons, and videos, which are practices that are associated with greater skill acquisition (Bosworth & Sailes, 1993; Dusenbury & Weissberg, 1998). The use of group and collaborative work also leads to increased skill acquisition by allowing students to practice new skills in an environment of positive peer support (Hansen, Nangle, & Kathryn, 1998). Optional "transfer of training" events in which the teacher connects the lessons to events of the day, reinforces students for displaying the skills acquired, identifies natural reinforcement when it occurs, and asks students if they used specific skills during the day's events.

The current study

In summary, social–emotional learning approaches to prevention have shown promise in reducing aggression and promoting prosocial behavior (Authors, 2013; Brown et al., 2011; Frey et al., 2005). In this study, we present 2nd year results of an evaluation of the SS-SSTP middle school program (Committee for Children, 2008), a comprehensive classroom-based program that addresses risk and protective factors underlying multiple forms of violence, aggression, bullying, sexual harassment, and other problematic behaviors among children and adolescents (Hamby & Grych, 2013; Merrell, 2010). These analyses build on the first-year results that were published previously, where we found a significant intervention effect for physical aggression outcome; individuals in intervention schools were 42% less likely to self-report physical aggression than students in control schools. No significant intervention effects were found for verbal/relational bully perpetration, peer victimization, homophobic teasing, and sexual violence. These data were published after the first year to determine the extent to which this program was making a difference in reducing violence after 15 weeks (Authors, 2013). These same primary, main outcomes were assessed in this study, including bullying, peer victimization, physical aggression, homophobic name-calling victimization/perpetration, and sexual harassment victimization/perpetration. We suspected that as the curriculum was expanded to include more lessons on bullying and sexual harassment that we might see changes in other outcomes other than physical aggression.

Methods

Design

To test the efficacy of the program on student behavior outcomes, we utilized a longitudinal nested-cohort design (Murray, 1998), in which matched pairs of schools were randomly assigned to intervention or control conditions. At Wave 1, we targeted 6th grade students within the 36 Midwestern schools that agreed to participate. The National Center for Educational Statistics data were utilized to match schools within each of the two states (i.e., Illinois and Kansas). Total school enrollment, change in student enrollment from 2008 to 2009, percentage of students eligible for free or reduced-priced lunch, ethnic/racial percentages, and the percentage of students for whom English was not their primary language were used as matching variables. Intervention condition (i.e., implementation of Second Step; Committee for Children, 2008) was assigned to one school within each match pair using a random number generator and the other school in the pair was assigned to a control condition that received only minimal intervention programming ("Stories of Us"; Faull, Jimerson, Swearer, & Espelage, 2008). Students within each school were assigned a unique encrypted ID number that remained constant after Wave 1 for tracking and confidentiality purposes.

A previously published study (Authors, 2013) investigated the impact of the program after one year of program implementation (i.e., the 6th grade curriculum consisting of 15 lessons); this manuscript included analyses of intervention effects after two years of implementation (i.e., 13 additional lessons in the 7th grade curriculum); that is, on outcomes from the third wave of panel data.

Participants

Participants consisted of 3658 students from 36 schools within the states of Illinois and Kansas. School districts were contacted by the principal investigators in each state to introduce the project and to identify schools that would be interested in participating. Schools had to agree to random assignment and not to implement other school-wide bully prevention programming for the three year study. Student demographic characteristics differed slightly across state and condition (see Table 1). Males accounted for 52.4% and 50.0% of the Illinois sample within the intervention and control conditions, respectively, and these were not statistically different ($\chi^2 = 1.17, df = 1, n = 2029, p > .05$). In Kansas, there were slightly more males in the control condition (54.7%) relative to the intervention condition (51.8%), but, again, not statistically significant ($\chi^2 = .97, df = 1, n = 1629, p > .05$). In Illinois, racial composition did not significantly vary by condition ($\chi^2 = 1.19, n = 2029, df = 8, p > .05$). Kansas conditions had similar proportions of racial

Table 1
Sample characteristics.

	Illinois		Kansas	
	Intervention	Control	Intervention	Control
	$n = 1061$	$n = 968$	$n = 900$	$n = 729$
Gender				
Male	52.4	50.0	51.8	54.7
Female	47.6	50.0	48.2	45.3
Race				
White	22.4	17.8	35.1	23.9
African–American	30.9	36.8	18.0	17.4
Hispanic	33.7	31.9	29.6	42.5
Asian	1.3	0.7	4.0	4.4
Biracial/other	11.0	12.4	13.3	11.8
Age				
11	80.9	76.0	76.8	80.4
12	17.2	22.2	22.0	19.1
13	1.2	1.8	1.2	0.5
Mother's education				
Did not know/no answer	7.8	6.6	29.3	28.8
Less than high school	20.1	15.5	12.4	15.0
High school graduate	25.1	26.7	19.0	19.1
Some college	18.6	19.4	14.8	16.0
College graduate	18.6	21.8	16.4	14.5
Graduate or professional school	9.9	10.0	8.0	6.6

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groups across intervention conditions; however, there were significantly different proportions of Whites (Intervention = 35.1%, Control = 23.9%) and Hispanic students (Intervention = 29.6%, Control = 42.5%) across conditions ($\chi^2 = 27.6$, $df = 8$, $n = 1629$, $p < .05$). The age of students also differed slightly across condition or state, mean age of students was 11 years of age at Wave 1 ($ps > .05$). Finally, mother's education was not significantly different across conditions in Illinois ($\chi^2 = 9.37$, $df = 6$, $p > .05$). In Kansas, however, the differences in mothers' education were significant ($\chi^2 = 14.\ 88$, $df = 6$, $p < .05$) across conditions.

Intervention condition

Second Step curriculum

The program is composed of 15 lessons at grade 6 and 13 lessons at grade 7. In grade 6, five lessons focus on empathy and communication (e.g., working in groups, disagreeing respectfully, being assertive), two lessons on bullying, three lessons on emotion regulation (e.g., coping with stress), two lessons on problem-solving, and four lessons on substance abuse prevention. In grade 7, four lessons focus on empathy and communication, three lessons on bullying (e.g., cyberbullying, sexual harassment), two lessons on emotion regulation, two lessons on problem-solving, and three lessons on substance abuse prevention. Lessons are delivered in one 50-minute or two 25-minute classroom sessions, taught weekly or semi-weekly throughout the school year. Teachers implemented the lessons in this study. Teachers completed a 3-hour training session that covered not only the curriculum and its delivery, but also an introduction to child developmental stages as related to targeted skills and a background on bullying research.

Implementation logs: student engagement and program adherence

Teachers completed an implementation log after each lesson, which yield two scales. First, teachers answered the following four questions to indicate perceptions of *student engagement* with each lesson: (1) To what extent were your students engaged during this lesson?; (2) to what extent were students disruptive during this lesson? (e.g., horsing around, being goofy, off-task; reverse-scored); (3) to what extent do you feel your students could demonstrate the objectives of this lesson? and (4) how difficult was it to manage student behavior during this lesson (reverse-scored)? These items were completed for each lesson and summed in order to reflect the teacher's perception of student engagement with the program. Response options ranged from 1 = *Not at all* to 4 = *A lot*. School-averaged mean levels of student engagement were significantly greater for Illinois teachers than Kansas teachers on four of the 15 6th grade lessons ($ts = 2.10$ to 2.48, $ps < .05$). No differences were found on 7th grade lessons.

Second, we defined *program adherence* as the average number of program lesson components implemented by teachers as outlined in the lessons. Teachers were presented with an average of 15 questions on the various components of each lesson (e.g., video clip, group activity). Response options included 1 = *yes* and 0 = *no*. The "yes" responses were summed for each lesson and then averaged across all lessons for each of the 15 6th-grade lessons and the 13 7th-grade lessons. While there were no significant differences between states in 6th grade, Illinois teachers reported significantly greater program adherence on two of the 13 7th grade lessons in comparison to Kansas teachers ($ts = 2.14, 2.61$, $ps < .05$).

Control condition

Stories of us curriculum

Control schools were provided with one copy of the P3: Stories of Us — Bullying program (Faull et al., 2008). P3 is composed of two films and educational resources for supporting students, educators and the broader community in addressing the problem of bullying in schools. We selected this program for the control schools to offer them something as they waited for 3 years to receive the Second Step curriculum. This middle school classroom resource is designed to help students and teachers develop effective strategies to enhance awareness, understanding, and reduce bullying behaviors among students.

Only one control school in the study adopted the P3R curriculum and only during year 1 of the project. This is not surprising given both the pressure on schools to focus on academics and the fact that they were not mandated to implement P3R.

Procedure

Parental consent

A waiver of active (passive) parental consent and an active consent protocol were both approved by the university institutional review board. Parents of all 6th grade students enrolled in all participating schools were sent letters informing them about the purpose of the study. Several meetings were held to inform parents of the study in each community. In the early fall 2009, investigators attended Parent–Teacher conference meetings and staff meetings, and the study was announced in school newsletters and emails from the principals. In some districts, parents were asked to sign the form and return it only if they were unwilling to have their child participate in the investigation in schools electing for the passive consent procedure. In one Illinois school district, parents had to sign a form and return it to indicate consent using an active consent procedure. At the beginning of each survey administration, teachers removed students from the room if they were not allowed to participate, and researchers also reminded students that they should not complete the survey if their parents had returned the form. An 86% participation rate was achieved in schools using a waiver of active (passive) consent and 63% participation rate was achieved for schools using an active consent procedure. Students were asked to consent to participate in the study through an assent procedure included on the coversheet of the survey.

Survey administration

At each wave of data collection, six trained research assistants, the primary researcher, and a faculty member collected the data. At least two of these individuals administered surveys to classes ranging in size from 10 to 25 students. The researcher assistants first informed students about the general nature of the investigation. Students were then given survey packets and the survey was read aloud to them. It took students approximately 40 min to complete the survey.

Outcome measures

Bullying perpetration

The nine-item *Illinois Bully Scale* (Espelage & Holt, 2001) assessed the frequency of bullying at school. Students were asked how often in the past 30 days they did the following to other students at school: teased other students, upset other students for the fun of it, excluded others from their group of friends, helped harass other students, and threatened to hit or hurt another student. Response options included *Never, 1 or 2 times, 3 or 4 times, 5 or 6 times, or 7 or more times*. The construct validity of this scale has been supported via exploratory and confirmatory factor analysis (Espelage & Holt, 2001). Standardized factor loadings in the development sample for these items ranged from .52 to .75 and this factor accounted for 31% of the variance in the factor analysis (Espelage & Holt, 2001). Higher scores indicated more self-reported bullying behaviors. The scale correlated moderately with the Youth Self-Report Aggression Scale ($r = .65$; Achenbach, 1991), suggesting that it was somewhat unique from general aggression. Concurrent validity of this scale was established with significant correlations with peer nominations of bullying (Espelage et al., 2003). More specifically, students who reported the highest level of bully perpetration on the scale received significantly more bullying nominations ($M = 3.50$, $SD = 6.50$) from their peers than students who did not self-report

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high levels of bullying perpetration ($M = 0.98$; $SD = 1.10$; Espelage et al., 2003). This scale was not significantly correlated with the Illinois Victimization Scale ($r = .12$), and thus provided evidence of discriminant validity (Espelage et al., 2003). Cronbach's alpha coefficients were .86 for Wave 1 and .81 for Wave 3 this study.

Peer victimization

The four-item University of Illinois Victimization Scale (Espelage & Holt, 2001) assessed victimization from peers. Students were asked how often the following have happened to them in the past 30 days: Other students called me names, other students made fun of me, other students picked on me, I got hit and pushed by other students. "Other students called me names;" "Other students made fun of me;" "Other students picked on me;" and "I got hit and pushed by other students." Responses options were *Never, 1 or 2 times, 3 or 4 times, 5 or 6 times, or 7 or more times*. The construct validity of this scale has been supported by exploratory and confirmatory factor analysis (Espelage & Holt, 2001). Scores have converged with peer nominations of victimization (Espelage & Holt, 2001). Higher scores indicated more self-reported victimization. Cronbach's alpha coefficients of .85 were found for Wave 1 and .93 for Wave 3.

Physical aggression perpetration

The four-item, *University of Illinois Fighting Scale* (UIFS; Espelage & Holt, 2001) assessed physical fighting behavior (e.g., I got in a physical fight; I fought students I could easily beat) the respondent engaged in over the past 30 days. Response options include *Never, 1 or 2 times, 3 or 4 times, 5 or 6 times, or 7 or more times*. The Fighting Scale had a low correlation with the Victimization Scale ($r = .21$) and was only correlated moderately with the Bullying Scale ($r = .58$), providing evidence of discriminant validity (Espelage & Holt, 2001). Cronbach's alpha coefficients were .70 for Wave 1 and .75 for Wave 3 in this study. In a recent longitudinal study with middle school youth, this physical aggression scale emerged as a unique latent construct separate from that of the University of Illinois Bully perpetration scale in a confirmatory factor analysis (Espelage, Low, Rao, Hong, & Little, 2014).

Homophobic name-calling perpetration and victimization

The ten-item Homophobic Content Agent Target Scale (HCAT; Poteat & Espelage, 2007) assessed two separate outcome measures: homophobic teasing perpetration and victimization. Students were asked about how often they directed homophobic epithets at other students (perpetration) or were targets of this language (victimization) during the previous 30 days. For the perpetration scale, students read the following sentence: "Some kids call each other names homo, gay, lesbo, fag or dyke. How many times in the last 30 days did YOU say these words to…" and then were asked how often they said these words to: (a) a friend, (b) someone you did not like, (c) someone you did not know well, (d) someone you thought was gay, and (e) someone you did not think was gay. Then they were asked how many times each individual called them these names. Response options were *Never, 1 or 2 times, 3 or 4 times, 5 or 6 times, or 7 or more times*. Construct validity of this scale has been published previously (Poteat & Espelage, 2007). Cronbach's alpha coefficient, for perpetration, was .80 and .84 for each of the current study time points, respectively. The alpha coefficients for victimization were .81 for both time points.

Sexual harassment/violence perpetration and victimization

A modified version of the American Association of University Women (AAUW) Sexual Harassment Survey was used to assess two separate outcome measures: sexual harassment/violence perpetration and victimization (Espelage et al., 2012). Each scale (perpetration, victimization) included 10 items measuring unwanted verbal sexual violence and groping (e.g., sexual comments, sexual rumor spreading, and pulling at clothing in sexual way) and forced sexual contact (e.g., forced kissing). Response options were *Never, 1 or 3 times, 4 or 9 times, 10 or more times*. Cronbach's alpha coefficient was .80 (Wave 1) and .75 (Wave 3) for perpetration. The results revealed alpha coefficients of .81 and .84 for Waves 1 and 3 for victimization.

Analysis

Baseline equivalency

Conditional Hierarchical Generalized Linear Models (HGLM) with students nested within schools and controlling for student and school demographic characteristics were used to examine the equivalency in Wave 1 levels in the seven outcome measures. Results demonstrated that none of the examined seven outcome measures differed significantly between intervention and control schools at baseline, all $ps > .05$, indicating the success of the randomization process used to assign schools to intervention condition.

Missing data analysis

We used an intent-to-treat analysis design that guided the missing data procedures (Little & Rubin, 1987) and therefore did not eliminate students from the analysis sample based on school movement or attrition (Fig. 2). Missing student information was imputed using the maximum likelihood procedures of multiple imputation (Graham, 2012). Differential missingness was found in levels of attrition between intervention conditions and states. In Illinois, a higher percentage of students discontinued participation or failed to complete the survey in the control condition (Intervention: 22.8%, Control: 32.1%; $\chi^2 = 22.17$, $p < .05$; $\varphi = .11$). Attrition did not differ significantly across the Kansas conditions (Intervention: 27.2%, Control: 26.3%; $\chi^2 = .16$, $p > .05$; $\varphi = .06$). A total of 10 complete data sets were created using NORM 2.03 (Schafer, 2002).

Statistical analysis

Preliminary examination of the outcome distributions revealed a severe positive skew for all outcome variables (average skewness = 2.29, kurtosis = 9.81). Therefore, outcomes were recoded to binary responses based on theoretically-driven cut points rather than the observed sample distribution (see Authors, 2013). Table 2 shows the unadjusted proportions of students endorsing outcomes for Waves 1 and 3. Correlations of the study scales are presented in Table 3. The highest correlation was found between bullying perpetration and physical aggression ($r = .61$), however, this indicates only a 36% overlap between these constructs, thus, we maintained the seven outcomes without collapsing across measures. All analyses were conducted using version 7.01 of HLM for Windows (Raudenbush, Bryk, & Congdon, 2013).

We utilized a logit link for the dichotomized outcomes, using the Wave 3 measures as the outcome. The initial model included all schools from both states. Included in the Level-2 model was an intervention condition by state (i.e., Illinois or Kansas) interaction term. We hypothesized that the Level-1 intercept varied significantly across schools at Level 2. The Level-2 (School) model was represented by:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\mathrm{FRL})_j + \gamma_{02}(\mathrm{Condition})_j + \gamma_{03}(\mathrm{State})_j + \gamma_{04}(\mathrm{Condition} * \mathrm{State})_j + u_{0j}$$

where γ_{00} was the grand mean of the outcome, γ_{01} represented the relation between being eligible for free-or-reduced-price lunch and the outcome, γ_{02} was the intervention effect, γ_{03} was the state differences in the outcome, and γ_{04} represented the interaction term. This model tested whether intervention efficacy was moderated by belonging to a specific state. A significant ($p < .05$) interaction term for an outcome was followed by a subsequent analysis of that outcome for each separate state to clarify the nature of the interaction. We tested for these interactions because our initial analyses indicated that state differences may be present (Authors, 2013) and because there is increased interest in understanding treatment variability (Polanin &

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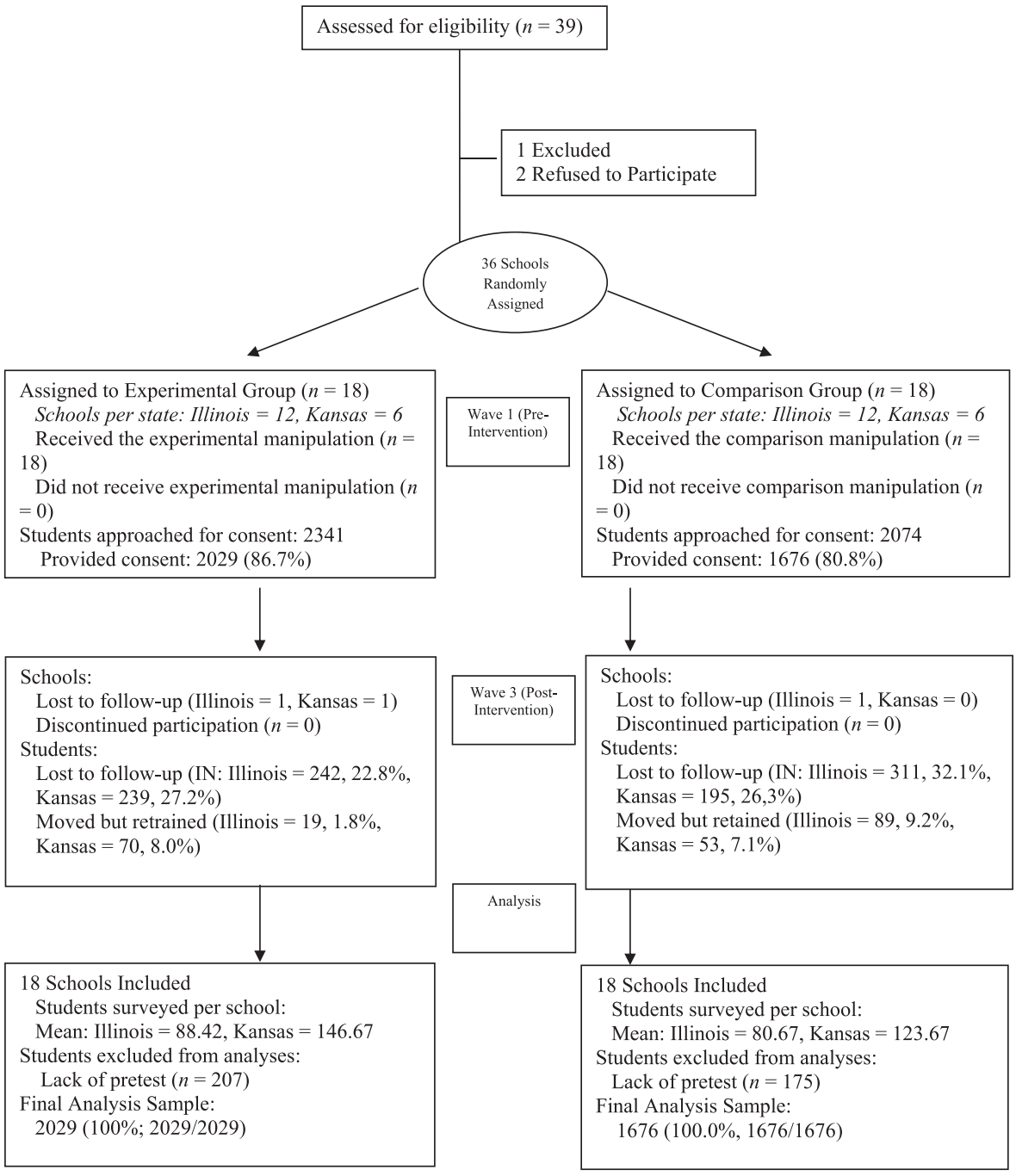

Fig. 2. CONSORT flow chart.

Table 2
Proportions and odds ratios of outcomes.

	Illinois					Kansas				
	Intervention		Control			Intervention		Control		
	W1	W3	W1	W3	Unadjusted OR (CI)	W1	W3	W1	W3	Unadjusted OR (CI)
Bullying perpetration	24.6	29.8	28.2	36.2	.74 (.62, .90)	19.1	27.7	22.0	32.4	.80 (.65, .99)
Bullying victimization	50.0	50.7	52.2	56.3	.80 (.67, .90)	48.4	52.1	45.3	47.2	1.22 (.99, 1.47)
Physical aggression	35.9	39.1	44.5	50.9	.62 (.52, .74)	33.2	42.1	36.7	45.0	.89 (.73, 1.08)
Homophobic perpetration	17.6	34.1	17.4	39.1	.81 (.67, .97)	14.2	34.6	12.4	32.8	1.08 (.88, 1.33)
Homophobic victimization	11.9	20.0	13.3	27.4	.66 (.54, .81)	14.6	25.8	12.5	23.4	1.13 (.91, 1.43)
Sexual violence perpetration	9.8	27.8	9.3	35.4	.70 (.58, .85)	8.7	39.4	9.5	38.4	1.05 (.85, 1.27)
Sexual violence victimization	16.3	44.4	17.1	51.2	.76 (.64, .91)	19.5	48.1	18.4	45.3	1.11 (.92, 1.36)

Notes. W1 = Wave 1, W3 = Wave 3; Confidence intervals unadjusted for clustering.

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Table 3
Correlation matrix of the outcome variables.

	1.	2.	3.	4.	5.	6.	7.
1. Bullying perpetration	1	.20	.56	.60	.28	.49	.37
2. Bullying victimization	.24	1	.11	.12	.38	.13	.27
3. Physical aggression	.61	.20	1	.40	.19	.37	.38
4. Homophobic perpetration	.45	.16	.41	1	.45	.44	.34
5. Homophobic victimization	.28	.34	.26	.56	1	.26	.28
6. Sexual violence perpetration	.38	.09	.26	.27	.14	1	.50
7. Sexual violence victimization	.23	.24	.22	.22	.31	.41	1

Notes. Lower matrix represents Wave 1; upper matrix represents Wave 3; all correlations significant at $p < .05$.

Espelage, 2014). The state-specific models differed only with respect to the terms included in the Level-2 model; that is, the state and state by intervention condition interaction terms were not included.

We hypothesized in the Level-1 (student) model that students' gender, race, and an individual's Wave 1 scale scores would be significantly related to the outcome variable of interest:

$$\eta_{ij} = \beta_{0j+} + \beta_{1j}(\text{Female})_{ij} + \beta_{2j}(\text{White})_{ij} + \beta_{3j}(\text{Hispanic})_{ij} + \beta_{4j}(\text{Other})_{ij} + \beta_{5j}(\text{Wave 1})_{ij}$$

where η_{ij} represented the predicted log odds of the outcome, β_{0j} was the intercept, β_{1j} represented the gender differences where females are coded 1 and males coded 0, β_{2j}, β_{3j}, β_{4j}, represented the race/ethnicity comparison where African–American students were the reference group, and β_{5j} was the outcome variable at Wave 1. We present the results of the analyses for the combined state models and separately by state when the intervention condition by state interaction was significant.

Results

Verbal/relational bullying perpetration and peer victimization

The results of the model including both states indicated a nonsignificant intervention effect for both bullying perpetration (Table 4; OR = .85, 95% C.I. [.63, 1.15]) and peer victimization (OR = .94, 95% C.I. = .75, 1.18). The bullying perpetration (OR = .91, 95% C.I. [.68, 1.22]) and peer victimization (OR = 1.13, 95% C.I. [.90, 1.43]) outcomes both had nonsignificant differences between states. In addition, the interaction term for both outcomes was nonsignificant (Perpetration: OR = .98, 95% C.I. [.56, 1.74]; Victimization: OR = .75, 95% C.I. [.46, 1.23]). In the Level-1 model, several variables indicated significant relation with the outcomes. For bullying perpetration, females had significant lower endorsement (OR = .80, 95% C.I. [.66, .96]), and compared to African–American students, White (OR = .64, 95% C.I. [.50, .81]), Hispanic (OR = .61, 95% C.I. [.48, .78]), Asian (OR = .29, 95% C.I. [.11, .78]), and Biracial students (OR = .72, 95% C.I. [.56, .93]) all had significantly lower endorsement. For peer victimization, only Hispanic students differed significantly compared to African–Americans (OR = .80, 95% C.I. [.64, .99]).

Physical aggression

Model results including both states revealed a nonsignificant intervention effect for physical aggression (Table 4; OR = .80, 95% C.I. = .59, 1.08). The results also indicated nonsignificant state (OR = .94, 95% C.I. = .72, 1.22) and interaction (OR = .66, 95% C.I. = .38, 1.14) effects. There were, however, significant differences for the Level-1 variables; compared to African–American students, White (OR = .50, 95% C.I. = .38, .65), Hispanic (OR = .63, 95% C.I. = .51, .79), and Asian students (OR = .40, 95% C.I. = .22, .70) all had significantly lower levels of endorsement.

Homophobic name-calling perpetration and victimization

The results of the model for the homophobic perpetration indicated nonsignificant intervention (Table 4; OR = .92, 95% C.I. = .73, 1.16) and state (OR = 1.01, 95% C.I. = .82, 1.25) main effects. The interaction term was also nonsignificant (OR = .73, 95% C.I. = .50, 1.04). In addition, the results again revealed a significant relation between the percentage of FRL students and the outcome (OR = 1.01, 95% C.I. = 1.01, 1.02). Model results also indicated significant results in the Level-1 model; compared to African–American students, White (OR = .63, 95% C.I. = .49, .80), Hispanic (OR = .64, 95% C.I. = .51, .82), and Asian (OR = .45, 95% C.I. = .24, .85) students were significantly less likely to endorse homophobic perpetration.

The results revealed a nonsignificant intervention effect for the homophobic victimization outcome (OR = .85, 95% C.I. = .66, 1.08) but a significant state by intervention condition interaction term (OR = .71, 95% C.I. = .51, .98), meaning that the intervention effects differed significantly across the two states. The results also yielded a significant state main effect (OR = .69, 95% C.I. = .44, .93). Of the Level-1 variables, only females, compared to males, had a significant relationship with the outcome (OR = .64, 95% C.I. = .46, .87).

Given the significant interaction result, we then re-ran the models for each state separately (see Tables 5 and 6). In the Illinois-only model, the homophobic victimization outcome resulted in a significant

Table 4
Illinois and Kansas final models.

	Bullying perpetration	Bullying victimization	Physical aggression	Homophobic perpetration	Homophobic victimization	Sexual violence perpetration	Sexual violence victimization
	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)
Intercept	−.73 (.12)**	−.55 (.11)**	−.37 (.12)**	−.29 (.09)**	−.23 (.10)**	−.32 (.10**)	−.20 (.10)*
FRL	.01 (.02)	.01 (.02)	.01 (.01)**	.01 (.01)*	.01 (.02)	.01 (.01)	.01 (.01)
Condition	−.16 (.15)	−.06 (.12)	−.23 (.15)	−.09 (.12)	−.11 (.13)	−.18 (.11)	−.09 (.12)
State	−.10 (.15)	.12 (.13)	−.07 (.15)	.01 (.12)	−.08 (.15)	−.40 (.12)**	.01 (.11)
*Co*State*	−.02 (.28)	−.29 (.27)	−.42 (.32)	−.32 (.21)	−.36 (.22)	−.41 (.22)	−.31 (.22)
Gender	−.23 (.08)**	.12 (.08)	−.16 (.09)	−.45 (.08)**	−.16 (.08)	−.38 (.09)*	.47 (.08)
White	−.45 (.12)**	.31 (.12)**	−.70 (.12)**	−.47 (.11)**	−.64 (.11)**	−.40 (.12)*	−.42 (.10)**
Hispanic	−.49 (.13)**	−.23 (.12)	−.46 (.12)**	−.44 (.12)**	−.26 (.12)**	−.46 (.13)*	−.54 (.11)**
Asian	−1.22 (.41)**	.10 (.27)	−.94 (.34)	−.80 (.30)*	−.77 (.29)	−.71 (.27)**	−.44 (.25)*
Other	−.32 (.14)*	.08 (.15)	−.24 (.15)	−.11 (.13)	−.16 (.12)	−.16 (.15)	−.17 (.14)
Pretest Wave 1	1.32 (.10)**	1.18 (.08)**	1.44 (.09)**	1.01 (.12)**	1.23 (.12)**	1.00 (.15)**	1.05 (.12)**

Notes. Italics represent Level-2 variables; FRL = Free or reduced lunch; Condition: 1 = Intervention, 0 = Control; State: Illinois = 1, Kansas = 1; Gender: 1 = Female, 0 = Male; Race African–American is the reference group; Level-2 $df = 21$.
* $p < .05$, ** $p < .01$.

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intervention effect (Table 5; OR = .64, 95% C.I. = .50, .82; $p < .01$) with the odds of endorsing homophobic victimization being 56.3% less for students from Illinois intervention schools. The results differed significantly for Kansas, yielding a nonsignificant effect opposite of the hypothesized direction (Table 6; OR = 1.05, 95% C.I. = .81, 1.34).

Sexual violence perpetration and victimization

Results of the combined-states model yielded a significant state by intervention condition interaction coefficient (OR = .66, 95% C.I. = .44, 1.00) as well as a significant state difference (OR = .67, 95% C.I. = .54, .83). The relation between FRL and sexual violence perpetration was also significant (OR = 1.01, 95% C.I. = 1.00, 1.01). Variables at the student level also had significant relation with White (OR = .67, 95% C.I. = .54, .84), Hispanic (OR = .63, 95% C.I. = .50, .80), and Asian (OR = .49, 95% C.I. = .23, .86) students having significantly less endorsement of sexual violence perpetration relative to African–American students.

Because of the significant interaction effect for sexual violence perpetration, we analyzed the results separately by state (see Tables 5 and 6). Results of the analysis for Illinois revealed a statistically significant intervention effect for the sexual violence perpetration outcome (Table 5; OR = .72, 95% C.I. = .54, .95). The odds of endorsing sexual violence perpetration were 38.8% less for students in intervention schools. In Kansas, on the other hand, the results of the analysis of sexual violence perpetration outcome non-significant intervention effect (Table 6; OR = .99, 95% C.I. = .70, 1.48).

Sexual violence victimization results indicated nonsignificant intervention (OR = .91, 95% C.I. = .72, 1.15) and state (OR = 1.01, 95% C.I. = .84, 1.22) main effects as well as a nonsignificant state by intervention condition interaction term (OR = .73, 95% C.I. = .51, 1.06). Females, compared to males, indicated significantly greater sexual violence victimization (OR = 1.60, 95% C.I. = 1.36, 1.88). In addition, compared to African–American students, White (OR = .65, 95% C.I. = .54, .79), Hispanic (OR = .58, 95% C.I. = .46, .74), and Asian students (OR = .64, .44, .94) had significantly less endorsement of sexual violence victimization.

Discussion

The impact of the Second Step: Student Success Through Prevention (SS-SSTP) Social–Emotional Learning Middle School Program (Committee for Children, 2008) was evaluated in 36 middle schools to evaluate its impact on multiple forms of violence that often co-occur, including bullying, victimization, fighting, homophobic name-calling, and sexual harassment. Results indicated that students in Illinois middle schools were significantly less likely to be the targets of homophobic name-calling when compared to students in Illinois control schools. In addition, students in Second Step schools in Illinois schools were significantly less likely to report sexual harassment/violence perpetration when compared to students in control schools. The 7th grade curriculum did include a lesson on sexual harassment, which is likely related to the changes in both homophobic language and sexual harassment. These results coupled with the basic research that finds that bullying in middle school co-occurs with homophobic teasing and sexual harassment (Espelage et al., 2012), suggest that bullying prevention must include a discussion of bias-based language and sexual harassment.

However, no reductions in bullying behavior, physical aggression, and victimization were found for Illinois or Kansas intervention schools. Indeed, across sites, and conditions, bullying behavior, physical aggression, and victimization were occurring at high levels (e.g., physical aggression, 33–51%), and notably increased from 6th to 7th grade, but the increase was not as marked as gender- or sexual-based violence. Behaviors like bullying and aggression are likely established and elaborated upon prior to middle school and in this study were not sensitive to the intervention. However, homophobic name-calling and sexual harassment are far less prevalent in elementary school than middle school, so the intervention seems to impact those behaviors that are first emerging in middle school.

The lack of significant impact on bully perpetration and peer victimization is not entirely surprising given the results of the Ttofi and Farrington (2011) meta-analysis. First, recall that *bully perpetration* was reduced through programs that had the majority of the following elements: parent training/meetings, improved playground supervision, disciplinary (non-punitive) methods, classroom management, teacher training, classroom rules, whole-school anti-bullying policy, school conferences, information for parents (ranging from information in newsletter to suggestions for helping children with bullying situations), and cooperative group work. Second, rates of *victimization* were associated with elements such as disciplinary (non-punitive) methods, parent training/meetings, use of videos, and cooperative group work. Thus, the classroom SS-SSTP curriculum evaluated in this study without attention to training of adults and examination of school policies may be necessary but insufficient to reduce bullying. Future studies need to examine the SS-SSTP curriculum within a larger school-wide prevention approach.

It is also possible that students are less engaged in bullying prevention material over time, due to years of previous exposure on these domains; or by middle school, there is less elaboration of these specific behaviors. Yeager and colleagues (2014) through meta-analysis demonstrated that bully prevention programs appear to be most efficacious up until 6th grade, but efficacy drops significantly in 7th grade and in 8th grade drops to zero. Thus, the fact that these behaviors are being reported by many students, and are not being 'moved' by universal programs like SS-SSTP, begs the question of who is engaging in these

Table 5
Illinois final model.

	Bullying perpetration	Bullying victimization	Physical aggression	Homophobic perpetration	Homophobic victimization	Sexual violence perpetration	Sexual violence victimization
	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)
Intercept	−.72 (.19)**	−.43 (.16)*	−.19 (.21)	−.06 (.15)	−.91 (.19)**	−.30 (.13)*	−.11 (.17)
FRL	.01 (.02)	.01 (.02)	.01 (.01)*	.01 (.02)	.01 (.02)	.01 (.02)	.01 (.02)
Condition	−.17 (.19)	−.16 (.16)	−.34 (.22)	−.19 (.15)	−.44 (.13)**	−.33 (.14)*	−.18 (.19)
Gender	−.21 (.12)	.01 (.11)	−.18 (.13)	−.66 (.11)**	−.58 (.16)**	−.40 (.12)**	.39 (.11)**
White	−.49 (.16)***	.40 (.17)*	−.75 (.19)**	−.54 (.17)**	.27 (.20)	−.42 (.18)*	−.43 (.16)**
Hispanic	−.43 (.16)**	−.14 (.15)	−.60 (.17)**	−.58 (.16)**	−.20 (.19)	−.42 (.16)	−.46 (.15)**
Asian	−.70 (.66)	−.26 (.53)	−1.64 (.91)	−.79 (.55)	.09 (.59)	−.11 (.54)	−.52 (.51)
Other	−.25 (.19)	−.04 (.19)	−.29 (.19)	−.17 (.17)	.07 (.24)	−.31 (.20)	−.20 (.19)
Pretest Wave 1	1.32 (.13)**	1.25 (.12)**	1.46 (.11)**	1.05 (.14)**	1.30 (.17)**	1.01 (.20)**	1.13 (.15)**

Notes. Italics represent Level-2 variables; FRL = Free or reduced lunch; Condition: 1 = Intervention, 0 = Control; Gender: 1 = Female, 0 = Male; Race African–American is the reference group; Level-2 $df = 21$.
* $p < .05$, ** $p < .01$.

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Table 6
Kansas final models.

	Bullying perpetration	Bullying victimization	Physical aggression	Homophobic perpetration	Homophobic victimization	Sexual violence perpetration	Sexual violence victimization
	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)
Intercept	−.48 (.21)*	−.61 (.22)*	−.43 (.19)*	−.54 (.19)*	−1.02 (.23)**	−.06 (.19)	−.26 (.17)
FRL	.01 (.02)	.01 (.02)	.01 (.01)*	.01 (.02)	.01 (.02)	.01 (.02)	.01 (.02)
Condition	−.26 (.20)	.06 (.20)	.01 (.16)	.06 (.14)	.05 (.14)	−.01 (.17)	.07 (.12)
Gender	−.25 (.13)	.24 (.14)	−.15 (.11)	−.20 (.14)	−.35 (.16)*	−.35 (.12)**	.56 (.12)**
White	−.43 (.18)*	.19 (.18)	−.54 (.18)**	−.33 (.20)	−.02 (.19)	−.36 (.18)*	−.39 (.17)*
Hispanic	−.59 (.21)**	−.35 (.18)*	−.23 (.18)	−.25 (.19)	−.33 (.23)	−.48 (.19)*	−.59 (.19)**
Asian	−1.47 (.49)**	.18 (.31)	−.68 (.36)	−.70 (.37)	−.08 (.35)	−.88 (.32)**	−.41 (.31)
Other	−.42 (.23)	.20 (.21)	−.09 (.24)	.01 (.24)	.01 (.29)	.01 (.22)	−.08 (.21)
Pretest Wave 1	1.32 (.15)**	1.12 (.12)**	1.43 (.14)**	.97 (.19)**	.99 (.18)**	1.00 (.23)**	.97 (.19)**

Notes. Italics represent Level-2 variables; FRL = Free or reduced lunch; Condition: 1 = Intervention, 0 = Control; Gender: 1 = Female, 0 = Male; Race African–American is the reference group; Level-2 $df = 9$.
* $p < .05$, ** $p < .01$.

behaviors, and under what conditions? Should the messaging around bully prevention differ for youth beyond the 6th grade. Addressing these questions can elucidate more precise targets, and necessary tailoring of intervention strategies that are developmentally sensitive over time.

On the other hand, SS-SSTP appears to have reduced the likelihood of being a victim of homophobic name-calling, as well as the likelihood of engaging in sexual harassment, but only in Illinois schools. The lack of replication in Kansas could be due to factors that are difficult to quantify, such as the historical/political climate in the state, or nearly complete turnover in administrative staff in Year 2 (i.e., all but one Kansas intervention school had new principals in Wave 2, which could usher in other changes in school climate). Other factors, such as implementation and competing programming in Kansas schools may have influenced the program's efficacy. Although the school districts in this study agreed not to implement any school-wide bully prevention programs, three schools in Kansas (two Intervention and one Control) did implement a comprehensive prevention program focused on risk and protective factors as well as a focus on healthy relationships in Year 2 of our study. Our team was not able gather information about whether this program was truly implemented; Our team was not able TO gather information about whether this program was truly implemented; therefore, we were not able to quantify the amount of programming students in these Kansas SCHOOLS received. A lesson learned from this experience is to assess programming in all schools in randomized clinical trials so that an implementation variable can be computed for intervention and control schools.

The reality of engaging in school-based research, especially over a period of time, is exposure to the proliferation of competing and complementary programming efforts. Hamby and Grych point out that US youth report having participated in at least three to four prevention programs, and by college 70% of them indicate that they knew the content of violence prevention programs (Chandraskearan & Hamby, 2010). One practical consequence of this explosion in programming is reduced engagement in the material, especially when delivered through similar formats, such as classroom curricula. A second practical consequence for prevention science may relate to the absence of a true 'control' school (Hamby & Grych, 2013). Thus, we may be embarking on comparative studies, for which it is increasingly difficult to detect meaningful shifts in student behavior (Hulleman & Cordray, 2009). These factors aside, the issue of replication across sites, geographic regions and diverse populations is an important one for the field, and one that speaks not only to the ecological validity of the program, but also speaks to its reach and sustainability.

Evaluation of SEL programs has progressed in their attention to and deployment of rigorous designs and evaluation strategies (Authors, 2013; Brown et al., 2011). Despite this, increased attention is needed to understand when, and under what conditions programs have optimal impact, with a more deliberate focus on adoption, implementation, dissemination, reach, and sustainability (Cook & Odom, 2013; Glasgow, Vogt, & Boles, 1999). In addition, understanding underlying program mechanisms has been surprisingly neglected in SEL impact studies. As Fig. 1 illustrates, changes in attitudes, norms and peer behavior are proposed mediators of reductions in aggression. Given the importance of focusing first on the efficacy of prevention programs on major outcomes, mediators were not examined in this paper. However, future examination of mediators is an important direction in validating the underlying logic model of the program.

There are several notable strengths of this study, including a rigorous longitudinal design, a diverse collection of school districts, random assignment, and rigorous analyses. Notwithstanding, there are some limitations. Mainly, the scale and resources of this study prohibited collection of data from multiple reporters, or via multiple methods (e.g., observation, EMA data), which would provide a more reliable sampling of targeted behaviors. Additional schools would allow for more subgroup analyses, an important step in unpacking and understanding under what conditions, and for whom, this program is maximally effective.

In sum, this two-year cluster-randomized clinical trial of Second Step: Student Success Through Prevention (SS-SSTP) Middle School Program (Committee for Children, 2008) indicated that it is a promising program to reduce gender or sexual-based violence. These findings are critical given the recent research demonstrating that homophobic name-calling and sexual violence are emerging as significant public health concerns and are precursors to teen dating violence (Espelage et al., 2014; Miller et al., 2013). About half of the students in 7th through 12th grades were the victims of sexual harassment at school during the 2010–11 school year, with 56% of females and 40% of males experiencing sexual harassment in person or online (AAUW, 2011). Further, in a middle school study including over 1200 students, 20% of females and 34% of males reported directing homophobic epithets toward other peers in the last month (Espelage, Basile, & Hamburger, 2014). As most of the programming for the prevention of sexual violence is directed at high school and college samples, this study addresses a significant gap in the growing body of prevention science focused on reducing sexual violence among middle school youth.

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