

Bystander Program to Reduce Sexual Violence by Witnessing Parental Intimate Partner Violence Status



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Introduction: Youth who witness parental intimate partner violence are at increased risk for sexual violence. Existing data from a cluster RCT were used to determine the effectiveness of Green Dot bystander intervention to reduce sexual violence among high-school students who did and did not witness parental intimate partner violence.

Study Design: A secondary analysis was conducted in 2021 of extant data from a 5-year cluster RCT.

Setting/Participants: A total of 26 high schools in Kentucky were randomized to intervention or control condition in 2010. A total of 15,863 surveys were analyzed from baseline, 30,014 from partial intervention implementation (Years 1 and 2), and 25,907 from full implementation (Years 3 and 4). The sample was stratified to include students who witnessed or did not witness parental intimate partner violence.

Intervention: The bystander intervention program was delivered in 2 stages. During partial implementation, a persuasive speech describing rates, risk factors, and bystander-based approaches to violence prevention was provided to most students in schools randomized to the intervention. During full implementation, an in-depth 5-hour skill-based bystander training was provided to popular opinion leaders among the students in intervention schools (10%–15%).

Main Outcome Measures: The primary outcome was sexual assault measured as perpetration and victimization. Secondary outcomes included sexual harassment and stalking, measured as victimization and perpetration.

Results: During full implementation, among students who witnessed parental intimate partner violence, the intervention was associated with significant reductions in sexual assault perpetration ($\beta = -0.21$, $p < 0.01$), sexual harassment perpetration ($\beta = -0.29$, $p < 0.001$), sexual assault victimization ($\beta = -0.25$, $p < 0.01$), and sexual harassment victimization ($\beta = -0.45$, $p < 0.001$). For students who did not witness parental intimate partner violence, the intervention was only associated with reductions in sexual harassment ($\beta = -0.19$, $p < 0.001$) and stalking ($\beta = -0.09$, $p < 0.01$) victimization.

Conclusions: As implemented in the parent RCT, the bystander training was more effective at reducing violent outcomes among those who witnessed parental intimate partner violence than in those who did not witness parental intimate partner violence.

Trial Registration: This study is registered at www.ClinicalTrials.gov, under identifier NCT01878097.

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INTRODUCTION

Sexual violence (SV) includes attempted or completed nonconsensual sex, unwanted sexual contact, and sexual harassment.¹ SV often co-occurs with other forms of violence such as stalking.² Rates of sexual assault, stalking, and sexual harassment are quite high among high-school students,³ with elevated risk among youth who have witnessed parental intimate partner violence (IPV).^{4,5} Negative consequences of SV include depression, post-traumatic stress, anxiety, sleep and eating disorders, and substance use.³

One in 4 youth report witnessing parental IPV.⁶ Witnessing parental IPV is considered an adverse childhood experience (ACE), which is highly correlated with other known ACEs.⁷ Youth who witness IPV are at increased risk of using or experiencing SV themselves⁸ owing to a myriad of factors, including parentally modeled acceptance of IPV and SV,^{9,10} structural inequities, and carceral responses that create unsafe environments for youth.¹¹ Identifying best practices for preventing violence among this high-risk group is essential to ending the cycle of family violence.²

Bystander intervention programs have been universally implemented as primary prevention methods in high schools and colleges.¹² One such program, Green Dot, has demonstrated positive outcomes on violent outcomes, including reductions in victimization and perpetration of SV, stalking, sexual harassment, and dating violence (DV) among high-school students using a cluster RCT design.¹³ These programs often aim to prevent SV, yet limited data establish program efficacy to reduce violence.¹² Bystander intervention programs have not been evaluated for their effectiveness within the high-risk group of youth who witness parental IPV. Witnessing parental IPV is the strongest risk factor for adult IPV victimization¹⁴ and is also associated with SV victimization/perpetration later,⁸ underscoring the need to intervene early. Prior research indicates that bystander intervention programs are effective at reducing violence norms,^{12,15–17} which in turn have been found to mediate the effectiveness of interventions at the school level.¹⁸ This may be particularly important among youth who witness parental IPV as they have elevated rates of violence acceptance^{9,10}; however, these relationships have not been explored at the individual level.

This study examined whether the bystander intervention program reduces SV among high-school students who did and did not witness parental IPV and whether violence acceptance is a mediator of these relationships. Prior analyses using these data demonstrate that the intervention is effective at reducing violent outcomes.¹³ A multigroup path analysis approach (stratifying the

sample based on witnessing parental IPV) tested the conceptual model (Figure 1). It was hypothesized that students in intervention schools would receive more training than students in control schools (Path A). The students who received more training would have lower levels of violence acceptance (Paths B and C). It was expected that there would be a positive association between violence acceptance and violent outcomes (Paths D–O), such that higher levels of violence acceptance are associated with greater frequencies of victimization and perpetration. It was expected that students from the intervention school would report lower frequencies of violent outcomes (Paths P–U). Direct paths from training received to violence outcomes were not estimated because the training focuses on increasing bystander behaviors at the school level to reduce violence and does not directly address individual-level risk or perpetration-reduction techniques. Prior analyses using these data^{13,18} have focused on school-level outcomes and have not investigated efficacy among the high-risk group of students who witnessed parental IPV. This investigation fills those gaps by stratifying the sample based on witnessing parental IPV status, using the individual as the unit of analysis, and examining the impact of amount of training received.

METHODS

Data for the secondary analysis came from a 5-year cluster RCT to evaluate the effectiveness of Green Dot.^{13,19} In the parent study, 26 Kentucky high schools were randomized to the intervention (13 schools) or waitlist control condition (13 schools; 1:1 allocation ratio) using simple randomization procedures (details in Coker et al.¹³). Baseline surveying was conducted in all schools in spring 2010 (Year 0 of the study). A parental passive consent protocol was approved. All the parents of students in the participating high schools received a letter describing the study, and they were asked to notify the research staff if they did not want their child to participate. Students whose parents refused were not contacted in schools. Assent was obtained directly from students. The same survey was administered by research staff each spring (2010–2014). Because data collection was anonymous, the school and not the individual was the unit of analysis for prior longitudinal analyses. The University of Kentucky IRB approved the study protocol for this parent study, and the current secondary analyses were determined to be not human subjects research by the IRB at the University of North Carolina at Charlotte.

Rape Crisis Center Educators (Educators) received training to provide the intervention beginning fall 2010. Intervention training was implemented in 2 phases: persuasive speeches as Phase I and in-depth bystander training to popular opinion student leaders (POLs) as Phase II. Phase I began in fall 2010 (Year 1) and Phase II began as early as fall 2011. During partial implementation (Years 1 and 2), schools focused on implementing Phase I activities. More than 50% of students in the intervention schools received Phase I training: 50-minute persuasive speeches delivered

gifts, e-mails, text messages, or notes/pictures posted on social networking sites for example, Facebook, MySpace, or Twitter. These items were revised based on the National Violence Against Women Survey.²³ Categorical frequency response options were provided for each question, which were summed. The possible range of each outcome variable was 0–18.

Potential mediators included endorsement of rape myths and DV acceptance. Rape myths were assessed for using a modified version of the Illinois Rape Myth Scale.²⁴ A confirmatory factor analysis was used to determine items for inclusion.²⁵ The final score omitted the item, *Girls lead a guy on and then they claim sexual assault*, resulting in a 6-item scale. Possible scores on this summed measure ranged from 0 to 18, with higher scores indicating greater endorsement of rape myths. A total of 5 items taken from the Acceptance of General Dating Violence subscale of the Acceptance of Couple Violence scale²⁶ were used to assess the student's DV acceptance. Possible scores on this summed measure ranged from 0 to 15, with higher scores indicating greater DV acceptance.

The sample was stratified based on the student's report of witnessing parental IPV. This was assessed by asking participants to indicate if they saw or heard a parent or guardian being hit, slapped, punched, shoved, kicked, or otherwise physically hurt by their spouse or partner. Response options were dichotomized to 0=never or 1=ever. This simplistic measure of exposure to parental IPV was used because of space and timing considerations and has its limitations²⁷; however, it is consistent with the measurement of ACEs.²⁸

Potential confounding variables included sex (male/female), sexual orientation (exclusively heterosexual/not exclusively heterosexual), receipt of a free or reduced-price meal (yes/no), race (White/student of color), and relationship status (yes, in the past year/not in the past year). These variables were included as potential confounders based on prior research finding associations between victimization/perpetration and these demographic characteristics.¹⁹

Statistical Analysis

Data analysis was completed in 2021. Descriptive statistics (*n*, mean, SD, and %) were used to characterize study participants. Bivariate statistics (2-sample *t*-tests and chi-square tests) were used to identify differences between stratified groups and intervention conditions on demographic characteristics, mediators, and outcome variables.

Multigroup path analyses were used to test the path model in Figure 1 using SPSS Amos, version 26 for partial implementation and full implementation stages. Because training was not implemented, direct paths from intervention group to rape myths and DV acceptance were examined to test for any preintervention differences in these variables, for baseline. A path analysis approach was used instead of a multilevel modeling accounting for school-level clustering because of the low observed intraclass correlation values (≤ 0.01) and the structure of the data. Within each stage, frequencies of victimization and perpetration were adjusted for using the following demographic variables: sex, sexual orientation, receipt of a free or reduced-price meal, race, and relationship status. To ensure there was no multicollinearity between independent variables, variance inflation factor statistics were examined, and no problems were identified.

Multigroup path analyses (estimating model fit and paths for 2 groups at once) were used to examine how the intervention operates at the individual level between those who witnessed parental IPV and those who did not witness parental IPV. Because individuals are not linked over time (precluding the ability to use ANCOVAs accounting for baseline characteristics²⁹), the path analyses were conducted separately for each phase. First, the path model was tested using the full group (including both students who did and did not witness parental IPV) within each implementation stage, then the models were tested using a multigroup approach (stratifying by witnessing parental IPV status). The multigroup model was retained if the chi-square difference indicated it was a better fit to the data ($p < 0.05$). Models were considered a good fit to the data if the root mean square error of approximation (RMSEA) and standardized root mean squared residual (SRMR) were ≤ 0.1 and if the comparative fit index (CFI) was ≥ 0.90 .³⁰ Ideally, in a path model the chi-square test should be not significant ($p > 0.05$); however, this test is sensitive to sample size, and because the size of this sample was quite large, this criterion was not used for evaluation of model fit.

RESULTS

At baseline, 55% of students identified as female, students were approximately evenly distributed through Grades 9–11 with fewer in Grade 12, 84% were White, 43% received a free or reduced-price lunch, 87% indicated their sexual orientation as exclusively heterosexual, 25% witnessed parental IPV, and 81% indicated they had been in a relationship in the past 12 months (Appendix Table 1, available online). Randomization produced intervention conditions with similar demographic characteristics and scores on outcomes at baseline, with the exception of race. At baseline, frequency of each violent outcome was statistically equivalent for students assigned to intervention and control schools; however, scores on rape myths and DV acceptance were lower for students from control schools. With the exception of grade, there were significant differences on all demographic variables between witnessing parental IPV groups. At baseline, students who witnessed parental IPV had higher scores on rape myths, DV acceptance, and violent outcomes.

Among students who did not witness parental IPV, students in intervention schools had higher rape myth scores at baseline compared with students who did not witness parental IPV in control schools (Table 1). During partial implementation, students who did not witness parental IPV in intervention schools had higher levels of DV acceptance and reported being victimized by SV more frequently than students who did not witness parental IPV in control schools. During full implementation, students who did not witness parental IPV in

Table 1. Comparing Absolute Mean of Outcome Variables Within Stage Between Intervention Groups

Variables	Baseline			Partial implementation stage			Full implementation stage			
	Did not witness parental IPV	Did witness parental IPV		Did not witness parental IPV	Did witness parental IPV		Did not witness parental IPV	Did witness parental IPV		
	Control n=5,970, M (SD)	Int n=5,943, M (SD)	Control n=2,008, M (SD)	Control n=10,889, M (SD)	Int n=12,927, M (SD)	Control n=2,837, M (SD)	Control n=10,180, M (SD)	Int n=10,937, M (SD)	Control n=2,46, M (SD)	Int n=2,337, M (SD)
Rape myths	4.56 (2.73)**	4.70 (2.88)*	4.91 (3.10)	4.14 (2.80)	4.21 (2.94)	4.95 (3.49)	3.92 (2.82)**	3.75 (2.80)*	5.02 (3.84)**	4.65 (3.59)*
DV acceptance	2.96 (2.60)	3.06 (2.64)	3.52 (3.03)	2.42 (2.56)**	2.52 (2.67)*	3.39 (3.34)	2.39 (2.56)**	2.24 (2.46)*	3.57 (3.61)**	3.27 (3.33)*
Sexual assault perpetration	0.20 (1.47)	0.17 (1.43)	0.77 (3.68)	0.19 (1.16)	0.21 (1.36)	0.49 (2.42)	0.18 (1.27)	0.16 (1.10)	0.77 (3.32)**	0.49 (2.51)*
Sexual assault victimization	0.93 (2.19)	1.00 (2.30)	1.11 (2.93)	0.87 (2.03)**	0.75 (2.19)*	1.17 (2.89)	0.74 (2.21)	0.70 (2.05)	1.33 (3.18)	1.16 (2.90)
Sexual harassment perpetration	0.79 (2.93)	0.76 (2.72)	1.40 (4.21)	0.16 (0.83)	0.20 (1.05)	0.60 (2.45)	0.15 (0.88)	0.13 (0.87)	0.83 (3.20)**	0.59 (2.68)*
Stalking perpetration	0.05 (0.21)	0.04 (0.20)	0.10 (0.30)	0.17 (0.92)	0.17 (0.92)	0.38 (1.37)	0.14 (0.77)	0.13 (0.75)	0.42 (1.33)	0.36 (1.27)
Sexual harassment victimization	2.10 (3.44)	2.21 (3.53)	3.78 (4.62)	0.50 (1.46)	0.53 (1.53)	1.28 (2.58)	0.49 (1.52)	0.44 (1.40)	1.42 (2.91)**	1.20 (2.62)*
Stalking victimization	0.38 (1.40)	0.38 (1.50)	2.05 (3.60)	0.39 (1.22)	0.41 (1.27)	0.97 (2.18)	0.38 (1.19)	0.35 (1.13)	1.10 (2.57)**	0.91 (2.12)*

Note: Boldface indicates statistical significance (* $p < 0.05$, ** $p < 0.01$). DV, dating violence; Int, intervention; IPV, intimate partner violence; M, mean.

intervention schools had lower rape myths and DV acceptance scores than students who did not witness parental IPV in control schools.

Among students who did witness parental IPV, no differences were observed between students from control or intervention schools on any of the outcome variables during baseline or partial implementation (Table 1). During full implementation, students who witnessed parental IPV in intervention schools had lower rape myths scores, DV acceptance, sexual harassment and SV perpetration, and sexual harassment and stalking victimization.

The models testing intervention status, amount of training received, and violence acceptance on violent outcomes were a good fit to the data at each implementation stage (baseline: RMSEA=0.06, SRMR=0.04, CFI=0.93; partial implementation: RMSEA=0.05, SRMR=0.04, CFI=0.96; full implementation: RMSEA=0.05, SRMR=0.04, CFI=0.96). For each implementation phase, the multigroup path analysis was a better fit to the data than the full group model (baseline: chi-square difference=80, $df=25$, $p < 0.001$; partial implementation: chi-square difference=163, $df=38$, $p < 0.001$; full implementation: chi-square difference=117, $df=38$, $p < 0.001$).

The models tested the strength, direction, and significance of paths from intervention assignment to violent outcomes, operating through amount of training received and violence acceptance (Table 2). As anticipated, violence acceptance (rape myths and DV acceptance) was positively associated with each violent outcome (perpetration and victimization) for both witnessing parental IPV groups across all implementation stages ($p < 0.001$). The strength of the associations was higher for students who witnessed parental IPV compared with students who did not witness parental IPV across implementation stages, as indicated by the CIs for the unstandardized regression betas. Implementation stage did not alter the strength of association for those who did not witness parental IPV. However, for students who did witness parental IPV, the strength of the association was higher in the later stage of implementation.

During partial implementation, there was a significant negative association ($p < 0.001$) between amount of training received and rape myths for those who did not witness parental IPV. As hypothesized, during full implementation, amount of training received was negatively associated with rape myths and DV acceptance for both witnessing parental IPV groups ($p < 0.001$), but these associations were stronger for the students who witnessed parental IPV than students who did not witness parental IPV.

Table 2. Unstandardized Beta Estimates (99% CI) of Path Model Predicting Violence Outcomes

Paths	Baseline Year 0		Partial implementation Years 1 and 2		Full implementation Years 3 and 4	
	No witness n=7,885, β (99% CI)	Yes witness n=7,978, β (99% CI)	No witness n=16,288, β (99% CI)	Yes witness n=13,726, β (99% CI)	No witness n=13,274, β (99% CI)	Yes witness n=12,633, β (99% CI)
Intervention to . . .						
Training received	—	—	1.66** (1.65, 1.68)	1.61** (1.58, 1.64)	1.59** (1.57, 1.61)	1.56** (1.52, 1.59)
SA perp	-0.04 (-0.09, 0.01)	-0.03 (-0.21, 0.15)	0.01 (-0.03, 0.05)	0.02 (-0.15, 0.19)	-0.11 (-0.04, 0.02)	-0.21* (-0.41, -0.01)
SA vic	-0.03 (-0.09, 0.04)	0.03 (-0.19, 0.25)	0.00 (-0.05, 0.05)	-0.10 (-0.31, 0.10)	-0.03 (-0.08, 0.01)	-0.25* (-0.48, -0.02)
SH perp	-0.03 (-0.12, 0.06)	0.06 (-0.16, 0.28)	0.03 (-0.03, 0.09)	0.10 (-0.23, 0.02)	-0.05 (-0.10, 0.01)	-0.29** (-0.47, -0.16)
Stalking perp	-0.05 (-0.11, 0.02)	-0.01 (-0.21, 0.19)	-0.01 (-0.05, 0.03)	0.00 (-0.19, 0.05)	-0.02 (-0.06, 0.01)	-0.18 (-0.44, -0.15)
SH vic	0.07 (-0.09, 0.22)	-0.16 (-0.51, 0.20)	0.12* (0.00, 0.23)	-0.17 (-0.47, 0.14)	-0.19** (-0.31, -0.08)	-0.45** (-0.80, -0.10)
Stalking vic	0.03 (-0.07, 0.14)	0.04 (-0.23, 0.32)	0.07 (-0.01, 0.14)	0.03 (-0.21, 0.27)	-0.09* (-0.16, -0.01)	-0.23 (-0.50, 0.03)
Training received to . . .						
Rape myths	0.13** (-0.00, 0.27)	0.12 ^a (-0.15, 0.38)	-0.08** (-0.13, -0.03)	-0.10 (-0.23, 0.02)	-0.17** (-0.22, -0.12)	-0.31** (-0.47, -0.16)
DV acceptance	0.10 ^a (-0.02, 0.22)	0.15 ^a (-0.10, 0.40)	-0.05 (-0.09, 0.00)	-0.07 (-0.19, 0.05)	-0.15** (-0.20, -0.10)	-0.29** (-0.44, -0.15)
Rape myths to . . .						
SA perp	0.06** (0.05, 0.07)	0.23** (0.19, 0.27)	0.07** (0.06, 0.08)	0.34** (0.31, 0.37)	0.05** (0.04, 0.06)	0.34** (0.30, 0.38)
SA vic	0.07** (0.06, 0.09)	0.25** (0.21, 0.30)	0.07** (0.06, 0.08)	0.28** (0.24, 0.31)	0.05** (0.03, 0.06)	0.30** (0.25, 0.34)
SH perp	0.10** (0.08, 0.12)	0.24** (0.20, 0.29)	0.09** (0.07, 0.10)	0.21** (0.17, 0.24)	0.06** (0.05, 0.07)	0.31** (0.27, 0.35)
Stalking perp	0.05** (0.04, 0.07)	0.24** (0.21, 0.28)	0.06** (0.05, 0.07)	0.30** (0.27, 0.34)	0.04** (0.04, 0.05)	0.29** (0.25, 0.33)
SH vic	0.07** (0.04, 0.11)	0.19** (0.11, 0.26)	0.06** (0.03, 0.09)	0.18** (0.12, 0.24)	0.03** (0.01, 0.06)	0.18** (0.11, 0.24)
Stalking vic	0.07** (0.05, 0.10)	0.23** (0.18, 0.29)	0.08** (0.06, 0.09)	0.28** (0.23, 0.33)	0.05** (0.04, 0.07)	0.25** (0.19, 0.30)
DV acceptance to . . .						
SA perp	0.02** (0.01, 0.03)	0.19** (0.15, 0.23)	0.04** (0.03, 0.05)	0.21** (0.18, 0.25)	0.03** (0.02, 0.03)	0.24** (0.20, 0.28)
SA vic	0.03** (0.02, 0.05)	0.17** (0.13, 0.22)	0.05** (0.03, 0.07)	0.22** (0.18, 0.26)	0.03** (0.02, 0.04)	0.24** (0.20, 0.29)
SH perp	0.06** (0.04, 0.08)	0.19** (0.15, 0.24)	0.06** (0.04, 0.08)	0.23** (0.19, 0.27)	0.06** (0.05, 0.07)	0.26** (0.21, 0.30)
Stalking perp	0.05** (0.04, 0.06)	0.17** (0.13, 0.21)	0.05** (0.04, 0.06)	0.21** (0.17, 0.24)	0.03** (0.02, 0.04)	0.26** (0.22, 0.30)
SH vic	0.04* (-0.00, 0.07)	0.11** (0.04, 0.18)	0.06** (0.04, 0.09)	0.18** (0.12, 0.24)	0.08** (0.05, 0.11)	0.22** (0.15, 0.29)
Stalking vic	0.07** (0.04, 0.09)	0.19** (0.13, 0.24)	0.08** (0.06, 0.09)	0.22** (0.17, 0.27)	0.07** (0.05, 0.09)	0.30** (0.25, 0.36)

Note: Boldface indicates statistical significance path (* $p \leq 0.01$; ** $p \leq 0.001$).

Frequency of violence outcomes were adjusted for demographic controls by including direct paths from sex, sexual orientation, marital status, race, and relationship status to each violence outcome [Figure 1](#). provides a visual representation of these paths.

—, path not tested; DV, dating violence; IPV, intimate partner violence; No witness, did not witness parental IPV; perp, perpetration; SA, sexual assault; SH, sexual harassment; vic, victimization; Yes witness, did witness parental IPV.

^aReflects the path between intervention and violence acceptance score.

The only significant association between the intervention and violent outcomes during partial implementation was a positive association with sexual harassment victimization among those who did not witness parental IPV ($p < 0.01$); there were higher reports of sexual harassment victimization from students who did not witness parental IPV in intervention schools than in students who did not witness parental IPV in control schools. The opposite association was observed during full implementation for those who did not witness parental IPV: students from intervention schools had significantly lower reports of sexual harassment victimization ($p < 0.001$) and stalking victimization ($p < 0.01$) than students from control schools who witnessed parental IPV. For students who witnessed parental IPV, the intervention when fully implemented was significantly negatively associated with reports of the main outcome variables of sexual assault perpetration ($p < 0.01$) and sexual assault victimization ($p < 0.01$) as well as secondary outcomes including sexual harassment perpetration ($p < 0.001$) and sexual harassment victimization ($p < 0.001$).

Examination of the standardized direct, indirect, and total effects of the intervention on violent outcomes (Table 3) indicated that total effects were not significant until the intervention was fully implemented. During full implementation, among those who did not witness parental IPV, significant standardized total effects were observed for the primary outcome of sexual assault victimization (but not for sexual assault perpetration) and secondary outcomes of sexual harassment perpetration, stalking perpetration, sexual harassment victimization, and stalking victimization. During full implementation for those who did witness parental IPV, significant total effects were observed for all violent outcomes. In general, the magnitudes of these effects were small (< -0.08). Total effects were larger among individuals who witnessed parental IPV than those who did not witness parental IPV. The largest effect was observed for sexual harassment perpetration (-0.078) and sexual assault perpetration (-0.072) among those who witness parental IPV.

DISCUSSION

As implemented in the parent RCT, the bystander intervention program was associated with a reduction in multiple forms of SV, especially among students who witnessed parental IPV. Although this bystander intervention program was associated with reductions in victimization for those who did not witness parental IPV, reductions in perpetration were only observed for students who did witness parental IPV. Several programs that target DV reduction among youth who have

witnessed parental IPV have positive results, including Expect Respect,³¹ Date SMART,³² and the Youth Relationship Project.³³ This study extends effectiveness evaluations to SV outcomes and assesses whether a universally implemented approach is effective, specifically among high-risk students who witnessed parental IPV. Bystander intervention programs are often designed to reduce SV outcomes,³⁴ and our findings indicate that this was particularly effective among students who witnessed parental IPV. The intervention was not effective at reducing stalking victimization/perpetration among students who witnessed parental IPV—suggesting that future bystander intervention programs that want to reduce stalking should be tailored to the unique dynamics of those experiences.

For both witnessing groups, intervention-associated reductions in violent outcomes were only observed when this intervention was fully implemented. During full implementation, 10%–15% of POLs receive intensive skill-based training on how to intervene when they notice a concerning situation. Although the intervention elements that occur during partial implementation (i.e., persuasive speeches) may be integral to setting the stage for a successful intervention, our findings suggest that the key mechanism of change are these intensive training sessions. This was particularly true to reduce SV outcomes among students who witnessed parental IPV. Youth who witness parental IPV are more likely to be victims/perpetrators of violence^{8,35,36}; thus, these youth may benefit from having trained peers who disrupt potential violence. Alternatively, there may be content within the intensive training that challenges norms that contribute to violence perpetration directly, as was originally intended within some bystander programs.³⁷

Other important pathways were also identified by this research. Unsurprisingly, levels of violence acceptance were associated with victimization and perpetration, especially among students who witnessed parental IPV. The level of training a student received was associated with a reduction in endorsement of violence norms during full implementation, especially among students who witnessed parental IPV. Past research evaluating violence prevention programs among youth has highlighted the importance and effectiveness of targeting problematic social norms,^{38,39} including the Fourth-R,⁴⁰ Shifting Boundaries,⁴¹ and Dating Matters.⁴² Although there was a stronger relationship between violence norms and violent outcomes for the students who witnessed parental IPV, this group also benefited more from receiving the bystander training, as indicated by a larger reduction in violence norms.

Although past research indicates that a key component of prevention programs is disrupting harmful

Table 3. Direct, Indirect, and Total Effects (Standardized) of Intervention on Violence Outcomes

Outcomes	Baseline Year 0		Partial implementation Years 1 and 2		Full implementation Years 3 and 4	
	Did not witness Parental IPV (n=7,885)	Did witness parental IPV (n=7,978)	Did not witness parental IPV (n=16,288)	Did witness parental IPV (n=13,726)	Did not witness parental IPV (n=13,274)	Did witness parental IPV (n=12,633)
Sexual assault perpetration						
Direct	-0.019	-0.006	0.004	0.003	-0.006	-0.031
Indirect	0.005	0.011	-0.005	-0.013	-0.010	-0.041
Total effect	-0.014	0.005	-0.001	-0.010	-0.016	-0.072
Sexual assault victimization						
Direct	-0.009	0.004	0.000	-0.015	-0.012	-0.034
Indirect	0.004	0.009	-0.004	-0.010	-0.008	-0.035
Total effect	-0.005	0.014	-0.004	-0.025	-0.020	-0.069
Sexual harassment perpetration						
Direct	-0.008	0.010	0.007	0.015	-0.014	-0.040
Indirect	0.005	0.010	-0.004	-0.011	-0.009	-0.037
Total effect	-0.003	0.020	0.003	0.004	-0.023	-0.078
Stalking perpetration						
Direct	-0.017	-0.001	-0.004	0.000	-0.011	-0.026
Indirect	0.005	0.010	-0.004	-0.012	-0.009	-0.038
Total effect	-0.012	0.009	-0.008	-0.011	-0.020	-0.065
Sexual harassment victimization						
Direct	0.009	-0.017	0.017	-0.017	-0.012	-0.045
Indirect	0.002	0.004	-0.002	-0.005	-0.004	-0.019
Total effect	0.011	-0.013	0.015	-0.022	-0.033	-0.063
Stalking victimization						
Direct	0.008	0.006	0.014	0.004	-0.020	-0.028
Indirect	0.004	0.008	-0.003	-0.009	-0.008	-0.032
Total effect	0.011	0.014	0.011	-0.005	-0.028	-0.060

Note: Boldface indicates statistical significance ($p \leq 0.01$).
 IPV, intimate partner violence.

attitudes and beliefs that are associated with violence victimization/perpetration,^{38,39} this study makes an important contribution by identifying that this is largely explained by the high-risk group of youth who witnessed parental IPV. Because witnessing parental IPV is an ACE that is highly correlated with other ACEs,⁷ it is likely that this identifier also captured students who experience other structural inequalities or lack of safe environments and are generally at increased risk of violence victimization and perpetration. Future research should use more sophisticated measures of ACEs to examine this hypothesis, as students with multiple ACEs may benefit from this prevention approach. Because the strength of the paths between violence norms and violent outcomes were small for the students who did not witness parental IPV, it is likely that other factors contribute to victimization/perpetration. Future research should identify other predictors of victimization/perpetration for those who did not witness parental IPV, while continuing to target this pathway to reduce victimization/perpetration among youth who witness parental IPV. Future research should also identify other influential pathways to decrease SV among this high-risk group, to stop the cycle of violence.

Limitations

All data were self-reported and cannot be corroborated; however, disclosure of violence used or experienced cannot be collected using other approaches. Data to measure witnessing parental IPV was based on a single, closed-ended item with no option to elaborate on the experience. Therefore, it was not possible to characterize witnessing parental IPV in more detail on the basis of severity or time frames. Data were collected cross-sectionally, precluding the ability to make causal determinations, especially about the influence of violence acceptance on violence exposure (or vice versa). Because students in high schools receiving the intervention were aware of randomization, differences in violence rates could be attributed to knowledge of this assignment if the intervention goals were clearly articulated across the hypothesized theory of behavior change. This potential explanation of study findings is unlikely because the finding would not be limited to those who witnessed parental IPV and were in an intervention school. There is likely bias in the findings because of the decision to use casewise deletion instead of multiple imputation. Unknowable bias is introduced when imputing the values of victimization/perpetration. Results were interpreted in light of the known biases caused by these missing data over the unknown biases caused by imputing. Based on the findings that a greater proportion of survey noncompleters were in higher grades; received a

free or reduced-priced meal; witnessed parental IPV; and were male, non-White, and not exclusively heterosexual, it is likely that these results do not generalize to the most marginalized high-school youth.

CONCLUSIONS

This bystander intervention approach appears to be effective at reducing SV victimization and perpetration among the high-risk group of high-school students who previously witnessed parental IPV. A possible driver of this reduction seems to be through reduction in violence norms, such as rape myths and DV acceptance. Bystander intervention programs should consider tailoring programming to this group to enhance effectiveness, but should be encouraged in knowing that this approach works particularly well among the high-risk group of students who have previously witnessed parental IPV.

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SUPPLEMENTAL MATERIAL

Supplemental materials associated with this article can be found in the online version at <https://doi.org/10.1016/j.amepre.2021.12.022>.

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